Catalog 2026-2027

NM STATE DACC
NMSU Doña Ana Community College

dacc.nmsu.edu/admissions

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DOÑA ANA ACADEMIC CATALOG

Doña Ana Community College 2026-2027 Catalog

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

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

Catalog effective summer 2026 through spring semester 2034.

General Information

This catalog is the student's guidebook to earning a degree or other academic credential. The catalog contains three important parts: (1) the official listing of NMSU-DACC's academic programs and their requirements, (2) a listing of the courses offered at NMSU-DACC with descriptions and prerequisites, and (3) other information essential for student success including many of the rules and regulations that govern the student's academic journey at NMSU-DACC.

As with any other journey, advance planning is essential. To avoid wrong turns and lost time, each student must chart their own path, with the help of their academic advisors and this guidebook. Each student is responsible for planning an academic program of study in compliance with university, community college, college and departmental requirements as set forth in the Catalog. In addition, each student is obligated to abide by the Academic Rules and Regulations as set forth in the Catalog, as well as the Student Social Code of Conduct, as set forth in the Student Handbook (available through the Dean of Students website).

Upon proper application, students will be awarded academic degrees and designations when the completion of the academic program requirements is verified by the relevant NMSU-DACC academic unit. Degrees and designations may be awarded under any catalog in effect on the date of degree or designation completion, provided that the catalog year is the same or subsequent to the year in which the student was first enrolled.

The academic program requirements of each catalog are effective for a period of eight academic years. This 2026-27 Catalog is effective summer 2026 through spring semester 2034. All other catalog content, including rules, regulations, course descriptions and prerequisites are effective only for the catalog's denoted academic year. While content changes are typically implemented between Catalog years, the catalog does not represent a contract and NMSU-DACC reserves the right to make modifications to the catalog at any time.

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

NMSU-DACC is transforming lives through discovery. With the help of your advisors, you can chart your own transformational journey, using this catalog as your guidebook.

This publication focuses primarily on academic matters. Candidates for degrees and certificates may elect to fulfill requirements as outlined in the catalog in effect at the date of initial enrollment (provided the catalog is not more than eight years old) or any subsequent catalog in effect during their dates of registration at Doña Ana Community College. Readers should be aware of the following:

- The *DACC Catalog* is not a complete statement of all procedures, policies, rules, and regulations that might apply to a student in all circumstances. It may be necessary to consult other documents, such as the DACC *Student Handbook*, as well.
- DACC reserves the right to change at any time and without notice any item contained in this publication, including program offerings and content, course offerings and descriptions, procedures, policies, and regulations.

Welcome | Bienvenidos

Doña Ana Community College

Welcome to DACC! We are all looking forward to meeting you and ensuring your experience here is a good one. DACC faculty and staff are committed to a responsive, learning-centered environment to assist students in developing the knowledge and skills needed to enter the workforce, to continue on to a bachelor's degree, or to achieve professional and personal goals through workforce training and continuing education.

DACC is a comprehensive community college offering community members instructional opportunities in career technical education, general education, adult education, continuing education, and workforce development. In addition, DACC's Small Business Development Center offers support to small business owners and managers.

DACC welcomes and supports a diverse student population. Support services include academic advising, financial aid and financial literacy and planning workshops, tutoring support, career services, computer lab access, and assistance for students with physical and learning disabilities. In addition, DACC has several offices that help students connect with important resources in the community.

Please join us! Use this catalog and the DACC website to explore all that DACC has to offer. Visit one of our locations or contact us online and then start or continue your educational journey.

Mónica F. Torres, Chancellor

Colegio Comunitario de Doña Ana

¡Bienvenidos a DACC (sigla en inglés)! Estamos deseando conocerte y asegurarnos de que tu experiencia aquí sea agradable. La facultad y el personal de DACC están comprometidos con un entorno receptivo y centrado en el aprendizaje para ayudar a los estudiantes a desarrollar el conocimiento y las habilidades necesarias para ingresar a la fuerza laboral, para continuar con una licenciatura o para lograr metas profesionales y personales a través de la capacitación laboral y la educación continua.

DACC es un colegio comunitario integral que ofrece a los miembros de la comunidad oportunidades de instrucción en educación técnica

profesional, educación general, educación para adultos, educación continua y desarrollo de la fuerza laboral. Además, el Centro de Desarrollo de Pequeñas Empresas de DACC ofrece apoyo a los propietarios y gerentes de pequeñas empresas.

DACC da la bienvenida y apoya a una población estudiantil diversa. Los servicios de apoyo incluyen asesoramiento académico, ayuda financiera, talleres de planificación y educación financiera, apoyo de tutoría, servicios profesionales, acceso al laboratorio de computación y asistencia para estudiantes con discapacidades físicas y de aprendizaje. Además, DACC tiene varias oficinas que ayudan a los estudiantes a conectarse con recursos importantes en la comunidad.

¡Por favor únase a nosotros! Utilice este catálogo y el sitio web de DACC para explorar todo lo que DACC tiene para ofrecer. Visite una de nuestras ubicaciones o contáctenos en línea y comience o continúe su trayecto educativo.

Mónica F. Torres, Canciller

Basic Policies and General Information

A Note About Career Technical Education Courses

Students planning to pursue a bachelor's degree at New Mexico State University after completing their studies at DACC need to be aware that not all career technical education courses taken at DACC can be used to satisfy degree requirements at NMSU. The number of DACC credits that may be counted toward a bachelor's degree depends on the major selected and any agreements providing for the acceptance of career technical education courses.

Programs already having such agreements are called "articulated" programs, and are listed at Applying DACC Credit Toward Bachelor's Degree Programs (p. 60). It is best for students to consult advisors at both DACC and NMSU early in their associate degree program to insure that the maximum number of credits will apply toward the bachelor's degree program selected.

Tuition Differentials

DACC students enrolling in courses on any other NMSU campus pay the tuition rate in effect at that campus.

Nondiscrimination

It is the policy of Doña Ana Community College not to discriminate on the basis of age, color, disability, gender, national origin, race, religion, sexual orientation, or veteran status in employment or other college-administered programs. This policy is in compliance with Title VII of the Civil Rights Act of 1964, Executive Order 11246 as amended by 11375 and section 504 of the Vocational Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Americans with Disabilities Amendment Act of 2008 (ADAAA), and Title IX of the Educational Amendments of 1972 and subsequent revisions.

Disability Statement. Doña Ana Community College is strongly committed to providing education to all citizens of Doña Ana County. The college's faculty and staff are dedicated to the goal of providing equal access to individuals with disabilities and to the spirit of the Americans with Disabilities Act (ADA) of 1990. The ongoing effort to reduce and remove physical and attitudinal barriers is designed to assist individuals with disabilities to enjoy the college's facilities, programs, and services to the fullest extent. We are dedicated to developing an educational environment free of discrimination.

Policy of Nondiscrimination on the Basis of Disability. Dona Ana Community College (DACC), a public institution, provides reasonable accommodations in all its academic programs, services and activities to Qualified Students with Disabilities (QSDs), and members of the public per Federal and State Laws. This policy is in accordance with The Americans with Disabilities Act of 1990 (ADA), 42 U.S.C.§ 12101 et seq. (1990); The ADA Amendments Act of 2008 (ADAAA), Pub. L. No. 110-325, § 3, September 25, 2008; Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. § 794, and The New Mexico Accessibility Code of 2017, A117.1. Individuals who are in need of reasonable accommodations, access or additional information regarding Dona Ana Community College's academic programs, services or activities are encouraged to contact Maria Pena, Director of the Student Accessibility Services program at 575-528-7466 and/or mpena@dacc.nmsu.edu. The office is located at DACC's Espina Campus, in the DASH building, room 117.

Technical Standards for Admissions

Some programs may require technical standards for admissions and/or continued program participation. Technical standards may include possessing or acquiring skills or behaviors to complete performance-based tasks. Completion of these tasks may be required for program completion.

Learning Outcomes Assessment

As part of its ongoing efforts to maintain high-quality academic programs and provide strong support services, all DACC programs have established Program Learning Outcomes. DACC/NMSU has an established process for conducting academic assessment at the course, program, and college levels. General education courses undergo assessment through a dedicated general education assessment process. All Program Learning Outcomes and General Education Essential Skills are published on the DACC Assessment of Student Learning website.

DACC Graduation and Retention Rates

Under the Student Right to Know and Campus Security Act of 1990, Public Law 101-542, DACC is required to calculate (using a prescribed formula) and disclose graduation rates for all first-time, full-time, degree-seeking students who enrolled at DACC in Summer and Fall 2022. This cohort consists of 934 students. The number of graduates who earned either a certificate or an associate degree by Summer 2025 was 160 (17%). The four-year average, Student-Right-to-Know graduation rate was 17 percent.

Rates for previous cohorts after three years are as follows:

Cohort	Rate
Fall 2021 Cohort	19%
Fall 2020 Cohort	16%
Fall 2019 Cohort	17%

The retention rate for first-time, full-time DACC admitted students from Fall 2023 to Fall 2024 was 63 percent.

Student Special Care Policy

To ensure the safety and well-being of our students, DACC/NMSU may, on occasion, require that students receive a particular type of care or treatment (e.g., emergency medical attention, live-in attendants, or vaccinations) as a condition of continued enrollment or eligibility to

reside in university-operated housing. When this care or treatment is required by the cognizant DACC/NMSU administrator, the student will be obligated to assume any financial responsibility associated with the treatment.

Furthermore, DACC/NMSU may, on occasion, contact a student's parents, legal guardian, or spouse in cases of extreme emergency, or where a possibility of imminent harm exists. Such action will be taken only when, in the judgment of the appropriate official, the best interests of the student and the institution will be served.

When practical, DACC/NMSU will notify the student in writing of the institution's intention to undertake the steps authorized by this policy. This decision may be appealed by the student to the DACC Vice President for Student Services (VPSS) within 24 hours of notification. The appeal should be in writing and should state clearly the reason why the student objects to the proposed action. The VPSS will review the facts in the case and convey the decision to all parties within 48 hours. The VPSS's decision shall be final.

Jurisdiction for Legal Matters

By applying for admission/enrollment, both the student and parent(s) or guardian(s) agree that New Mexico law prevails and all litigation will be in federal court in New Mexico or in state court in Doña Ana County, N.M.

Academic Calendar and Contact Information

2026-2027 Academic Calendar (https://records.nmsu.edu/faculty-and-staff/academic-calendar.html)

Contact Information

Inquiries about DACC are welcomed in person, by telephone, by mail and via the DACC Website. Please contact the college for a free information packet.

Location	Phone Number
Switchboard:	(575) 528-7000
Toll free:	1 (800) 903-7503
Fax:	(575) 527-7515
Web:	http://dacc.nmsu.edu/

Central Administration and Student Services:
Doña Ana Community College
East Mesa Campus
2800 Sonoma Ranch Blvd.
Las Cruces, New Mexico 88011-1656

Postal Address for All Other Locations:
DACC–NMSU (MSC 3DA)
P.O. Box 30001
Las Cruces, NM 88003-8001

Web Information Requests:
dacc.nmsu.edu/admissions/ (https://dacc.nmsu.edu/admissions/)

Departmental Phone Numbers

Location	Phone Number
Security—All Locations	**575-527-7777**
Academic Advising Center - East Mesa Campus	575-528-7272
Academic Advising Center - Gadsden Center	575-882-3939
Academic Advising Center - Sunland Park Center	575-874-7780
Academic Readiness Center/Tutoring - East Mesa Campus	575-528-7275
Academic Readiness Center/Tutoring - Espina Campus	575-527-7575
Academic Readiness Center/Tutoring - Gadsden Center	575-882-6818
Academic Readiness Center/Tutoring - Sunland Park Center	575-874-7807
Admissions	575-527-7510
Adult Education - Espina Campus	575-527-7540
Adult Education - Gadsden Center	575-882-6813
Adult Education - Chaparral Center	575-824-2010
Adult Education - Workforce Center	575-528-7477
Advanced Technologies Division	575-527-7599
Arts, Humanities & Social Sciences Division	575-528-7013
Bookstore - East Mesa Campus	575-528-7253
Business & Public Services Division	575-527-7560
Cashiers Office	575-527-7516
Chaparral Center	575-824-2000
Computer Lab - East Mesa Campus	575-528-7265
Computer Lab - Espina Campus	575-527-7561
Computer Lab - Gadsden Center	575-882-6822
Computer Lab - Sunland Park Center	575-874-7798
Computer Lab - Chaparral Center	575-824-2003
Counseling	575-527-7574
Customized Training Program	575-527-7526
Dual Credit Program	575-527-7571
East Mesa Campus	575-527-7500
ENLACE - East Mesa Campus	575-528-7397
Espina Campus	575-527-7500
Financial Aid - East Mesa Campus	575-527-7654
Financial Aid - Gadsden Center	575-882-6808
Financial Aid - Sunland Park Center	575-882-6808
Gadsden Center	575-882-3939
Health Sciences Division	575-527-7630
Information Center - East Mesa	575-528-7000
Information Center - Espina Campus	575-527-7500
Library/Media Center - East Mesa Campus	575-528-7260
Library/Media Center - Espina Campus	575-527-7555
Library Satellite Office - Gadsden Center	575-882-6819
Library Satellite Office - Sunland Park Center	575-874-7808
Science, Engineering & Mathematics Division	575-527-7690
Small Business Development Center	575-527-7676
Student Accessibility Services (SAS) - All Campuses and Centers	575-527-7548
Student Government Association	575-528-7237
Student Recruitment	575-525-7500

Sunland Park Center	575-874-7780
Testing Services	575-528-7294
Veterans Program Office	575-528-7081
Vice President for Student Services	575-527-7530
Virtual Learning & Instructional Technology (VLIT)	575-527-7738
Workforce Development & Career Readiness	575-527-7776

Institutional and Program Accreditations

Institutional Accreditation

Coverage	Organization	Mailing Address	Telephone	Fax	Email	Web Address
College as a whole	The Higher Learning Commission	230 South LaSalle St., Ste. 7-500, Chicago, IL 60604-1411	(800) 621-7440, (312) 263-0456	(312) 263-7462	info@hlcommission.org, complaints@hlcommission.org	https://www.hlcommission.org/

Program Accreditations and State Approvals

Program Accreditations

For details about each program's accreditation, including accreditation documentation, see https://accreditation.nmsu.edu/

Program	Organization	Mailing Address	Telephone	Fax	Email	Web Address
Automotive Technology	Automotive Service Excellence (ASE) Education Foundation	1503 Edwards Ferry Rd. NE Suite 401 Leesburg, VA 20176	(703) 669-6650	(703) 669-6677	info@ASEeducationFoundation.org	www.aseeducationfoundation.org (http://www.aseeducationfoundation.org)
Building Construction Technology	National Center for Construction Education and Research	13614 Progress Blvd., Alachua, FL 32615	(386) 518-6500	(386) 518-6303	support@nccer.org	http://www.nccer.org
Business Management	Accreditation Council for Business Schools and Programs	11520 West 119th St. Overland Park, KS 66213	(913) 339-9356	(913) 339-6226	info@acbsp.org	https://acbsp.org/
Dental Hygiene	Commission on Dental Accreditation	211 East Chicago Ave. Chicago, IL 60611-2678	(312) 440-2500	(312) 587-5107	smithmi@ada.org	https://www.ada.org/en/coda (https://www.ada.org/en/coda/)
Diagnostic Medical Sonography	Commission on Accreditation of Allied Health Education Programs	1361 Park St. Clearwater, FL 33756	(727) 210-2350	(727) 210-2354	mail@caahep.org	http://www.caahep.org
Drafting and Design Technology	American Design Drafting Association	105 East Main St. Newbern, TN 38059	(731) 627-0802	(731) 627-9321	Use "Contact Us" tab on website	http://www.adda.org
Emergency Medical Services	Commission on Accreditation of Allied Health Education Programs	1361 Park St. Clearwater, FL 33756	(727) 210-2350	(727) 210-2354	mail@caahep.org	http://www.caahep.org
Fire Science Technology	International Fire Service Accreditation Congress	Oklahoma State Univ. 1812 Tyler Ave. Stillwater, OK 74078	(405) 744-8303	(405) 744-8802	admin@ifsac.org	https://ifsac.org
Health Information Technology	Accreditation Council for Business Schools and Programs	11520 West 119th St. Overland Park, KS 66213	(913) 339-9356	(913) 339-6226	info@acbsp.org	http://www.acbsp.org
Nursing Associate Degree	Accreditation Commission for Education in Nursing	3343 Peachtree Rd., NE, Atlanta, GA 30326	(404) 975-5000	(404) 975-5020	info@acenursing.org	http://www.acenursing.org

Office Administration Technology	Accreditation Council for Business Schools and Programs	11520 West 119th St. Overland Park, KS 66213	(913) 339-9356	(913) 339-6226	info@acbsp.org	http://www.acbsp.org
Pre-Business	Accreditation Council for Business Schools and Programs	11520 West 119th St. Overland Park, KS 66213	(913) 339-9356	(913) 339-6226	info@acbsp.org	http://www.acbsp.org
Radiologic Technology	Joint Review Committee on Education in Radiologic Technology	20 N. Wacker Dr., Suite 2850, Chicago, IL 60606-3182	(312) 704-5300	(312) 704-5304	email via website: http://www.jrcert.org/contact (http://www.jrcert.org/contact/)	http://www.jrcert.org
Respiratory Therapy	Commission on Accreditation for Respiratory Care	1248 Harwood Rd. Bedford, TX 76021-4244	(817) 283-2835	(817) 354-8519	Use "Contact Us" tab on website	http://www.coarc.com

Program Approvals by the State of New Mexico

Program	Organization	Mailing Address	Telephone	Fax	Email	Web Address
Nursing Associate Degree	New Mexico Board of Nursing	6301 Indian School Rd., N.E., Suite 710, Albuquerque, NM 87110	(505) 841-8340	(505) 841-8347		http://nmbon.sks.com
Nursing Licensed Practical Nursing Certificate	New Mexico Board of Nursing	6301 Indian School Rd., N.E., Suite 710, Albuquerque, NM 87110	(505) 841-8340	(505) 841-8347		http://nmbon.sks.com
Emergency Medical Services	New Mexico Emergency Medical Systems Bureau	1301 Siler Rd., Building F, Santa Fe, NM 87507	(505) 476-8200	(505) 471-2122		https://www.nmhealth.org/about/erd/emsb (https://www.nmhealth.org/about/erd/emsb/)/

About the Community College

History and Organization

In 1965, Doña Ana County was designated by the New Mexico Department of Education as an appropriate site in southern New Mexico for an area vocational-technical school. In 1971, the boards of education of the Gadsden, Hatch, and Las Cruces school districts requested that New Mexico State University establish a branch community college located on its campus in Las Cruces to offer postsecondary vocational-technical education in Doña Ana County. The NMSU Board of Regents approved the request in 1972, and the voters in Doña Ana County approved an operational mill levy in May 1973. The institution became an official entity on July 1, 1973. It began offering vocational training programs on September 4, 1973, as the Doña Ana County Occupational Education Branch of New Mexico State University.

College Mission, Vision, and Principles

OUR MISSION. DACC is a responsive and accessible learning-centered community college that provides educational opportunities for a diverse community of learners in support of academic interests, workforce development, and economic growth.

OUR VISION. DACC will be a premier, inclusive college that is grounded in academic excellence and committed to fostering lifelong learning and active, responsible citizenship within the community.

OUR PRINCIPLES.

Access

- Defined pathways to workforce and/or bachelor's degree
- Affordable education
- Flexible schedule options
- Programs and services that support a wide range of student needs

Innovation

- Intentional and creative use of technology
- Focus on "real-world" practical experience
- Diverse perspectives and viewpoints
- Informed risk-taking

Excellence

- Responsive curriculum
- Quality teaching and learning environment
- Rigorous expectations
- Community impact

NMSU SYSTEM VALUES

- Leadership
- Excellence

- Access
- Diversity & Inclusion
- Student-Centered

Governance and Funding

DACC is a community college of New Mexico State University. As such, it is governed by the Board of Regents of the university. Through an operating agreement between the university and the three school districts in Doña Ana County DACC is served by an Advisory Board. Operating expenses for the community college are paid from state-appropriated funds, a property tax within the three school districts in the county, federal career-technical education funds, special grants, and tuition paid by students, the majority of which is subsidized by financial aid.

Educational Facilities

Doña Ana Community College has three locations in Las Cruces, as well as centers located throughout the county. For more information about the individual sites, see the section titled "Additional Locations (p. 27)".

Online Study

Many courses and, in some cases, entire programs may be completed without ever attending classes at a physical campus. The following DACC programs may currently be completed entirely online:

Online Degrees

- Associate of Applied Science Architectural Technology (p. 281)
- Associate of Applied Science Business Management (p. 180)
- Associate of Applied Science Civil/Survey Technology (p. 282)
- Associate of Applied Science Computer Information Systems (p. 199)
- Associate of Applied Science Computer Technology (p. 190)
- Associate of Applied Science Cybersecurity (p. 208)
- Associate of Applied Science Health Information Technology (p. 358)
- Associate of Applied Science Mechanical Drafting & Solid Modeling (p. 283)
- Associate of Applied Science Office Administration Technology (p. 390)
- Associate of Arts (p. 133)
- Associate in Criminal Justice (p. 238)
- Associate in Pre-Business (p. 402)
- Associate of Public Health (p. 404)
- Associate of Science (p. 138)

Online Certificates

- Advertising Representative (p. 186)
- Applied Business Retail and Merchandising Services (p. 176)
- Architectural Technology (p. 274)
- Banking (p. 176)
- Bookkeeping (p. 390)
- Business Fundamentals (p. 176)
- Business Leadership (p. 176)
- Business Management (p. 188)
- Cisco Networking (p. 189)
- Civil/Survey Technology (p. 274)
- Community Health Worker (p. 404)
- Computed Tomography (p. 415)
- Computer Information Systems (p. 190)
- Computer Information Technology (p. 189)
- Creative Media (p. 226)
- Cybersecurity (p. 189)
- Drafting & Graphics Technology (p. 273)
- Early Childhood Development (p. 299)
- Geographic Information Systems (p. 273)
- Health Information Technology (p. 355)
- Mechanical Drafting & Solid Modeling (p. 273)
- Medical Billing (p. 390)
- Medical Transcription (p. 390)
- Office Administration Technology (p. 390)
- Oracle Programming (p. 189)
- Programming (p. 189)
- System Administration (p. 189)
- Web Design (p. 230)

To see which classes are being offered online during a given semester, consult the *Schedule of Classes*.

Institutional Accreditation

New Mexico State University – Doña Ana Community College is independently accredited by the Higher Learning Commission.

The Higher Learning Commission
230 South LaSalle Street, Suite 7-500
Chicago, Illinois 60604-1411
Phone: 1 (800) 621-7440 / (312) 263-0456
Fax: (312) 263-7462
E-mail: info@hlcommission.org
Web site: https://www.hlcommission.org/

For links to e-mail addresses of various departments at the Higher Learning Commission, visit https://www.hlcommission.org/About-HLC/contact-us.html

Individual Program Accreditations, Approvals, and Certifications

Refer to the tables at Institutional and Program Accreditations (p. 9) for information about individual program accreditations, approvals, and certifications.

Admissions

Doña Ana Community College provides educational opportunities for those who seek to advance in the workforce or to prepare for further study at a higher level. The community college endorses the open-door admission concept and will admit—to the limit of its physical and financial resources—new, first-time students who wish to attend and who have a high school diploma or its equivalent. High school diplomas must be from an accredited high school. Diplomas from accredited, on-line high schools, however, are subject to strict review and may not in all cases be judged valid for the purpose of enrolling at DACC.

Under the policies and conditions set forth below, a student may be accepted for undergraduate admission to DACC as either.

- A degree-seeking student or
- A non-degree student under the policies and conditions as set forth in this section.

Applying for Admission
Application Materials

All documents submitted as part of the official admissions process become the property of NMSU and will not be returned to the student. However, application materials are retained for one calendar year for students who apply but do not attend.

Application Information

Completing the admission process includes, but is not limited to:

- Completing an admission application
- Submitting all official documents
- Receiving an admission decision
- Completing orientation (if required)
- Taking placement exams
- Enrolling in courses

Completing all the above steps requires multiple business days; DACC encourages all interested students to plan accordingly. In addition, international applicants have additional steps to complete and earlier deadlines related to visa timelines.

New Student Orientation

New Student Orientation (NSO) is mandatory for all new students. DACC Orientation is designed to provide new students with information they will need to make a successful start at DACC. Students will attend information sessions, learn principles of effective academic planning, and the many services and resources designed to enhance educational success. It is important that students submit their official high school transcript, ACT, or SAT scores prior to attending NSO as these scores are used in placing students into courses during their academic advising. Students who do not have an ACT or SAT score will be placed into courses according to their final high school transcript GPA. Students can register for orientation online at https://newstudentregistration.nmsu.edu. Additional information may be obtained by calling the Orientation Office at (575) 527-7536.

Degree Seeking Students
How to Apply - First Time Student (Regular Student)

Requirements for admission as a degree-seeking student to any program at the community college:

1. Complete the online application at http://dacc.nmsu.edu/admissions/apply-online/ (https://admissions.nmsu.edu/apply/), students are required to self-report their high school GPA in the application. Students can also provide an unofficial high school transcript.
2. Official high school transcripts with students high school credits and graduation date sent directly from the high school to the DACC Admissions Office.
3. Transfer students must have official post-secondary transcripts sent directly to the DACC Admissions Office by the registrar of each college or educational institution previously attended (see “How Transfer Students Are Admitted (p. 12).”)
4. Applicants possessing a high school equivalency must request to have official GED or HiSET transcripts sent directly to the DACC Admissions Office.

All applicants with tentative admission must submit a final, official high school transcript showing a graduate date before a final admission decision is granted. If the student also attended a non-NMSU system post-secondary institution during high school, official transcripts from each institution will also be needed. If the high school attended was outside of the United States, a professional foreign credential evaluation from a NACES company will also be required.

Aggie Pathway

In the Aggie Pathway program, NMSU’s system works together to assist students who do not meet the admission requirements to the university. Aggie Pathway students begin at one of NMSU’s community college campuses and may transition to the university campus upon meeting the following requirements:

- Successful completion of 24 credits, in addition to any required developmental courses
- 2.0 cumulative college GPA

All students participating in the Aggie Pathway program can attend academic, cultural and athletic events on the NMSU Las Cruces campus. Students enrolling through NMSU Doña Ana Community College campus also have access to on-campus housing, dining, and activities.

More information about Aggie Pathway is available at https://aggiepathway.nmsu.edu/ or call (575) 646-8011

Returning Students

Former Doña Ana Community College students who will have been out of school for more than 2 consecutive semesters, are required to complete an application for readmission. Applications should be submitted 30 days before the beginning of the semester or summer session for which the student plans to enroll.

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

How Transfer Students Are Admitted

Transfer students from other colleges or universities with 24* or more completed college credit hours must have a cumulative grade point average (GPA) of at least 2.0. Students with fewer that 24* or more completed college credit hours must fulfill the transfer and first-year admission requirements. Students must be eligible to return to the college or university they last attended. Transfer students follow the same procedures as those outlined under “How to Apply.” Official transcripts from all colleges and/or universities previously attended must be sent directly to the DACC Admissions Office by the registrar of each college or educational institution. An academic credit evaluation will be mailed to the student from DACC Academic Advising.

Coursework from non-accredited institutions may be evaluated by departmental faculty from the relative department after two semesters,

provided the student is in good academic standing. The student should initiate the request for evaluation on official transcript of this coursework with the academic department chair or program director. If approved by the division dean and vice president for academic affairs, coursework will be applied toward certificate or associate degree completion.

A student who conceals the fact that (s)he has attended another college or university and who has not had transcripts submitted by each institution previously attended—whether or not credit was earned—will be subject to immediate suspension.

* The types of credits listed below are not counted towards the 24 completed credit hour requirement:
1. Courses taken from college credit while in high school
2. Credits by examination (CLEP, IB, AP, etc.)
3. Credits from a non-regionally accredited institution
4. Credits from institutions that do not provide grades
5. Credits from experience such as a Joint Services Transcript

How to apply as a GED and HiSET Student

Students having successfully completed the GED or HiSET in English are eligible to apply for admission to DACC. They must have their official GED or HiSET transcripts sent directly to the DACC Admissions Office through diplomasender.com (https://production.diplomasender.com/#/). Students who took the GED or HiSET in Spanish should contact the DACC admissions director.

How to apply as a Home-School Student

Students enrolled in a home-school program may be accepted to Doña Ana Community College if they meet the first time freshman admission requirements. In addition, the home-school educator must submit an official transcript or document that lists the courses completed, grades earned, and as well as indicate the date the student completed or graduated from the home school program. Students who are New Mexico residents are eligible to participate in the Opportunity Scholarship and Lottery Success Scholarship program.

How International Students Are Admitted

International students are an essential and valuable part of the NMSU/DACC community. International students enjoy all the rights, privileges, and protections of domestic students. They are subject to all the same responsibilities and regulations as their fellow domestic students. However, some special policies apply only to international students. The NMSU Admissions Office and The Office of International Student and Scholar Services (ISSS) ensures requirements are met and explains university standards for admission. Some students not seeking degrees, such as international exchange students, may work directly with the Office of Education Abroad.. DACC refers all prospective international students to the NMSU Office of Admissions or to the NMSU International Student and Scholar Services (ISSS) Office. The NMSU Office of Admissions, located in the Educational Services Building on the Las Cruces (Main) campus, can be reached at 1 (800) 662-6678 or ISSS Office can be reached by calling (575) 646-2834. The NMSU Catalog (https://catalogs.nmsu.edu/nmsu/) contains more specific information pertaining to international student admissions.

Applications for admission that include the transfer of credits earned at a non-U.S. university must include a professional Foreign Credential Evaluation (FCE) report from a member institution of the National Association of Credential Evaluation Services (NACES) (http://naces.org/members/) for every transcript from a foreign secondary school and/or university attended. The ISSS department highly recommends that applicants consider using SpanTran for their FCE. NMSU has worked with SpanTran to provide applicants with clear understand of which evaluation is needed. SpanTran provides an applicant portal to track and access evaluations. SpanTran is a long standing member of NACES. For more information please visit https://spantran.com/web/

How Non-Degree Students Are Admitted

Non-degree admission is designed to meet the needs of students who do not wish to pursue a degree at DACC.

IMPORTANT: Students enrolling under non-degree status are ineligible for financial aid, student employment, veteran's benefits, and participation in intercollegiate athletics and student government. Furthermore, courses taken while one is enrolled under non-degree status may not be used to meet NMSU requirements for regular admission. Non-degree admission is designed to meet the needs of mature, part-time students who do not wish to pursue a degree. Those who prefer not to receive a grade may choose to audit. (See "Audit Option (p. 29)" in Academic Regulations section.)

Transcripts from previous institutions (including high school) and/or results of college entrance exams may be required to assure readiness for university-level courses.

Non-degree students are subject to the same regulations as regular students. They may not transfer more than 30 credits that were taken while in this status to any degree program.

Admission requirements include a non-degree application.

Changing from Non-Degree to Degree-Seeking Status. A non-degree student in good academic standing with a GPA of 2.0 or better may apply for a change of status from non-degree status to regular (degree-seeking) status. Requirements for regular admission must be met, including submitting official high school transcripts as well as official college transcripts from all previously attended institutions of higher education. The status will be effective on or before the census date of the semester in which all official transcripts are received. If all official transcripts are received after the census date of the current semester, the change of status will take effect in the next immediate term. If a student has graduated from DACC, they will automatically be switched to a non-degree status. If that student wants another degree from DACC, they will need to meet with their academic advisor to change their status.

Early Admission for High School and Adult Education Students

It is possible for a current junior or senior high school student to be admitted to DACC, provided the following criteria have been met:

1. The student has obtained written permission from the high school principal/counselor and the parents.
2. The student's cumulative grade-point average is at least 3.0.
3. The student has attained the established minimum scores on the ACT/SAT assessment or English and Math portion of NEX GEN assessment that is required to enroll in ENGL1110G Composition I and MATH 1215 Intermediate Algebra.

For more information about the NEX GEN assessment contact the DACC Testing Center at 575-527-7569 or by email, testing@dacc.nmsu.edu

To apply, high school students must provide the following documents to the admissions office:

- written permission from the high school counselor or principal/counselor,
- written permission from parents,
- an official high school transcript sent directly to DACC, and
- a complete DACC/NMSU admissions application.

Students currently enrolled in an Adult Education (AE) Program at DACC may also apply for early admission. Current AE students applying for early admission must provide TABE scores of 580 or above on every section (reading, writing, math), written permission from the AE executive director, pass two out of three sections of the Accuplacer assessment, and submit a complete DACC/NMSU application for admission.

Under the Early Admissions Program, all students are admitted in a non-degree status. For more information regarding non-degree status, please refer to the subsection titled, "Non-degree Admission (p. 13)." Non-degree students are ineligible to receive federal financial aid funds. Students admitted under this program are also limited to seven (7) credit hours per semester and incur all costs associated with enrollment, including books.

Developmental courses are not available for enrollment under the Early Admissions Program.

Early admissions students who wish to enroll at DACC or NMSU upon graduation from high school or obtaining a GED must reapply under their new status as a first-time freshman.

Dual Credit Program

The Dual Credit Program (DCP) is designed to give high school students the opportunity to enroll at Doña Ana Community College prior to high school graduation. Juniors and seniors attending a New Mexico public high school in Doña Ana County should check with their high school counselor to verify eligibility to participate in the DCP. Under a Dual Credit Master Agreement between DACC and the local school district, students who enroll in approved dual credit courses are eligible to have the full cost of tuition and general fees waived. Textbooks are typically paid for by the school district, however, students do pay for their own supplies, protective apparel, and tool sets as required by the course(s) selected. Students may be responsible for any course-specific fees, such as lab fees. Home-schooled students are also eligible for the DCP but are responsible for purchasing their own materials including textbooks, digital course materials, tools, or any other course specific fees. In the DCP students take college-level courses that simultaneously satisfy high school electives for graduation and college credits toward a future certificate, associate degree or bachelor's degree.

Completion of a degree or certificate prior to graduating from high school is not typical for dual credit high school students unless they are enrolled in a special program. Most dual credit students will complete one or two courses per semester while they are enrolled in the DCP. Students will normally need to attend additional semesters at DACC following high school graduation as a traditional, tuition paying student to complete a degree or certificate.

Students should inquire about and apply for DCP opportunities with their high school counselor. They must complete an Application for Admission, the State Dual Credit Request Form, and provide a high school transcript. Requirements to be admitted to the DCP are a minimum high school grade-point average (GPA) of 2.0 and meet all course prerequisites and placement requirements. Students must also meet the criteria agreed upon by their school district and DACC. After a student is admitted to the DCP, an academic advisor will assist the student in the registration process. For further information, contact the appropriate high school counselor.

High school students enrolled in a high school that does not have a Dual Credit Master Agreement with DACC may be eligible for enrollment as Early Admission students; however, as such, they would be responsible for all costs related to enrollment. For further information, contact the DACC Admissions Office at (575) 528-7244.

NOTE: Not all DACC courses taken through the DCP may be transferable for college credit to other colleges and universities.

Early College High School Program

The Early College High School initiative is designed to allow students to simultaneously earn a high school diploma while earning up to two years (60 hours) of college credit. Many early college students will complete a college certificate or associate degree by the time they graduate from high school. The facilities, usually located on a college or university campus, gives students access to higher education courses earlier while students are still in high school and helps students become more comfortable in a higher education environment.

The key to the success of this initiative is a strong partnership between the school districts and higher education institutions. In the State of New Mexico, Doña Ana Community College has created a partnership with the Las Cruces Public School District and the Gadsden Independent School District to offer enrollment in early college high schools. DACC is currently serving more than 500 students through this program.

For further information on the admission requirements for early college high school, contact one of the high schools directly. Information about the Arrowhead Park Early College High School and the Arrowhead Park Medical Academy (both part of LCPS) may be obtained by calling (575) 527-9540; for Alta Vista Early College High School (GISD), call (575) 882-6400.

Special Admissions Requirements

Certain programs at DACC have special admissions requirements:

- Culinary Arts (p. 241)
- Dental Assistant (p. 250)
- Dental Hygiene (p. 253)
- Diagnostic Medical Sonography (p. 262)
- Dual Credit (concurrent enrollment) (p. 14)
- Emergency Medical Services–Paramedic (p. 327)
- Nursing (associate degree program) (p. 381)
- Radiologic Technology (p. 408)
- Respiratory Therapy (p. 416)

In addition to fulfilling the general requirements for admission to the community college, individuals seeking admission to these programs must also fulfill certain special admissions requirements. Since these programs generally have limited enrollment, completion of the admissions requirements for a specific program does not guarantee acceptance into the program. Acceptance may be competitive, based on individual academic performance in previous coursework and other criteria. Information regarding the application procedure for a specific program may be obtained from the department offering that program.

Students must reapply to special admissions programs each time they wish to be considered for acceptance. For example, a student who has

fulfilled the special admissions requirements, yet was not admitted because of space limitations, will not automatically be considered for a subsequent semester; (s)he must reapply. Similarly, one who may have been accepted during a particular semester, but failed to accept an offer to enroll, must also reapply in order to be considered again.

Standards for Program Participation

Some programs may require technical standards for admissions and/or continued program participation. Technical standards may include possessing or acquiring skills or behaviors to complete performance-based tasks. Completion of these tasks may be required for program completion. See individual program descriptions for further information.

Security Background Checks. Certain programs of study require that students complete and pass a security background check. Past criminal violations may prevent a student from completing his/her degree and from being hired after graduating. Programs requiring a security background check disclose this fact in their program description sections found in this catalog.

Aggie Pathway

In the Aggie Pathway program, NMSU's system works together to assist students who do not meet the admission requirements to the university. Aggie Pathway students begin at one of NMSU's community college campuses and may transition to the university campus upon meeting the following requirements:

- Successful completion of 24 credits, in addition to any required developmental courses
- 2.0 cumulative college GPA

All students participating in the Aggie Pathway program can attend academic, cultural and athletic events on the NMSU Las Cruces campus. Students enrolling through NMSU Doña Ana Community College campus also have access to on-campus housing, dining, and activities.

More information about Aggie Pathway is available at https://aggiepathway.nmsu.edu/ or call (575) 646-3121.

Academic Advising and Registration

Academic advising at DACC is an ongoing, shared partnership between a student and an advisor that focuses on assisting the student to identify, plan and achieve academic goals aligned with their career and life aspirations. It is a part of the educational process that aims to assist students to become active and effective agents of their own learning.

In the academic advising process, students and advisors work together to:

- Develop an awareness of values, interests, abilities, skills and potential
- Identify academic and career goals and options
- Choose an academic program
- Strategically plan out steps toward graduation, or the completion of an academic goal
- Identify effective academic study skills and habits
- Learn how to solve problems that impede progress toward an academic goal
- Identify appropriate campus resources
- Learn how to use the my.NMSU.edu account and STAR Degree Audit
- Select courses
- Register for classes

Targeted student-learning outcomes underlying the DACC academic advising process include critical thought, self-appraisal, decision making, healthy independence, responsibility, and respect for self and others. These outcomes are the ideal product of quality academic advising.

Structure of DACC Academic Advising

Students declared into a specific major or academic program are advised by a specific professional academic advisor and/or a DACC faculty advisor in that academic program. Students may identify their DACC academic advisor by going to https://dacc.nmsu.edu/advising/who-is-my-advisor.html or contacting the Academic Advising Center, DASR 103, (575) 528-7272.

Students who are exploring majors or who are in transition between programs, are advised through the Academic Advising Center, which serves as a central resource for exploratory (undecided) students and non-degree-seeking students.

When to Seek Academic Advising

NEW STUDENTS will meet with an academic advisor and register for classes after completing a new student orientation.

TRANSFER AND READMITTED STUDENTS are advised to make an appointment with their academic advisor once their DACC admission is complete.

CONTINUING STUDENTS are advised to plan ahead and meet with their academic advisor every semester, well in advance of continuing-student registration.

Special Requirements for DACC Pre-Health Majors

All students declared into the following DACC Pre-Health majors:

- Pre-Dental Assistant
- Pre-Dental Hygiene
- Pre-Diagnostic Medical Sonography
- Pre-Nursing
- Pre-Radiologic Technology
- Pre-Respiratory Therapy

are required to identify and declare a second major (associate degree or certificate) in any DACC non-selective program. See the Academic Advising Center for details. Additionally, all DACC pre-health majors with a college cumulative GPA of less than 3.0 will be required to be academically advised prior to course registration each semester.

Registering for Classes

After a student is advised, they have the option to register for classes either online or in person.

REGISTERING ONLINE. After being admitted and meeting with an academic advisor, eligible students may register for classes on the Web at my.NMSU.edu (https://my.nmsu.edu).

Students need to log in with their NMSU email and passphrase to access web registration. In the event that a student forgets their passphrase, the system will allow the student to reset it online. If attempts to do so fail, the student must consult with the ICT Student Help Desk in

NMSU Hardman Jacobs Undergraduate Learning Center, room 105, (575) 646-4433.

The web registration system will not accept requests for the *S/U* grading option unless the course is offered exclusively on an *S/U* basis. Likewise, the system will not accept requests for the "Audit" grading option. To request *S/U* or Audit grading for courses, students will need to consult with their academic advisor.

Upon completing online registration, students may view their complete semester schedule by accessing the Student tab within their my.NMSU.edu (https://my.nmsu.edu) account. Students may also ask for a print out of their schedule at the DACC Information Center on the East Mesa Campus (DASR 101H), at any other DACC location, or at the NMSU Student Records Office.

REGISTERING IN PERSON. Students must obtain a Change of Class Schedule Form online at records.nmsu.edu (https://records.nmsu.edu/), then complete and submit the form to the DACC Information Center in DASR 101H on the East Mesa Campus, or to the NMSU Student Records Office, or to a registration office at any other DACC location. In some cases, the student must obtain the instructor's signature on the Change of Class Schedule Form before submitting it to the Information Center. Once registered, students should obtain a copy of their class schedule, which is available at the DACC Information Center or at any other location where students register.

REGISTERING FOR COURSES ON OTHER NMSU CAMPUSES. Students may register for courses at another campus in the NMSU system if the course is not offered at their home campus, or if the course is full at DACC.

Terms and Conditions of Course Registration

Students must complete registration for all courses prior to the first day of class to avoid incurring late fees. Students who subsequently decide not to attend, and have not officially withdrawn from DACC / NMSU, will earn failing grades while remaining financially liable.

When students have a previous balance, their courses for the current term may be canceled if they have not made the appropriate arrangements to pay the debt owed. See https://uar.nmsu.edu (https://uar.nmsu.edu/) for payment options and payment plan information.

Drop of Courses Due to Prerequisite Course Grade

Each semester when grades are reported, DACC proactively drops students out of future semester courses in which the student did not earn the minimum prerequisite grade in the prior semester. The student is notified of this drop through their NMSU email.

Academic Sanctions

Students placed on academic warning, probation, or suspension during the end-of-term grading process will be emailed a notification to their NMSU email. Students placed on academic suspension will have all courses in which they are registered for future semesters canceled, and applicable refunds will be made by the Business Office. For additional information on Academic Standing and Probation please refer to The NMSU System Academic Regulations - Academic Standing/Probation (p. 50).

Adding, Dropping and Withdrawing from Courses

Registration changes may be processed only in accordance with university regulations and with appropriate signatures. If a student decides to stop attending a course, it is the responsibility of the student to initiate official drop or withdrawal from the course and to obtain all necessary signatures on the Change of Class Schedule Form. Failure to do so could result in failing grades.

Forms are available from academic advisors, at the DACC Information Centers, or on the NMSU Student Records Office website at https://records.nmsu.edu/forms/ (https://records.nmsu.edu/forms/inventory.html). Students may add, drop or withdraw according to the dates published online at records.nmsu.edu (https://records.nmsu.edu/), with the exception of petitions for retroactive withdrawals processed in accordance with Policy 6.92. If a student withdraws from a course after the last day to drop/cancel a course with a 100% refund, no refund in any amount will be issued.

ADDING A COURSE. Students wishing to add a course to their current registration schedule should do so in consultation with their academic advisor. The deadline for adding courses during a given term is listed online at records.nmsu.edu (https://records.nmsu.edu/). If the desired course is still open, the student may add it online through their my.NMSU.edu (https://my.nmsu.edu) account. If the course is closed or has a restriction, the student will need to obtain the instructor's electronic or written consent to add the course. If instructor's consent to add is electronic, the student may present this to their academic advisor, who will add the course. If the instructor's consent to add is written on a Change of Class Schedule Form, the student may take the completed form to the DACC Information Center for processing. The Information Center will provide the student with a revised class schedule, which should be reviewed immediately to ensure there are no inaccuracies. Any errors should be reported immediately.

DROPPING A COURSE. The process for dropping (also called cancelling) a course is similar to the process for adding a course. The deadline for dropping courses is published online at records.nmsu.edu (https://records.nmsu.edu/). The student should consult with their academic advisor and drop the course by the deadline either online through their my.NMSU.edu (https://my.nmsu.edu) account, or with a Change of Class Schedule Form. Dropping/cancelling a course removes the course from the student transcript and issues a 100% refund for the course.

WITHDRAWING FROM A COURSE. After the drop/cancellation period comes the withdrawal period. To withdraw from a single course, the student must consult with their academic advisor or complete a Change of Class Schedule Form and process it at the DACC Information Center or the NMSU Student Records Office. The deadline for withdrawing from a single course is published online at records.nmsu.edu (https://records.nmsu.edu/). Withdrawing from a course produces a W grade on the transcript, and no refund is issued for the course. A student may not withdraw from courses after this deadline, unless the student requests a Full Withdrawal from DACC / NMSU.

NOTES:

1. A student found to be insufficiently prepared for a particular course may be transferred to a more elementary course in the same subject area, provided that
   a. the instructor of the more elementary course has given his/her consent, and
   b. the transfer is completed before the last day to officially withdraw from an individual course. Commonly referred to as a "drop-back," this type of transfer is usually, but not always, employed in cases of sequenced courses such as mathematics, English, or foreign languages.

2. Financial aid or other third-party funding sources should be consulted when enrollment changes occur. Anyone attending under the Veterans Educational Assistance Program should notify the Veterans Office in DASR 111 on the East Mesa Campus or by email at VetProg@dacc.nmsu.edu when dropping or adding courses, as such changes could cause a reduction in the benefits received.

Full Withdrawal from DACC/NMSU

A Full Withdrawal from DACC or any other NMSU campuses terminates enrollment in all courses and effects a full withdrawal from the entire NMSU system. It is an official procedure requiring signed approvals as indicated on the withdrawal form. As such withdrawals will be noted on the student's transcript. To process a full withdrawal from DACC/NMSU or for further information refer to the NMSU System Academic Regulations - Withdrawals (p. 46) section of this catalog.

Student Medical Withdrawal

A medical withdrawal applies to a student who becomes seriously ill, injured, or hospitalized and is therefore unable to complete an academic term for which he or she is enrolled. This action applies to all courses a student is registered for in the affected semester(s). The student cannot select which courses they want to withdraw from and which they want to remain registered for when exercising this option. For further information on how to process a student medical withdrawal please refer to the NMSU System Academic Regulations - Withdrawals (p. 46) section of this catalog.

Withdrawal Due to Medical Conditions of a Family Member

A student who must withdraw because of a medical condition of an immediate family member will need to submit a letter from the family member's attending physician on official letterhead with an original signature, stating the date(s) within the semester that the student's immediate family member was under medical care, and confirm that the student must withdraw to attend to the immediate family member's medical condition. This action applies to all courses a student is registered for in the affected semester(s). The student cannot select which courses they want to withdraw from and which they want to remain registered for when exercising this option.This letter must be submitted within the semester or no later than one academic year after the end of that term for which the withdrawal is being requested.

For further information on how to process a withdrawal due to medical conditions of a Family Member please refer to the NMSU System Academic Regulations - Withdrawals (p. 46) section of this catalog.

Administrative Withdrawal

In the event that a student has stopped attending class without formally withdrawing, stopped using the online Learning Management System, or has a history of persistent unexcused absences or failures to complete assignments, the instructor reserves the right to remove the student from the class by means of an administrative withdrawal. For further information on an administrative withdrawal please refer to the NMSU System Academic Regulations - Withdrawals (p. 46) section of this catalog.

Military Withdrawal

Veteran students attending DACC who are called up for active duty and need to withdraw from all classes must contact the following offices:

1. **DACC VETERANS PROGRAM.** Students will provide a copy of their orders to the DACC Veterans Program Office in DASR 111 on the East Mesa Campus (575) 528-7081, VetProg@dacc.nmsu.edu. To assist in reporting accurate information to the VA Regional Office, students should also provide documentation stating the last day of class attendance.
2. **NMSU STUDENT RECORDS OFFICE.** Students also will present their orders to the NMSU Student Records Office (575) 646-3411, records@nmsu.edu. They will receive a military withdrawal from classes and a full refund of tuition and fees for the semester in which they are called to active duty.
3. **BOOKSTORE.** Students who still have their receipts for textbooks purchased during the semester in which they are called to active duty will be given a full refund for these textbook purchases when they present their orders.

For further information on a Military withdrawal please refer to the NMSU System Academic Regulations - Withdrawals (p. 46) section of this catalog.

Tuition and Fees

For the most up-to-date information please visit New Mexico State University's Accounts Receivable (https://uar.nmsu.edu/tuition-fees/). Prices, rates, and fees are subject to change at any time and without notice.

Application Fee

DACC no longer charges an application fee.

Tuition and Mandatory Fees

For academic year 2025-2026, tuition rates, including mandatory fees, at DACC are as follows:

- $76.75 per credit, or $921 per semester, for in-district students (residents of Doña Ana County);
- $93.25 per credit, or $1,119 per semester, for out-of-district students (residents of other counties within New Mexico); and
- $245.00 per credit, or $2,940 per semester, for nonresident (out-of-state and international) students. However, when nonresidents enroll in a summer session, or when they enroll in six credits or fewer during a regular term, they pay the in-state (but out-of-district) rate.

Per-semester costs for tuition and mandatory fees are calculated by multiplying the number of credits by the applicable per-credit rate. Students taking between 12 and 18 credits are charged for only 12, provided that all credits are taken exclusively at DACC. Then, beginning with the 19th credit, the per-credit charge is again imposed.

At NMSU, tuition with mandatory fees for academic year 2025-2026 are $319.46 per credit for residents and $1,032.96 per credit for nonresidents (out-of-state and international students). For further information about tuition, fees, and other charges at NMSU, visit https://uar.nmsu.edu/tuition-fees/

DACC and NMSU tuition and mandatory fees are calculated independently of each other.

DACC Academic Services Fee

The **Academic Services Fee** is applied to nearly all courses including face-to-face but excluding courses for practicum/clinical, dual credit, and those offered by NMSUO. These fees will support things such as academic information technology, academic support services, digital

library services, XR/VR software, support of the DACC Xcite iPad initiative, etc.

Resident, Nonresident Status

Resident or nonresident status shall be determined according to the uniform definition set forth by the New Mexico Higher Education Department. The NMSU Registrar's Office administers residency. Out-of-district information is available at the DACC Office of Admissions in DASR 107 on the East Mesa Campus.

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

All enrolled members of the Navajo Tribe who reside on the Navajo Reservation, as certified by the Navajo Department of Higher Education, will be assessed in-state, out-of-district tuition rates at all times.

135 Mile Non-Resident Tuition Discount

Effective Fall 2022 DACC implemented a 135-mile tuition discount for Texas students enrolling at DACC who live within 135 miles of our Las Cruces Campus. Students should enroll in 12 credits at DACC and must meet Satisfactory Academic Progress (https://fa.nmsu.edu/satisfactory-academic-progress/). Students meeting these requirements will be eligible for resident out-of-district tuition times 110% in lieu of non-resident tuition.

Other Fees—Resident and Nonresident

International Student Admission Fee	$50

Payment of Charges

By enrolling in classes at DACC/NMSU, a student makes a financial commitment to pay the tuition and fee charges associated with that enrollment. The enrollment action constitutes a financial obligation between the student and DACC/NMSU and all proceeds of this agreement will be used for education purposes and constitutes an education loan pursuant to 11 U.S.C 523(a) (8). Terms and Conditions of Course Registration are posted on the NMSU website and available in each term's registration guide.

Payments can be made by mail, web or telephone, as well as in person. Cash, checks, money orders and all major credit cards are accepted.

Those preferring to pay in person may do so at the DACC Cashiers Office (DASR 102B) on the East Mesa Campus or on the NMSU Las Cruces Campus at the University Accounts Receivable Office. Payments are also accepted in person at the Gadsden and Sunland Park centers.

Students may pay in full, enter into a payment plan, or provide proof of a third-party payment agreement. Students who do not pay in full or make third party payment arrangements by the payment deadline will automatically be placed on the payment plan. For payment plan options, visit the NMSU website. Fees vary according to the plan chosen.

Any financial aid received will be applied toward balances owed. DACC/NMSU reserves the right to deny the payment plan to any student who has a poor credit rating or who has been negligent in making payments to the institution for previous debts.

NOTE: Workshops, institutes, and noncredit courses are treated as completely separate sessions. Check the Continuing Education program announcements for the specific noncredit course fees and registration instructions.

Payment Plan

For current information, please visit the Payment Plan website at https://uar.nmsu.edu/payment-plan/.

Late Registration

A late registration fee of $25 is imposed if registration has not been completed before the late-registration period begins.

Delinquent and Prior-Term Balances

DACC/NMSU reserves the right to cancel the registration of any student who fails to pay, when due, any indebtedness to the institution. Academic credits and diplomas will be withheld until all financial obligations are paid.

Dishonored Checks/Credit Cards

DACC/NMSU charges a penalty on all dishonored cash instruments. Personal checks will not be accepted from students who have had a previously dishonored check.

Tuition Adjustments, Refunds, and Forfeitures

Students officially withdrawing or dropping courses during a semester or term are eligible for a 100-percent refund of tuition and fees through the deadlines listed online. Go to http://registration.nmsu.edu (https://records.nmsu.edu/students/important-dates.html), click on the drop-down menu for the appropriate semester or term, and select "Important Dates and Deadlines." Students withdrawing from courses after that deadline will not be eligible for a refund and will remain liable for full tuition and fee charges. Non-attendance does not constitute an official course drop or withdrawal. All charges due to DACC/NMSU must be paid before refunds or adjustments will be permitted.

In cases of academic or disciplinary suspension, eligibility for tuition refunds and adjustments will depend on the conditions of the suspension and will be entirely at the option of the institution. Should unforeseen circumstances beyond the reasonable control of Doña Ana Community College or New Mexico State University result in curtailing classes, closing residence facilities, or otherwise withdrawing services that are a normal function of the institution, refunds of any nature will be at the discretion of the college/university administration.

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

Program-Related and Course-Related Fees

Course and Lab Fees

Certain courses/labs require an additional fee, which is subject to change. At the time this publication went to press, the fees for the following courses were as follows:

ARTS 1310	$25
ARTS 1320	$25
ARTS 2996	$25
AUTO 130	$131.25
AUTO 131	$131.25
AUTO 255	$87.50
DAST 1123	$250
DHYG 2222, 2227, 2232, 2242	$400
DMSO 1170, 1180, 2270, 2280	$200
NA 114 (Certified Nursing Assistant lab fee)	$150
NURS 1121, 1125, 2225, 2996	$250
RESP 1150L, 1250 L, 2150 L, 2230 L	$120

Toolboxes, Tool Kits, and Personal Materials

Students enrolled in the Automotive, Dental, Radiologic Technology, Welding, and Heating, Air Conditioning, and Refrigeration programs will be issued tools during the first week of classes. One-third of the total price of the toolboxes or tool kits is due at the time the tools are issued. The remaining toolbox/kit balance must be paid by the end of the semester in two equal installments, usually spaced two months apart. Failure to pay the balance will result in exclusion from registration the following semester. Down payment and subsequent payments for toolboxes/kits must be made at the DACC Cashiers Office in DASR 102B on the East Mesa Campus. Students are responsible for full payment even if they withdraw from the community college. Return of toolboxes/kits will not constitute payment, as used tools cannot be reissued. Call the appropriate academic division for current costs. (Division telephone numbers appear on the Contact Information (p. 8) page.)

Medical Insurance Coverage Not Provided

DACC does not provide medical insurance for students. DACC students are encouraged to obtain their own medical insurance for any potential illness, accident, or injury that might occur while they are enrolled at the college. Visit www.healthcare.gov (https://www.healthcare.gov) to shop for, compare costs and coverage benefits of, and enroll in, insurance coverage.

Aggie Health and Wellness Center

DACC students enrolled in 12 credit hours or more are eligible to receive services from the Aggie Health and Wellness Center without having to pay an office visit fee. Students enrolled in less than 12 credits are also eligible to receive services, but are required to pay an office visit of $35. Students enrolled in less than 12 credits may also purchase semester-long access to the services offered by the NMSU Aggie Health and Wellness Center for $79. Visit the following site for pricing information: https://wellness.nmsu.edu/healthcare%20services/student-health-insurance.html.

Supplemental Health Insurance

Students who have access to the Student Health Center may choose to buy a commercial insurance policy endorsed by NMSU. This insurance is intended to supplement the Student Health Center service. Dependent coverage is not available through NMSU but may be purchased directly from the insurance company; however, dependents of students are not eligible to use the Student Health Center. Information about this insurance can be found at http://www.uhcsr.com (https://www.uhcsr.com).

AggieFit Membership

AggieFit is a good option for improving one's health while studying at NMSU/DACC. Membership in the AggieFit program provides access to the Activity Center, Aquatic Center, fitness classes provided in both, and participation in our Intramural programs. For additional information, including the fee schedule, visit https://recsports.nmsu.edu/about-aggiefit/ (https://recsports.nmsu.edu/contact-us/about-aggiefit.html).

Housing

Housing is available to community college students on the same basis as it is for other New Mexico State University students. Rates and other information may be obtained online at http://housing.nmsu.edu/ (http://housing.nmsu.edu).

Food Services

New Mexico State University, located adjacent to the DACC Espina Campus, offers a number of meal plans and has a wide selection of eateries: http://dining.nmsu.edu/. The DACC Snack Bar operates stores on the Espina and East Mesa campuses.

Financial Aid

The Office of Financial Aid administers a broad spectrum of grant, loan, scholarship, and work-study funding in an attempt to meet the financial needs of DACC's students.

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

Students applying for financial aid must complete a Free Application for Federal Student Aid (FAFSA), designed to determine in accordance with state and federal guidelines, the difference between what the student and/or family is expected to contribute and the cost of attending DACC. Among the factors that determine the Student Aid Index (SAI) are:

1. annual adjusted gross income as reported to the Internal Revenue Service;
2. savings, stocks, and/or bonds;
3. other assets in the form of a business, farm, or real estate;
4. nontaxable income and benefits; and
5. student (and parent if applicable) prior-prior year income and assets.

Students applying for financial aid should complete a FAFSA by visiting studentaid.gov (https://studentaid.gov/) and then clicking on "FAFSA Form" and then "Complete the FAFSA form ". Priority deadline for FAFSA completion is March 1 of every year, but applications will still be accepted thereafter.

General Eligibility Requirements

To receive financial aid, you must demonstrate the following:

- Have a high school diploma or a General Education Development (GED) Certificate, pass a test approved by the U.S. Department of Education, meet other standards your state establishes that are approved by the U.S. Department of Education, or complete a high school education in a home school setting that is treated as a home school or private school under state law. See your financial aid advisor for more information.
- Be enrolled or accepted for enrollment as a regular student working toward a degree or certificate in an eligible program. (You may not receive aid for correspondence or telecommunications courses unless they are part of an associate or bachelor's degree program.)
- Be a U.S. citizen or eligible non-citizen (state funded scholarships may be available to undocumented students).
- Have a valid Social Security number. If you don't have a Social Security number, you can find out more about applying for one at www.ssa.gov (https://www.ssa.gov).
- Be meeting satisfactory academic progress (SAP).
- Sign a statement on the FAFSA certifying that you will use Federal student aid only for educational purposes.
- Sign a statement on the FAFSA certifying that you are not in default on a federal student loan and that you do not owe money back on a federal student grant.

No applicants will be denied financial assistance on the basis of age, color, disability, gender, national origin, race, religion, or sexual orientation.

Sources of Financial Aid

GRANTS. The foundation for financial aid is the Federal Pell Grant, available to undergraduate students with documented financial need. Pell Grants range from $739 to $7,395(subject to change each year). In some instances, students may be eligible to receive other types of aid, including the Federal Supplemental Educational Opportunity Grant (SEOG) or Leveraging Education Assistance Partnership Program Grant (LEAP), and/or other miscellaneous grants. These grants are awarded on a first-come-first-served basis to undergraduate students who show exceptional financial need. Typically, all three types of grants do not have to be repaid; funding is limited, however, and it is therefore very important that students complete their financial aid files by the priority deadline. For more information, contact DACC's Financial Aid and Scholarship Services Office, or visit **http://dacc.nmsu.edu/student-services/financial-aid/** on the web.

SUBSIDIZED AND UNSUBSIDIZED FEDERAL DIRECT LOANS. These loans are need and non-need-based, long-term loans available to undergraduate students. Students receiving a subsidized or unsubsidized Federal Direct Loan, must complete an initial In-Person Entrance Counseling session and then a yearly online session every year after that. All students wishing to receive a Federal Stafford Loan must also complete a Master Promissory Note (MPN). Both the MPN and the online entrance counseling can be found at studentaid.gov. (https://studentaid.gov/) In addition, students must complete an exit interview upon graduation or withdrawal from the University. Repayment of a Stafford Direct Loan begins six months after graduation or six months after enrollment drops below 6 credits for undergraduate students. The interest rate is variable but will not exceed 8.25%. More information will be available at the time the loan is made.

WORK-STUDY PROGRAMS. The Federal Work-Study Program provides employment opportunities for selected undergraduate students with demonstrated financial need. The New Mexico Work-Study Program also provides employment opportunities for students; however, only New Mexico residents are eligible to participate in the program. Both federal and state work-study are limited in funding and can be awarded to those who are meeting Satisfactory Academic Progress requirements, have requested work-study from the Financial Aid Office, and completed their financial aid files.

For more information on the U.S. Department of Education student aid programs, go to studentaid.gov (https://studentaid.gov/) or see the DACC Financial Aid web site at http://dacc.nmsu.edu/student-services/financial-aid (https://dacc.nmsu.edu/student-services/financial-aid/).

Financial Aid Awards

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

SCHOLARSHIPS. All scholarships are contingent upon availability of funds. Individual scholarship criteria are subject to change. Students are encouraged to apply online at http://scholarships.nmsu.edu/ (https://scholarships.nmsu.edu). The online application for the upcoming year becomes available in October and remains open year-round. Preference is given to those who apply prior to March 1. Only one application is necessary to be considered for most scholarships. Students who apply for scholarships are encouraged to fill out a FAFSA application as some scholarships require "need".

- **The New Mexico Opportunity Scholarship**. The NM Opportunity Scholarship pays up to the cost of tuition and fees less any other state aid or tuition-based scholarship for New Mexico residents. Students must maintain a minimum 2.5 cumulative grade point average to maintain the scholarship. At DACC, the scholarship is good for up to 90 credits or the completion of an associate degree, whichever comes first. The award can then be transferred to a 4-year institution in NM. Students enrolling for the first time, must be graduating from a New Mexico High School and attending within sixteen months of graduation or receipt of a high school equivalency credential and be attending full time (12 credits at DACC) in order to qualify for the scholarship. Returning students (students not meeting NM Lottery criteria) must be enrolled in at least 6 credit hours per semester. Students seeking an in-demand degree as determined by the state of New Mexico may qualify, if they have not yet achieved a bachelor's degree.
- **The New Mexico Legislative Lottery Scholarship.** Student must enroll full-time at a public post-secondary educational institution in New Mexico within sixteen months of graduation or receipt of a high school equivalency credential and maintain continuous full-time enrollment. First time enrollment within the sixteen-month period following graduation must be at a New Mexico public post-secondary educational institution. If the student enrolls full-time at ANY out of state institution or private in-state institution the student shall forfeit eligibility. Students must enroll in and earn 15 credit hours per semester at a four-year New Mexico public university or 12 credit hours per semester at a two-year New Mexico public community college. Students must maintain a 2.5 or greater cumulative grade point average (GPA) each semester of enrollment. If a student continues to meet criteria, Legislative Lottery scholarship can be paid

for 3 semesters at DACC and then can be transferred to a public 4-year institution for another 4 semesters. Students with disabilities may qualify for reduced credit hour requirements and additional semesters of the scholarship.

- **Private Scholarships.** Thanks to the generosity of our private donors, DACC is able to offer a wide array of scholarships to assist a diverse student population pursuing a higher education. Scholarships are primarily awarded according to merit, as successful candidates are selected on the basis of academic achievement, personal leadership, and financial need.
- **DACC Institutional Scholarships.** Scholarships are awarded on a first-come, first-served basis. Applicants must be pursuing a certificate or associate degree at DACC, have at least a 2.5 cumulative GPA, and be a New Mexico Resident, as well as a US Citizen or eligible non-citizen.

WORKFORCE INVESTMENT ACT (WIOA) INITIATIVES. These federally funded programs assist students pursuing careers in technical-vocational or associate degree programs. In some instances, students may be assisted for GED and noncredit courses. Sponsored students may receive financial support for tuition and fees, textbooks, laboratory and classroom supplies, tools and safety equipment, and testing and licensor fees. They may also receive a supportive service allowance to cover transportation, childcare, and subsistence costs.

Students in the local and surrounding area may apply for WIA eligibility at:

New Mexico Department Workforce Solutions
226 S. Alameda Blvd.
Las Cruces, N.M. 88005
(575) 524-6250.

Those living outside the Greater Las Cruces Area should visit their local Department of Labor Office.

Financial Aid Satisfactory Academic Progress

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

- **Qualitative Progress.** Undergraduate students must maintain a cumulative GPA of at least 2.0 (a *C* average). Grade point values are *A* = 4.0, *B* = 3.0, *C* = 2.0, *D* = 1.0, *F* = 0. Grades of *I, CR, RR, PR, NC, W, AU* are not calculated in the GPA. Adjusted Credit Options are not taken into consideration when determining financial aid eligibility.
- **Completion Rate.** Students must complete a minimum of 70 percent of all coursework (registered credit hours) attempted at DACC/NMSU. Any course with a grade of withdraw (*W*), incomplete (*I*), repeats (*RR*), failure (*F*), audit (*AU*), or no credit (*NC*) is not considered completed coursework. Repeated courses are included in the calculation.
- **Maximum Time Frame.** Undergraduate students must complete their program within 150 percent of the credit hours required by the program. (Most Associate degree programs at DACC require 60 hours, therefore maximum allowable attempted hours would be 90 credits.) Students who have reached the maximum allowable time will be suspended from receiving financial aid. Up to 30 developmental/remedial hours are excluded from this calculation. Total attempted hours including repeated courses and transfer coursework are included in the student's maximum time frame calculation.
- **Student Liability.** Recipients of financial aid grants and loans who drop credits or withdraw may be required to return all or a portion of awarded Title IV funds. Further information regarding the return of Title IV funds is available on the NMSU web site at https://fa.nmsu.edu/title-iv/.

Financial Aid Suspension

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

The Appeals Process

Students suspended from financial aid may appeal the suspension if there are extenuating circumstances affecting their progress. Students who would like to appeal the suspension must submit an appeal form, available at http://dacc.nmsu.edu/student-services/financial-aid/, and all required documentation to DACC Financial Aid prior to the semester deadline. A committee will review the appeal and may grant reinstatement of financial aid based on documented extenuating circumstances that directly contributed to deficient academic performance. Appeals are evaluated on a term-by-term basis.

Veteran Students

Dona Ana Community College (DACC) is a military and veteran-friendly college that strives to provide the best possible service for our military, veteran, and their dependents as they pursue their educational goals. DACC Veterans Programs promotes lifelong learning and professional development by offering:

- In-state tuition rates for active-duty military and their dependents stationed at regional military installations (including Ft. Bliss); or those eligible for U.S. Department of Defense (DoD) Tuition Assistance (TA) or U.S. Department of Veterans Affairs (VA) education benefits
- Easily transferable military credits that count toward degrees at DACC
- Facilitation of MyCAA military spouse benefits and DoD TA
- Advocacy from admission to graduation
- Student Veteran Housing for student veterans and their families
- Priority registration for military and veteran students
- Connection with the Student Veterans Organization (SVO) of NMSU
- Scholarships and Internship opportunities
- Veteran Mentorship Program, helping first-year student veterans' transition to an academic setting successfully
- Processing of TA and VA education benefits
- Student Computer Lab and Lounge

Most DACC degree and certificate programs are approved by the New Mexico Department of Veterans' Services, State Approving Agency, for enrollment of persons eligible to receive VA education benefits. Eligible students may receive education benefits from the U.S. Department of Defense or the U.S. Department of Veterans Affairs.

For further information contact:

DACC Veterans Programs

2800 Sonoma Ranch Blvd, Student Resources

Las Cruces, NM 88011
(575) 528-7080
vetprog@dacc.nmsu.edu

Active-Duty

Active-duty military personnel (U.S. Armed Forces) stationed in New Mexico or at Fort Bliss, Texas may complete a "Resident Tuition Application for Active Military, Veterans and Dependents of the U.S. Armed Forces" waiver to qualify for in-state tuition. Spouses and children of active-duty personnel who are stationed in New Mexico and Fort Bliss, Texas who are not otherwise entitled to claim in-state residency, may apply for in-state tuition by submitting a "Resident Tuition Application for Active Military, Veterans and Dependents of the U.S. Armed Forces" waiver to the Military and Veterans Programs. Applications are available at the DACC Veterans Programs Office, or through the University Student Records Office. Please contact the office on required documents needed to complete the waiver application.

Dependents Receiving VA Educational Benefits

Per NM 2015 HB 427:

A spouse or child of a veteran of the armed forces is entitled to pay tuition and fees at the rate provided for New Mexico residents; provided that the spouse or child is eligible for benefits pursuant to the federal Post-9/11 Veterans Educational Assistance Act of 2008 or any other federal law authorizing educational benefits for a veteran and the dependents of a veteran. Applications are available at the DACC Veterans Programs Office, or through the University Student Records Office. Please contact DACC Veterans Programs Office on the required documents needed to complete the waiver application.

Veterans

Veterans receiving U.S. Department of Veterans Affairs education benefits are eligible for in-state tuition through the Veterans In-State Tuition Act by submitting a "Resident Tuition Application for Active Military, Veterans and Dependents of the U.S. Armed Forces" waiver. For further information concerning approved programs and application process, eligible persons should contact Military and Veterans Programs.

Veteran students enrolled under the following programs are responsible for their tuition and fees in the same manner as a nonveteran student:

- Montgomery GI Bill®-Active Duty (CH 30)
- Survivors' and Dependents' Educational Assistance (CH 35)
- Montgomery GI Bill®-Selected Reserve (CH 1606)

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at https://www.benefits.va.gov/gibill. (https://nam01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fbenefits.va.gov%2Fgibill%2Findex.asp&data=01%7C01%7Cemz0724%40nmsu.edu%7C5845cd850ebe483b899f08d833db4ce9%7Ca3ec87a89fb84158ba8ff11bace1eba a%7C1&sdata=dodHbJeg6EwzrzZbjmIbt%2BB6bAsHp8eFnUZyFpUNZPQ%3D&reserved=0)

Allowing Veterans to Attend or Participate in Courses Pending VA Payment

Background

Section 103 of Public Law (PL) 115-407, 'Veterans Benefits and Transition Act of 2018,' amends Title 38 US Code 3679 by adding a new subsection (e) that requires disapproval of courses of education, beginning August 1, 2019, at any educational institution that does not have a policy in place that will allow an individual to attend or participate in a course of education, pending VA payment, providing the individual submits a certificate of eligibility for entitlement to educational assistance under Chapter 31 or 33.

Pending Payment Compliance

In accordance with Title 38 US Code 3679(e), New Mexico State University/Dona Ana Community College adopts the following additional provisions for any students using U.S. Department of Veterans Affairs (VA) Post-9/11 G.I. Bill® (Ch. 33) or Vocational Rehabilitation & Employment (Ch. 31) benefits, while payment to the institution is pending from VA. Dona Ana Community College will not:

- Prevent the student's enrollment;
- Assess a late penalty fee to the student;
- Require the student to secure alternative or additional funding;
- Deny the student access to any resources (access to classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

However, to qualify for this provision, such students may be required to:

- Produce the VA Certificate of Eligibility (COE) by the first day of class;
- Provide a written request to be certified;
- Provide additional information needed to properly certify the enrollment as described in other institutional policies

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at **https://www.benefits.va.gov/gibill.**

Responsibility of Students Receiving VA Education Benefits

Students must pursue a degree in a specific program in order to be eligible for VA education benefits. Students must submit their degree plans or Student Academic Requirements (STAR) Degree Audit Report and Concise Student Schedule to Military and Veterans Programs in order to be certified. For continued certification, students must submit their degree plans or STAR Degree Audit Report and Concise Student Schedule to MVP every semester they plan to use VA education benefits.

Students using VA Education Benefits must notify the DACC Veteran's Program Office when any of the following occur:

- Dropping or adding course(s)
- Withdrawing from course(s)
- Withdrawing from the University
- Discontinuing regular class attendance
- Changing programs (academic majors/minors)

VA education benefits are payable for regular attendance in courses that are part of the student's program (major/minor) curriculum. VA education benefits are not payable for:

- Classes not attended regularly
- Repeating a course for which a passing grade meets degree requirements
- Classes for which credit is received through successful completion of a proficiency test or grade by examination
- Classes are taken on an audit basis
- Classes that are dropped or withdrawn from
- Classes are taken that are not part of the student's program (major/minor) curriculum

Military Withdrawal

Dona Ana Community College understands that our military students may be called to active duty, specialized training, or disaster relief efforts with little notice. U.S. active duty military students wishing to withdraw from all their classes must present their orders and their request for full withdrawal, as indicated below. However, the below policy does not pertain to a student's basic and/or annual training. A student who has an order for training is encouraged to formally request, through the proper military chain of command, a postponement of their orders until the summer or the end of the semester they are currently enrolled in. If a student's request for postponement is denied, the student may then follow the steps below but must provide documentation that their postponement request was formally denied.

All NMSU students that have been called for active duty must take the following steps to withdraw from all their classes:

1. **Military and Veterans Programs (MVP)**: TA/VA students ordered to Active Duty must provide a copy of orders to the MVP office, in Corbett Center Student Union, Room 244, or by email vetprog@dacc.nmsu.edu. To assist in reporting accurate information to their military service or the VA Regional Office, the student should also provide, in writing, the last day of class attendance.
2. **NMSU University Student Records**: All students presenting their orders to the University Student Records Office, (575) 646-3411, or records@nmsu.edu, will receive a military withdrawal from classes and full tuition and fees refund for that semester.
3. **Bookstore**: Students who still have their receipts for textbooks purchased the semester in which they are called to active duty will be given a full refund for these textbook purchases when they present their orders. Please contact the bookstore for assistance at (575) 646-4431 or nmsu@bkstr.com.

Veterans' Attendance and Satisfactory Progress

The U.S. Department of Veterans Affairs requires all veterans receiving VA education benefits to make satisfactory progress and systematic advancement toward an educational objective or be liable for over-payments. Satisfactory progress and regular class attendance are expected of such students.

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

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

A student receiving VA education benefits who is pursuing a degree program offered by Dona Ana Community College should adhere to the curriculum of that program. Failure to do so will result in the student being certified for less than full-time status or becoming liable for an over payment.

Regulations

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

Credit for Military Service

Dona Ana Community College will award academic credit to United States military personnel for courses and Military Occupational Specialties (MOS), based on the American Council of Education Guide (ACE) as well as through national standardized tests, such as CLEP, AP, PEP, and DANTES. Credit for military-training is in accordance with NMSU Faculty Senate Legislation Proposition 24-07/08, which was passed in May 2008. Military Training and Military Occupational Specialties (MOS) must have a recommendation evaluation by ACE (in the ACE Guide) for credit to be awarded. Courses accepted for transfer credit become part of the student's official NMSU transcript and academic record. If a student wishes to appeal a decision regarding the acceptance of military training/education and/or MOS for academic credit, the student must submit a written statement of appeal to the Dean of the College to which the student has applied. The Dean will review the merits of the appeal and render a decision. The decision of the Dean is final.

Only Primary MOS (s) are eligible for academic credit in the initial review and evaluation. Credit for Duty and/or Secondary MOS may be eligible for academic credit if the student petitions the college's Associate Dean. Primary MOS is the primary specialty of a soldier and reflects the broadest and most in-depth scope of military experience. Veterans, active-duty personnel, National Guard, and Reservists who are current students or students applying for admission to New Mexico State University may be granted academic credit on a case-by-case basis upon evaluation of military transcripts - the Joint Service Transcript (https://jst.doded.mil/jst (https://jst.doded.mil/jst/)) and the Community College of the Air Force transcripts. Course equivalencies and credit hours awarded for a particular DACC degree are determined by colleges and/or academic departments. Credit hours may be awarded for specific courses toward degree requirement, or as elective credit. The number of credit hours awarded will be determined by the college and/or academic department.

Note: Students submitting military transcripts for credit evaluation must keep in mind the Maximum Time Frame policy, see the Financial Aid Section (https://catalogs.nmsu.edu/nmsu/financial-aid-scholarship-services/) for more information.

Distance Education

The *Schedule of Classes* indicates which courses will be offered online during any given semester or term.

DACC is committed to student success in DACC's online courses. The Virtual Learning and Instructional Technology (VLIT) staff provide online course support and assistance for students.

Visit the VLIT website at https://dacc.nmsu.edu/student-services/vlit/index.html (https://dacc.nmsu.edu/student-services/vlit/), for helpful resources such as these:

- Frequently Asked Questions (FAQ) database of the most commonly asked questions.
- Online Canvas training at the beginning of each semester.
- Student questions or issues.

The VLIT staff can be consulted by phone at (575) 527-7738 or via email at vlit@nmsu.edu. Students can also contact the NMSU Help Desk (https://help.nmsu.edu/) (https://ict.nmsu.edu/) or (575) 646-1840.

Visit https://dacc.nmsu.edu/student-services/thrive/technology.html for more resources and information on online education.

Student Services Offered at DACC

DACC New Student Orientation

New Student Orientation (https://dacc.nmsu.edu/admissions/welcome-and-orientation.html) will provide the tools and information to make your transition to DACC as easy as possible. Students will attend in person or complete a course online, set up an appointment with an academic advisor, and register for classes. Not only will you learn more about DACC and the resources available here, but you will also meet new friends and discover that DACC is a supportive and caring community. For information, please contact the orientation coordinator at (575) 527-7536 or via email at admissions@dacc.nmsu.edu.

Student Accessibility Services

The Student Accessibility Services (https://dacc.nmsu.edu/student-services/student-accessibility-services/index.html (https://dacc.nmsu.edu/student-services/student-accessibility-services/)) at DACC coordinates accommodations for qualified students under the Americans with Disabilities Act (ADA, 1990) and section 504 of the Rehabilitation Act of 1973. This program may not be able to meet all needs and requests; however, a reasonable effort will be made to facilitate physical and programmatic access. To provide quality services, SAS procedures include self-identification of persons with disabilities and determination of their eligibility for services. Students with disabilities must request services and provide appropriate documentation from public schools, agencies, physicians, psychologists, and/or other qualified diagnosticians.

Qualified students may receive the following forms of free assistance/accommodations: sign-language interpreters, note-taking assistance, readers, enlarged print, E-text, audio text, computer/software adaptations, alternative keyboards, accessible furniture, priority registration, and referral and liaison for many of these services.

More information may be obtained from the SAS office on the Espina Campus, DASH 117 (575) 527-7548. Students also may contact the East Mesa SAS office, DASR 104A (575) 527-7548.

Tutoring/Academic Readiness Center (ARC) Services

Tutoring/ARC Services (https://dacc.nmsu.edu/student-services/academic-readiness-center/index.html (https://dacc.nmsu.edu/student-services/academic-readiness-center/)) provide free assistance to students. Our CRLA certified tutors and professionals work diligently and skillfully to assist you in becoming successful, confident, and active learners. Workshops are offered in multiple academic areas, in -person and online. Free tutoring is available for enrolled students through the Academic Readiness Centers (ARC) located at the East Mesa Campus, Espina Campus, Gadsden and Sunland Park centers. To utilize these services or to obtain additional information, please visit or call us at:

- Las Cruces East Mesa Campus, DAAR 201, phone (575) 528-7275
- Las Cruces Espina Campus, DASH 116, phone (575) 527-7575
- Gadsden Center, DAGC 104, phone (575) 882-6818
- Sunland Park Center, DASP 107, phone (575) 874-7807

AVANZA Student Success Program

The AVANZA Program provides "wrap-around" services to all students of DACC in need of campus and community resources. The AVANZA Student Success Advocates (advisors) are located at the campuses of East Mesa and Espina as well as the centers of Gadsden and Sunland Park. AVANZA's information and resources on personal and family wellness, financial success, relief resources including immediate access to food and financial assistance, career planning, and navigating DACC.

For more information, please consult AVANZA's webpage (https://dacc.nmsu.edu/student-services/avanza/) for a complete list of resources and services.

Virtual Learning & Instructional Technology (VLIT)

VLIT is dedicated to enhancing the educational experience by promoting the use of instructional technology as a natural extension of learning. VLIT equips students with the necessary tools and training, including Canvas LMS proficiency, Office 365 mastery, efficient communication with Outlook, and enhanced virtual learning via Zoom. For a complete list of information and resources, visit VLIT's webpage (https://dacc.nmsu.edu/student-services/vlit/).

Library Services

DACC Library upholds the mission of the college by providing excellent educational and research resources and expert service for a diverse community of learners in support of academic interests, workforce development, economic growth, and lifelong learning. The DACC Library serves current DACC students, faculty, staff, and Doña Ana County residents.

The DACC Library has two full-service locations: one on the Las Cruces Espina campus in the Learning Resources Building, DALR 260, and one on the Las Cruces East Mesa campus in the Academic Resources Building, DAAR 203. Limited library services are also available at Sunland Park, Room 107B, and Gadsden, Room 104B. The Espina and East Mesa libraries have great natural lighting and many windows with study tables beside them. In addition to the library's physical collection, the following are also available: computers, copiers, printers, scanners, anatomical skeletons, whiteboards, and bookable study rooms. See the library website for current hours of operation and contact information. Helpful library staff are present at all locations.

The library website (https://dacc.nmsu.edu/library/ (https://dacc.nmsu.edu/library/)) provides direct access to most of the library's services: bookable study rooms, online and in-person appointments with Librarians, access to the library's 140+ electronic databases, and a discovery tool, Search Everything, that allows users to search the libraries 18,000 physical items and most electronic databases all at once. All electronic materials are accessible on and off campus and include articles, eBooks, streaming videos, audio recordings, and research guides.

The DACC Library shares an online library catalog with all NMSU campus libraries. Delivery service among the campuses is quick, and students can pick up materials from their most convenient location. Interlibrary Loan services are available for materials not owned by DACC or NMSU libraries, and is limited to currently registered students, faculty and staff.

The college ID serves as a library card for checking out books, which are loaned for three weeks, and audiovisual materials, which are loaned for one week. Extended loan periods are available to Crimson Scholars.

Student Computer Access

DACC has more than 1,500 computers for student use. Most are located in classrooms, where they are integrated into the teaching process. Additionally, all DACC campuses and centers have open computer laboratories, affording access to the internet, Microsoft, Adobe and Autodesk applications, NMSU web applications such as email and Canvas, and numerous other applications in support of curriculum and classroom software.

Wireless network access is provided at all DACC campuses and centers.

During the fall and spring semesters, hours for open computer labs are as follows.

- Espina DASH 85 (575) 527-7561 and East Mesa DAAR 200 campuses (575) 528-7265: 8 a.m. to 8 p.m. Monday through Thursday, 8 a.m. to 5 p.m. Friday, and closed Saturday and Sunday.
- Gadsden DAGC 112 (575) 882-6822 8 a.m. to 8 p.m. Monday through Thursday, 8 a.m. to 5 p.m. Friday, closed Saturday and Sunday.
- Sunland Park DASP 113 (575) 874-7798 centers: 8 a.m. to 6 p.m. Monday through Thursday, 8 a.m. to 5 p.m. Friday, closed Saturday and Sunday.
- Chaparral Center DACH 111 (575) 824-2003: 8 a.m. to 5 p.m. Monday through Friday; closed Saturday and Sunday.

These schedules are subject to change. Current hours of operation for all campuses and centers are posted on the Web at https://dacc.nmsu.edu/student-services/computer-labs/index.html (https://dacc.nmsu.edu/student-services/computer-labs/).

Books and Supplies

The DACC bookstore is managed by Follett and is located in the Academic Resources (DAAR) building Room 102 on the East Mesa Campus. It is arranged for self-service, with textbooks displayed by department, course number, and section number. The DACC Bookstore only carries textbooks for courses offered at DACC and does not carry textbooks for NMSU Main, Alamogordo or Grants campus. With the exception of Grants campus, all branches of NMSU have their own campus bookstores which carry books for their specific campus or books can be ordered from the bookstore website. In addition to textbooks, the bookstore sells calculators, educational supplies, and other types of merchandise.

For current bookstore hours or other information, call (575) 528-7253 or visit https://www.bkstr.com/nmsudaccstore (https://www.bkstr.com/nmsudaccstore/).

DACC Bookstore Integrated Services Program (Books4Less)

In an effort to promote student success and increase affordability, DACC has partnered with Follett to create the DACC Books4Less Program. The DACC Bookstore will provide all required course books/materials for a flat $28 per credit hour that is charged when the student registers for the course.

Students will be able to pick up or access all needed print or electronic textbooks and learning materials for all their courses without paying anything more out of pocket. These materials will be available for pick up or access prior to the first day of class. Students can evaluate the impact and savings each semester based on their individual courses and opt out if there is no benefit. Students wishing to opt out of this program for the semester and purchase materials on their own will be given the opportunity to do so before the start of the semester but no later than the last day to add classes for the semester. You can find additional information on this program and the opt out link at the following website: https://dacc.nmsu.edu/admissions/books4less/index.html (https://dacc.nmsu.edu/admissions/books4less/)

Student Technology Rentals

DACC students can rent Laptops, Projectors, Cameras, and iPads on a semester basis for a nominal fee. The IT Equipment rental office is located at Hardman & Jacobs Undergraduate Learning Center (HJLC) at NMSU and appointment and information can be found at: https://studenttech.nmsu.edu/equiprental/

DACC XCITE iPad Program

First time freshman or first time transfer students to DACC, taking a minimum of 6 credits and enrolled in a DACC major may be eligible to receive a free iPad to support their technology and learning needs at DACC. Once the student successfully completes 12 credits the iPad will be the students to keep. Information on this program can be found at https://dacc.nmsu.edu/student-services/ipad/index.html (https://dacc.nmsu.edu/student-services/ipad/).

Student Government Association & Student Activities

The Student Government Association of Doña Ana Community College is the dynamic and responsive Association representing DACC students, and the organizations in which they participate. Through annual campus-wide elections, students run for office and vote for their chosen representatives. Student activities and events serve as the foundation for enhanced learning and leadership development through educational and social activities, and programs.

Though representative of all campus locations, the Student Government Association is located on the East Mesa Campus in DAEM 212. For more information, call (575) 528-7618 or visit https://dacc.nmsu.edu/student-services/sga/index.html (https://dacc.nmsu.edu/student-services/sga/)

Student Feedback

DACC is committed to making the learning experience positive and supportive for all students With this commitment in mind and in our efforts for continually improving DACC, we welcome your opinions, comments, suggestions, and complaints. For more information about providing constructive feedback to the administration, faculty, and staff of DACC, visit https://dacc.nmsu.edu/student-complaints/index.html (https://dacc.nmsu.edu/student-complaints/)

Campus Security

Security staff is available to all students, faculty, and staff at the various DACC locations. If you have a security issue, need an escort, or require a guard for safety purposes, do not hesitate to call (575) 527-7777 from any DACC campus or center. For more information, visit https://dacc.nmsu.edu/about/campus-security/index.html (https://dacc.nmsu.edu/about/campus-security/)

Parking at DACC Campuses

All DACC campuses have free parking. At the Espina campus Blue lots are now designated as free parking, however, Street parking may require permits and specially marked spaces are restricted. For more information, please click this link: (https://dacc.nmsu.edu/faculty-and-staff/business-office/index.html (https://dacc.nmsu.edu/faculty-and-staff/business-office/))

Citywide Transit/Bus Services

RoadRunner transit has routes throughout Las Cruces including a route that can take students from University Avenue to the DACC East Mesa Campus at 30-minute intervals. All citywide transit and bus services are currently free. Details about the route schedules can be found on the City of Las Cruces Transit website: https://www.las-cruces.org/1314/RoadRUNNER-Transit (https://www.las-cruces.org/1314/RoadRUNNER-Transit/)

Student Services on the NMSU Las Cruces (Main) Campus

This section describes the services offered on the NMSU campus that are most commonly used by DACC students. For a complete listing of NMSU student services, consult the *NMSU Las Cruces Academic Catalog*.

ID Card Services

The Aggie ID Card is the primary source of student identification on campus. Depending on the options purchased, this ID card can serve as a membership card for meals and as proof of eligibility for access to athletic events. It can hold Aggie Ca$h, work as a key in some residential buildings, and provide access to other student services. Please visit http://idcard.nmsu.edu for more information.

Aggie Ca$h is a pre-paid account that allows you to use your Aggie ID Card to make convenient purchases at locations all over campus without the need for cash. The Aggie ID Card can also be enhanced to act as a Wells Fargo debit card. For additional information, visit the ID Card Office on the second floor of the NMSU Bookstore on the NMSU Las Cruces Campus.

Students can now utilize a mobile ID. The **new Aggie Mobile ID** is available to all enrolled students and current employees! It provides a secure, mobile-centric campus environment with contactless student ID credentials for effortless, campus-wide transactions and access privileges.

Parking Office

Parking permits are not required for any DACC parking lots. At the Espina Campus, DACC parking lots are designated with signage to indicate the color of the lot is dark blue for DACC. These DACC lots do not require a permit. However, a NMSU parking permit is required to park curbside on streets surrounding the DACC Espina Campus. Parking meters require payment. Additional free parking is available and can be located on the parking map. The parking map is available online at http://park.nmsu.edu/. (https://park.nmsu.edu/) Parking regulations are enforced Monday through Friday between the hours of 7:30 a.m. and 4:30 p.m. Disabled parking spaces, emergency/fire zones, services zones, and yellow curbs are enforced 24 hours a day. Parking regulations are available online at http://park.nmsu.edu/. (https://park.nmsu.edu/)

Information on purchasing a NMSU parking permit is available at http://park.nmsu.edu/ or at the NMSU Parking Department located on the second floor of the NMSU Bookstore, Monday through Friday form 8:00a.m. to 4:30 p.m.

Aggie Transit is a free campus shuttle service available to all students to access the entire NMSU and DACC Espina campuses. Bus route maps are available at http://park.nmsu.edu/ (https://park.nmsu.edu/).

Transportation and Parking Services is responsible for issuing parking permits, enforcing parking regulations, and developing parking lots, as well as maintaining information related to the NMSU fleet.

Aggie Health and Wellness Center (AHWC)

The Aggie Health and Wellness Center (AHWC) provides integrated comprehensive medical, psychological and recreational activity services to the students of New Mexico State University. The AHWC is located on the NMSU Las Cruces campus, with the main entrance located on the northeast corner of the building, at the corner of McFie and Breland Drive, across the street from Zuhl Library.

The AHWC is a nationally accredited out-patient ambulatory facility offering services in:

- Employee Assistance Program (EAP)
- Health education, outreach and programming
- Immunizations (travel and preventative)
- Medical clearance for NMSU research, education and employment purposes
- Medical illness and prevention
- Mental health and counseling
- Treatment and case management of workers compensation injuries
- Women's health

DACC students enrolled in 12 credit hours or more are eligible to receive services from the Aggie Health and Wellness Center without having to pay an office visit fee. Students enrolled in less than 12 credits are also eligible to receive services, but are required to pay an office visit of $35. Students enrolled in less than 12 credits may also purchase semester-long access to the services offered by the NMSU Aggie Health and Wellness Center for $79. Visit the following site for pricing information: https://wellness.nmsu.edu/healthcare%20services/student-health-insurance.html.

For further information, call (575) 646-1512, email campus_health@nmsu.edu, or visit https://wellness.nmsu.edu/.

Information and Communication Technologies (ICT)

ICT maintains computer labs throughout the Las Cruces Campus that provide PCs and Macs loaded with computer software to meet the academic needs of NMSU students. Access to other campus resources include wireless zones, account management, equipment checkout,

and an online learning environment. Student admissions, registration, financial aid, and grades are easily accessible through the myNMSU portal. In addition, ICT offers student discounts on the purchase of computers.

For further information, call (575) 646-1840, write to help@nmsu.edu, or visit http://ict.nmsu.edu/ (http://ict.nmsu.edu).

Online student admission is available at http://prospective.nmsu.edu/ (http://admissions.nmsu.edu). Registration functions, grade reports and e-mail may be accessed via the Web at https://my.nmsu.edu/.

TRIO Student Support Services Program

The TRIO Student Support Services program helps ensure that program participants succeed at NMSU. Services include the following:

- MENTORING – participants meet with a mentor each week for assistance in adjusting to college, learning and using campus resources, developing effective study skills, accessing financial aid, using academic peer advising, staying motivated, and dealing with personal issues associated with college.
- TUTORING – individual tutoring is available by appointment in science, math, engineering, agriculture, social sciences, humanities, business, and foreign languages. Tutors are certified by the College Reading and Learning Association.
- TUTORING/COMPUTER LAB – complete assignments, check e-mail, drop in for tutoring.
- CULTURAL ACTIVITIES – participants receive tickets to cultural/educational activities such as plays, dance productions and symphonies.
- EQUIPMENT LOANS – laptops, tape recorders, and programmable calculators are available to participants.

To qualify for the program, the applicant must be a first-generation college student (neither of whose parents received a four-year baccalaureate degree), meet income guidelines set by the US Department of Education, demonstrate an academic need, or have a learning or physical disability. Admission to the TRIO Student Support Services program is highly competitive with only 350 slots available for eligible students. Students should apply early in the Hardman Jacobs Undergraduate Learning Center, room 128, on the NMSU Las Cruces Campus. Visit the TRIO web site at http://ssc.nmsu.edu/trio-student-support-services/ (http://triosss.nmsu.edu), or call (575) 646-3136.

NMSU Campus Dining

Commuter students and those living on campus will find different meal plans that suit their lifestyles. A dining contract runs for the whole academic year, and charges are applied to a student's university account every semester. For more information visit the Web site http://dining.nmsu.edu/ (http://dining.nmsu.edu).

In addition to the meal plans, food service is available at various locations throughout the campus. Students may use cash, NMSU Aggie Ca$h, the NMSU Enhanced Aggie ID Card, a credit card, and, in most areas, the Aggie Dining Dollars that are included with the meal plan package. Food service location hours are posted at http://dining.nmsu.edu/ (http://dining.nmsu.edu) under "Food Guide." Additional information can be obtained online at http://idcard.nmsu.edu/ (http://idcard.nmsu.edu), or by contacting the ID Card Office at (575) 646-4835, or by visiting their office on the second floor of the NMSU Bookstore on weekdays between 8:00 a.m. and 4:30 p.m.

Other Programs and Services at NMSU

- **TRANSCRIPT EVALUATION, STUDENT RECORDS AND DETERMINATION OF RESIDENCY:**
  NMSU Student Records Office, (575) 646-3411
  http://nmsu.edu/records (https://records.nmsu.edu/)

- **HOUSING FOR SINGLE AND MARRIED STUDENTS:**
  NMSU Housing and Residential Life, (575) 646-3202
  http://housing.nmsu.edu/ (http://housing.nmsu.edu)

- **STUDENT ACCOUNTS INFORMATION:**
  University Accounts Receivable, (575) 646-4911
  http://uar.nmsu.edu

- **ETHNIC PROGRAMS INFORMATION:**
  - American Indian Program, (575) 646-4207
    http://aip.nmsu.edu
  - Black Programs, (575) 646-4208
    http://blackprograms.nmsu.edu
  - Chicano Programs, (575) 646-4206
    https://latinamericanprograms.nmsu.edu/

- **CORBETT CENTER/CAMPUS INFORMATION:**
  - Corbett Center Information Desk, (575) 646-4411
    http://ccsu.nmsu.edu

DACC Locations

East Mesa Campus

2800 N. Sonoma Ranch Blvd.
Las Cruces, N.M.
(575) 528-7000

The East Mesa Campus is home to the following associate degree and certificate programs:

- the Associate of Arts (p. 133) and Associate of Science (p. 138) degree programs,
- Business Management (p. 175),
- Computer and Information Technology (p. 189),
- Criminal Justice (p. 231),
- Culinary Arts (p. 241),
- Drafting and Design Technologies (p. 273),
- Early Childhood Education (p. 290),
- Education (p. 299),
- Emergency Medical Services (p. 327),
- Fire Science Technology (p. 343),
- Health Information Technology (p. 355),
- Hospitality and Tourism (p. 366),
- Hospitality Services Management (p. 374),
- Law Enforcement (p. 231),
- Office Administration Technology (p. 390),
- Pre-Business (p. 402)
- Public Health (p. 404)

In addition, DACC Student Services is located on this campus, as well as central administration. The campus has a bookstore, library, computer labs, Academic Readiness Center (student tutoring), and a 400-seat auditorium.

BUS SERVICE TO THE EAST MESA CAMPUS: During regular semesters, the DACC Shuttle provides free transportation for students between Mesilla Valley Mall and the East Mesa Campus. For current time tables, visit http://www.las-cruces.org/ (http://www.las-cruces.org), select "Government" on the top bar, and then click "Departments". Under departments click "Quality of Life" and then click "RoadRUNNER Transit". Select Route 2.

Espina Campus

3400 S. Espina St.
Las Cruces, N.M.
(575) 527-7500

Situated adjacent to New Mexico State University, the DACC Espina Campus is home to the following associate degree and certificate programs:

- the Associate of Arts (p. 133) and Associate of Science (p. 138) degree programs,
- Automotive Technology (p. 158),
- Allied Healthcare Assistant (p. 126),
- Dental Assistant (p. 250),
- Dental Hygiene (p. 253),
- Diagnostic Medical Sonography (p. 262),
- Electrical Programs (p. 314),
- Electronics Technology (p. 318),
- General Engineering (p. 351),
- Heating, Ventilation, Air Conditioning and Refrigeration (p. 360),
- Nursing (p. 387),
- Radiologic Technology (p. 408),
- Respiratory Therapy (p. 416),
- Water Technology (p. 422),
- Welding Technology (p. 428).

Also located on this campus are a library, computer labs, Academic Readiness Center (student tutoring), and the Quintana Learning Center, which provides adult education and helps prepare students to undertake college-level studies. A full complement of student services is offered on this campus.

Cholla Hall

2400 Film St.
Las Cruces, N.M.
(575) 528-7310

- Film and Digital Medi (p. 213)a (https://dacc.nmsu.edu/academics/programs/creative-media-technology/creative-media-technology.html)

The new Creative Media Technology (CMT) building is located at Arrowhead Park, part of New Mexico State University innovative creative campus initiative. The CMT building is strategically located to encourage collaboration with industry partners and leverage the growing film and television production ecosystem in southern New Mexico. This facility is 14,000 square feet with a 4,000 square foot professional soundstage, a commons area with a 4K video wall, three specialty classrooms tailored for graphic and web design; game design and virtual reality; and animation and cinematography. The facility is also equipped with state-of-the-art technology to support various aspects of creative media production. This facility represents a significant investment in the future of creative media education and production in New Mexico, positioning Las Cruces as a hub for innovation in the digital media landscape.

Workforce Center

2345 E. Nevada Ave.
Las Cruces, N.M.
(575) 527-7776

The following associate degree and certificate programs are offered at this site:

- Aerospace Technology (p. 120),
- Automation and Manufacturing Technology (p. 154),
- Building Construction Technology (p. 168),
- Environmental and Energy Technologies (p. 338).

The Workforce Center also offers customer-driven, lifelong-learning opportunities, which serve as a bridge between our diverse community and the college. The aim is to be business-solution partners for Doña Ana County. DACC's Workforce Training, (p. 436)S (p. 435)mall Business Development Center (p. 435), and Truck Driving Academy (https://dacc.asapconnected.com/#CourseGroupID=40191) currently occupy the Workforce Center. Together, these programs address everything from the start-up needs of small businesses to the larger training needs of established, growing businesses. Many business assessment tools are available, as well as training space and commercial space on a short-term, rental basis for outside organizations.

Mesquite Center

2345 E. Nevada Ave.
Las Cruces, N.M.
(575) 527-7776

Located at DACC's Workforce Center, the Mesquite Center focuses on preparing low-income students for further education, while also developing work-related skills. Transitional classes and workshops involving work-readiness skills and college preparation allow students to eventually move on to college and careers. Classes in ESL and preparation for the high school equivalency diploma exams are offered on site through DACC's Adult Education Division.

South County Centers

Gadsden Center

1700 E. O'Hara Rd. (I-10 and State Hwy. 404)
Anthony, N.M.
(575)-882-3939

Sunland Park Center

3365 McNutt Rd.
Sunland Park, N.M.
(575)-874-7780

These centers offer freshman- and sophomore-level coursework in vocational, technical, developmental, and general education. A number of DACC certificates and associate degrees are offered, as well. The centers also provide concurrent enrollment (dual credit) programming for the

Gadsden School District. ESL, GED, and citizenship classes for the border area are available through the Adult Education program, also housed at the centers. Refer to the section titled, "Adult Education (p. 433)," in this catalog for a full listing of services. These centers also provide a Student Success Center (student tutoring), computer labs, and library support services.

Attending one of the south county centers is equivalent to attending one of the Las Cruces campuses of DACC. The same procedures and regulations apply. Students attending the Gadsden Center or the Sunland Park Center may attend classes at any other DACC or NMSU campus without completing additional admissions procedures. Students may attend one or more campuses and/or centers simultaneously; however, the total credit-hour load may not exceed that stipulated by the normal class-load policy.

All students currently attending, or planning to attend, one of the south county centers also may use the student services and tutoring available at either of the Doña Ana Community College campuses in Las Cruces. An advisor is available at the south county centers to advise students as they make career, program, and scheduling choices.

Chaparral Center

755 Prescott Anthony Dr.
Chaparral, N.M.
(575) 824-2000

Located near the southeastern corner of Doña Ana County, the Chaparral Center, which opened in Spring 2012, is situated adjacent to Chaparral High School. The 6,200-square-foot center, which houses a computer lab and a computer classroom, offers freshman- and sophomore-level coursework, including dual-credit courses for high school students. The Electrical Lineworker Certificate (p. 317) is offered onsite. It also is the site of the Adult Education program in Chaparral. Refer to the section titled "Adult Education (p. 433)" in this catalog for a full listing of services.

The NMSU System Academic Regulations

The following regulations are effective with the publication of all the NMSU system catalogs, this includes the Las Cruces-Academic Catalog, NMSU Global, Alamogordo Community College, Dona Ana Community College, and the Grants Community College catalogs. All regulations in this section of the catalog pertain to all the campuses housed within the NMSU System. This means that information for students pursuing Associate Degrees/Certificates, Bachelor's Degrees, and Graduate Degrees/Certificates is in this catalog section.

The regulations section is broken down into different areas:

- Academic Programs of Study
- Registration
- Academic Performance and Progress
- Grading
- Withdrawals
- Degree Applications, Graduation and Commencement
- Academic Standing and Probation
- Academic Misconduct and Grievances
- The University Student Records

NMSU offers Associate, Baccalaureate, Master's, Specialist, and Doctoral degrees. NMSU also offers Certificates at the associate and graduate levels. Requirements for specific degrees and other designations are set forth by this catalog for the NMSU-Las Cruces (main) campus, NMSU Global campus, and the corresponding catalogs for the NMSU Community Colleges (Alamogordo, Dona Ana, and Grants).

Additional Degree Designations

As part of a degree program, students may also earn additional degree designations indicating fields of study such as majors, minors, or concentrations. A major is defined as a recognized area of study in which there is an extensive and well-developed curriculum offered at the university, in addition, adequate library resources and support services. A minor is based on courses that encompass a recognized supplementary field of study outside the student's major. Concentration is based on a collection of coursework in an area that is part of a major program of study. Degrees and additional designations awarded, limited to majors, minors, and concentrations, will be noted on the student's transcript.

Catalog Effective Period

The annual catalog edition is effective Summer Session I through Spring Semester and is considered active for eight years for all campuses. Curricular requirements (course requirements and the number of credits required) for a specific degree or other designation may be met by completing all of the course requirements as set forth by the catalog in effect at first matriculation, or any subsequent catalog, provided the selected catalog is considered active when the requirements for graduation are met. For all other matters, the current catalog is the authority. NMSU reserves the right to withdraw courses at any time, change fees, rules, calendar, curriculum, degree programs, degree requirements, graduation procedures and any other requirements affecting students. Except as otherwise stated here, changes will become effective whenever the proper authorities so determine and will apply to both prospective students and those already enrolled.

Application for Degree/Graduation or Certificate

Upon completion of all requirements for degrees and certificates, students will not receive their degrees automatically. To receive the degree or certificate, students must submit an application and pay the required fee in the semester in which the student expects to graduate or complete the degree or certificate requirements. Specified in the academic calendar for each semester is the deadline for all applications. The application must indicate/ note all designations earned. After awarding the degree, you cannot add any additional designations.

Students who will be completing two degrees/certificates in the same semester must apply for graduation and pay the fee for each degree separately. Students applying for graduate degrees or certificates must satisfy requirements as described in the Master's, Certificates, Specialist, and Doctoral Degree sections below.

Students who do not meet requirements or elect not to graduate after filing an application need to re-apply in a subsequent semester and pay another fee.

Multiple Degrees and Designations

A student may earn more than one degree or multiple degree designations by completing all of the requirements in an appropriate catalog for each degree or designation. Students meeting requirements

for more than one degree must apply for and pay the application fee for each degree to be awarded. Upon completion of all requirements, multiple majors for a single degree (e.g., B.A., Major in Art; Major in Anthropology) and multiple bachelor's degrees (e.g., B.A. and B.S.) will be noted on the student's academic record/transcript and may also be granted at one commencement.

Degree Revocation

The Board of Regents reserves the right to revoke a degree should it be determined upon investigation that the degree requirements were not adequately met. A degree revocation must be in accordance with NMSU policy and related rules.

Honorary Degrees

Ceremonial Honorary Degrees may be awarded in accordance with NMSU policy and rules as outlined in the NMSU Regents Policy Manual and the related Administrative Rules and Procedures.

Community College Certificate

A Community College may offer two types of certificates, the Certificate of Achievement and/or the Certificate of Completion. Certificates may be awarded independently from any degree program.

Certificate of Achievement

The Certificate of Achievement is a program of study less than 16 credits and is not eligible for Federal financial aid. This Certificate provides employment-related and/or career-enhancing skills necessary to succeed in a job or a chosen field of study. These courses can be a subset of those required for a corresponding Certificate of Completion or Applied Associates Degree. These certificates are recorded on the student's transcript. The following requirements apply to all certificates of achievements:

1. **Minimum Credit Hours**: The number of credit hours varies from certificate to certificate but must be fewer than 16 credits. Students must successfully complete the total number of credit hours as outlined in the respective catalogs and sections describing these certificates.
2. **GPA requirement:** Students must successfully complete all courses for the certificate as outlined in the catalog and have a cumulative GPA of 2.0 or greater in all courses required for the certificate, but may have a cumulative GPA of less than 2.0 for courses taken outside of the certificate.
3. **Residency:** A minimum of 6 credits earned toward the certificate must be completed within the NMSU system including Las Cruces Main Campus, Global Campus, and community colleges. If the certificate requires fewer than 6 credits, all credits must be completed at NMSU or one of its community colleges. Individual academic programs may have additional requirements.

Certificate of Completion

The Certificate of Completion requires a minimum of 16 credits (other Title IV requirements must be met to be eligible for financial aid) and has been approved through the academic review process. These courses can be a subset of those required for a corresponding Applied Associates Degree. These certificates are recorded on the student's transcript.

Requirements for certificates are found in the respective catalogs and sections concerning these programs. The following requirements apply to all certificates.

1. **Minimum Credit Hours**: The number of credit hours varies from certificate to certificate. Students must complete the total number of credit hours outlined in the respective catalogs and sections describing these certificates.
2. **GPA requirement:** Students must successfully complete all courses for the certificate as outlined in the catalog. In addition, students must have a cumulative GPA of 2.0 or better in all courses taken at NMSU or one of its community colleges**.**
3. **Residency:** A minimum of 6 credits earned toward the certificate must be completed at NMSU or one of its community colleges.

Associate's Degree

Associate's degrees are of two types. The academic associate's degree prepares students to transfer to a baccalaureate program and generally includes credits toward the first two years of a four-year degree. Academic associate's degrees include the Associate of Arts, the Associate of Science, and other named degrees that link to a specific major (the Associate of Education, for example). Other associate degrees, typically called Associate of Applied Science, prepare students for entry into the workforce. Credits for these programs may or may not apply toward a four-year degree. Associate degree-seeking students who are interested in a dual degree should consult with their academic advisor. The Associate of Arts and the Associate of Science degrees cannot be earned together.

Students interested in transferring to NMSU or another four-year institution should check the appropriate sections of the university catalog for more information.

Requirements for the two-year associate degrees are found in the respective catalogs and sections concerning these degrees. The following requirements apply to all associate degrees:

1. **Minimum Credit Hours:** a minimum of 60 credits (excluding "N" suffix courses). Some programs of study require coursework in excess of the 60 credit-hour minimum.
2. **New Mexico General Education-** state mandated general education courses (as specified in General Education section); such courses are designed with a "G"
   a. For Associates Degrees: 32-35 credits
   b. For Applied Associates Degrees: 15-18 credits
3. **GPA requirement:** Students must have a cumulative GPA of 2.0 or better in all courses taken at NMSU or one of its community colleges.
   a. For Associates Degrees: students must earn a C- or better in classes they take to meet the Basic Skills requirement (ENGL 1110G and one of several math course options).
   b. For Applied Associate Degrees: Basic Skills requirements do not apply, but if the student plans to pursue a Bachelor's degree at any point in the future it would be highly recommended.
4. **Residency** - A minimum of 15 of the 60 credits for the associate's degree must be completed at NMSU or one of its community colleges. Individual academic programs may have additional requirements.
5. **Major**: All requirements for at least one major field of study as specified in the college and departmental sections of the respective catalog.

Associate Major

An associate major, consisting of at least 18 credits, may include courses from more than one department. Requirements for the Associate Majors are specified in the respective Community College Catalogs.

Baccalaureate Degree (Bachelor's Degree)

A baccalaureate or bachelor's degree provides students with a broad educational base and knowledge in a specific major field. Each college has unique degree requirements that are listed in the college's designated section of this catalog. In addition to the College and Department requirements, students must complete each of the following degree requirements for every Bachelor's Degree awarded by NMSU:

1. **Minimum Credit Hours:** a minimum of 120 credits (excluding "N" suffix courses)
2. **GPA requirement-** a minimum cumulative GPA of 2.0 in all courses taken at NMSU
3. **New Mexico General Education-** 32-35 credits of state-mandated general education courses (as specified in the General Education section); such courses are designed with a "G"
4. **New Mexico State University's Viewing a Wider World-** 6 credits of Viewing a Wider World courses; such courses are designated with a "V", or alternatives as specified in the Viewing a Wider World section
5. **Upper Division Courses-** a minimum of 48 credits in courses numbered 300-499/3000-4999.
6. **Residency –** Of the last 36 credits earned toward award of the degree:
   a. 30 credits must be completed at NMSU
   b. 21 credits must be upper-division (300/3000 or above) and
   c. 12 of the 21 upper-division credits must be within the student's major.
   NOTE: colleges or departments may require that more than 12 upper-division credits be within the major and they may direct that a certain number of these credits be course specific.
7. **Major** – all requirements for at least one undergraduate major field of study, other than a supplemental major, as specified in the college and departmental sections of the catalog. As an undergraduate student seeking a baccalaureate degree you are expected to declare a major before earning 45 credit hours toward your degree. You should complete your general education requirements within your first 90 credit hours earned.

Second Baccalaureate Degree (Bachelor's Degree)

Students seeking a second bachelor's degree must complete all college, department, and major requirements for the second bachelor's degree including residency. General Education requirements, including Viewer a Wider World, are waived for a second bachelor's degree because those requirements are considered completed within the first bachelor's degree earned. Credits earned toward a previous degree may be used to complete those requirements subject to any college and department-specific limitations as described in the catalog.

Bachelor's Degree Designations

Undergraduate Major

An undergraduate major consists of 24 or more credits within the major field, of which 18 credits must be upper-division courses, and may include courses from more than one department. Additional major requirements are specified in the college and department's designated sections of this catalog.

Supplemental Major

A supplemental major consists of 24 or more credits of interdisciplinary coursework, of which at least 18 credits must be upper-division (300/3000-499/4999), and no more than 9 credits may be from the student's major course of study. Additional requirements for supplemental majors are specified in the catalog listing of the departmental/college sections.

Undergraduate Minor

An undergraduate minor consists of 18 credits of course work, of which 9 credits must be upper-division (300/3000-499/4999). A minor encompasses courses that may be in a single department or interdisciplinary and are in a recognized field of study outside the student's declared major. At least 9 upper-division credits of a minor must be completed at NMSU. Additional requirements for minors are specified in the college and department's designated sections of this catalog. Minors cannot be earned after the degree has been conferred.

Undergraduate Concentration

A concentration consists of 12 or more credits of coursework in a specialty area that is related to a specific major field of study. At least 9 of the 12 credits must be upper-division (300/3000-499/4999), and at least 9 credits must be completed at NMSU. Additional requirements for concentrations are specified in the college and department's designated sections of this catalog.

Distance Education Bachelor's Degree Completion Program

A Bachelor Degree Completion Program allows students who have met the lower division requirements (100/1000 and 200/2000 level) of an undergraduate degree program to complete the remaining upper-division credits (300/3000 and 400/4000 level) through distance delivery courses offered by NMSU Las Cruces. Only selected degrees are available as degree completion programs. Students must complete all required lower-division (100/1000 and 200/2000 level) credits before they can be admitted to the Bachelor's Degree Completion Programs. The program(s) normally require two years of upper-division (300/3000 and 400/4000 level) coursework.

Graduating with Honors

For information about graduating with Honors, please refer to the Recognition of Academic Achievement section of this catalog.

Graduate Degrees

All graduate degrees are subject to the rules and regulations of the Graduate School. Degrees will be certified by the Graduate School only upon the complete review and clearance of the candidate's program of study.

Graduate Degree Designations

Graduate Major

A graduate major may include courses from more than one department, but at minimum, it must consist of at least 30 graduate credits beyond the previous degree, i.e., 30 credits beyond the bachelor's for a master's degree, and 30 credits beyond the master's for a doctoral degree. Additional requirements may be imposed by the State of New Mexico and New Mexico State University as specified in this Catalog.

Graduate Minor

A graduate minor is based on at least 9 graduate credits in courses encompassing a recognized field of study outside the student's major. Departments may require certain courses to be a part of a minor and may exclude other courses. Minors cannot be earned after the degree has been conferred. Students will work with their department and the

Graduate School to ensure that the graduate minor is added to their academic record.

Graduate Concentrations

A concentration is a collection of coursework in a specific area that is part of a degree program of study at NMSU. At the graduate level at least 9 of these 12 credits must be numbered 500/5000 or above. Only approved concentrations within a student's department or program may be noted on a transcript.

Concentrations will not be added to a transcript after a degree is awarded. In order for the approved concentration to be noted on the student's transcript, the following conditions must be met:

1. Apply for the correct program and concentration from the outset or connect with the department and Graduate School upon admission to correct the concentration if initial admission is incorrect.
2. Identify the concentration on their official Application for Degree.

Graduate Certificates

A Graduate Certificate program requires 12-18 credits of course work that is interrelated and designed to develop a focused skill or area of expertise but does not culminate in the awarding of a degree. Courses that comprise a graduate certificate must be regular approved courses offered by the University and must be numbered 450/4500 or above. A graduate certificate is indicated on the student's transcript.

Master's Degree

New Mexico State University offers both academic and professional master's degrees. A link to the list of all master's degrees is provided in the Graduate School section of this catalog. (https://catalogs.nmsu.edu/nmsu/graduate-school/)

Underprepared students may be required to take additional general or discipline-specific undergraduate or graduate courses to prepare them for the advanced academic work necessary for success in graduate-level courses in their chosen field. This may result in an extended graduation date.

Admissions to the Master's Degree

The admission of a student into the Graduate School does not imply admission to candidacy for an advanced degree. The major department in which the student intends to become a candidate for a master's degree must determine the student's ability to pursue studies at the graduate level. Please see the Department(s) for specific requirements.

Program of Study

Students will follow the coursework requirements outlined in their catalog and degree audit. A Program of Study is not required by the Graduate School but may be prepared by the student's advisor in consultation with new graduate students for effective advising.

Application to Candidacy

The degree audit will formally list the curriculum requirements for degree completion and is required to meet in order for the degree or graduate certificate to be conferred. Some programs may use The Program of Study Form as part of its Application to Candidacy process. In these cases, the program of study must be approved by the advisor, department, and academic dean and submitted to the Graduate School. The Program of study may specify the Catalog at the time of graduation, as long as the catalog is considered active. Otherwise, the current catalog will be listed.

Application for Graduation

Students must file an application to receive their degree during their final semester of the program. The program's catalog entry will formally list the curriculum requirements for degree completion and a completed degree audit is required. The degree audit may specify the catalog at the time of graduation, as long as the catalog is considered active. Otherwise, the current catalog will be used.

The student must have a minimum cumulative GPA of 3.0 at the time the application is submitted. The application may specify the catalog at the time of graduation, as long as the catalog is considered active. Otherwise, the current catalog will be listed. If a student's degree audit does not meet, the student must submit a Degree Audit Exception (DAE) form to document course substitutions and credit hour alignment such that the exceptions will allow the degree audit to meet.

Credit Hour Requirement

A minimum of 30 credits beyond the bachelor's is required for the master's degree. Most master's degrees require at least 15 credits in courses numbered 500/5000 or above. This includes thesis credits for any master's programs that include a thesis option. Master's programs involving a thesis, must include, either a minimum of 4 credits or a maximum of 6 credits of thesis. Please see the "Thesis" section for more information.

At least 15 credits for the master's degree must be for work in courses within the student's department. Additional credits may be selected from other fields to fit into a logical and justifiable program. However, courses that are used to remove deficiencies or satisfy prerequisites cannot be counted as requirements for a master's degree. As per NMSU's campus residency requirement, a minimum of 50% of degree coursework must be taken at NMSU.

Coursework Requirement

Students must take coursework from a variety of faculty. Students may not take more than half of the minimum credits required for a master's degree with the same professor, excluding thesis credits.

All graduate students must register for a minimum of 1 credit of graduate coursework in their final semester. Please see the Tuition, Fees and Other Expenses section for more information.

A student taking an oral examination must enroll for at least one credit for that term (fall, spring, or summer terms).

Thesis Option

A thesis in the major field is recommended and may be required at the discretion of the department. A minimum of 4 credits and a maximum of 6 credits may be counted toward the requirements for a master's degree. The final examination shall consist of an oral defense of the student's thesis as well as a general examination of the candidate's field of study.

- *Continuous Enrollment* - once registered, a student must continue to register for a minimum of 1 credit in thesis or graduate coursework each regular semester until the thesis is approved by the Graduate School and submitting electronically into ProQuest.

Graduate Committee for Thesis Option

The graduate committee for the master's degree consists of a minimum of three faculty members who hold, at least, a master's degree and meet the following criteria:

1. **Committee chair:**
   a. Must be from the student's home department
   b. Must be a graduate faculty member
2. **Committee member(s):**
   a. One other committee member, in addition to the chair, must be from student's home department
   b. Other committee members may be from outside the student's home department
   c. Students with a declared minor- must have a representative from the minor department.
   d. Must be a graduate faculty member
3. **Dean's Representative:**
   a. Must be a representative from a related area or appointed by the Dean of the Graduate School
   b. Must be a graduate faculty member

Finalizing the Master's Thesis

After successful completion of the final examination, electronic submission of the approved thesis must be submitted to ProQuest ETD, no later than the deadline posted to the Graduate School website. The form and style of the thesis must comply with the guidelines provided in preparing your manuscript for submission, located here. The guidelines also contain detailed information on the thesis submission and approval process. The thesis is not complete until the Graduate School has accepted it electronically.

Non-Thesis Final Examination

Each candidate may be given a final examination conducted by their graduate committee in accordance with the schedule provided by the Graduate School.

The final examination format for the professional degrees and non-thesis option will be determined by the department. The department is responsible for ensuring that the Report of Results for the Master's Professional or Non-Thesis Final Examination form, where applicable is submitted to the Graduate School no later than ten working days after the exam.

At the time of the final examination, a graduate student must have a cumulative GPA of at least a 3.0 and must be enrolled for a minimum of one credit hour in the final semester.

NOTE: the cumulative GPA, will be calculated from NMSU graduate coursework only.

Any candidate who fails the final examination may either:

1. Be granted a second examination, written or oral, after a lapse of at least one semester, only with a recommendation from the student's advisor and approval from the Dean of the Graduate School.
2. Be excluded from further candidacy for the degree.
3. Failure in the second examination disqualifies a candidate from obtaining the degree.

Students in professional or non-thesis options may be required to pay a special exam fee in lieu of registering for 1 credit of graduate coursework. Please see the Tuition, Fees and Other Expenses section for more information.

Time Limit

Students must complete the master's degree program within seven years (or eight successive summers) of the start of the degree, including completion of the master's thesis or final project. Inclusion of any coursework over seven years old at the time of the final examination will be at the department's discretion.

Master's Accelerated Program (MAP)

The Master's Accelerated Program (MAP) allows academically qualified undergraduate students to begin working on a master's degree during their junior and senior years while completing a bachelor's degree. Typically, a bachelor's degree requires four years to complete, and a master's degree requires two more years. The master's accelerated programs allow students to complete a graduate program in an accelerated manner.

Undergraduate students may apply for acceptance to MAP listed in the New Mexico State University Catalog by submitting the Master's Accelerated Application Form after completing 60 semester hours of undergraduate coursework of which a minimum of 25 semester credit hours must be completed at New Mexico State University and apply towards the undergraduate major. The grade point average must be a minimum of 2.75; departments participating in MAP may have requirements that exceed these minimum requirements. **It is the student's responsibility to meet with their financial aid advisor. Awards may be adjusted to reflect enrollment in undergraduate/graduate courses.**

Graduate departments within the colleges may allow academically qualified undergraduate students to substitute up to 50% of their graduate course credits (i.e., 15 of 30, etc.) but no more than 18 credit hours for elective or required courses in an undergraduate degree program. Graduate programs can use up to 50% of NMSU coursework (450/4500 level or higher) that can logically be applied toward completing a master's program of study (at least 50% of the credits allocated for the master's degree – usually 15 of 30 – must be for courses designed for graduate work.). Students must consult with participating MAP departments to determine program-specific guidelines on the allowable credits toward the undergraduate and graduate degree. A grade of 3.0/4.0 or higher in each course will be required.

Program Participation Requirements:

1. Students participating in MAP are required to obtain prior approval by the graduate program and submit a completed Master's Accelerated Program Application from to the Graduate School by the first Friday of classes with all required signatures. Student's course work must be general or discipline electives in the student's undergraduate course of study.
2. Students will enroll in approved graduate-level courses. If the course(s) requires instructor approval, it is the student's responsibility to obtain the necessary approval.
3. Students participate in the Developing New Scholars Program (DNSP) through the Graduate School. The DNSP program provides formal mentoring supporting the application process to Graduate School. Upon awarding of the Bachelor's degree and formal admissions into a master's program at NMSU, the approved credits (up to 12) will be recorded on both the undergraduate and the graduate transcript.

Interdisciplinary Master's Degree

Interdisciplinary studies, at New Mexico State University, are intended for individuals specializing in programs that require integrating more than one discipline to fully engage in the field of study. The programs provide a mechanism to address emerging scholarship, innovation, research, and allow graduate students to engage in emerging technologies that

optimize their education outside the traditional disciplinary boundaries. An Interdisciplinary study takes advantage of traditional academic training within specific departments and also allows students to customize their own career preparation. In these programs, a coherent common core is expected to combine existing courses across disciplines to meet unique objectives.

The interdisciplinary studies option should not be used in cases where the applicants' objectives can be realized by admission to a specific department with a degree program, and inclusion of up to two minor areas in the program of study.

Students should be admitted to an existing graduate program which closely relates the desired interdisciplinary trajectory. Students interested in pursuing an Interdisciplinary Master's (IMAS) degree should take the following steps.

1. **Establish an IMAS graduate committee.**
   The student will form a committee composed of members of the graduate faculty and select an advisor who will chair the committee. The chair must be from the primary department where the student will take at least 15 credit hours listed in the proposal. The other committee member must be from the department in which the student has selected a minor area of study from the approved list.

2. **Develop a proposal for interdisciplinary studies.**
   The student must work with their committee to create a proposal of the program concept consisting of the following:

   a. The designated degree being sought and the name of the interdisciplinary area.

   b. The program of study to be followed, which must include a minimum of 30 graduate-level credits and a maximum of 36 graduate-level credits. Students may take six credits in departments that do not grant a graduate degree, but the courses must be numbered 450/4500 or above and be pertinent to the program of study. The committee can require additional materials such as a statement of interest, letters of recommendation, GRE or GMAT scores and conduct a personal interview.

   c. The majority of the departments involved in the student's program will be master's degree granting departments. The student is expected to take at least 15 credits in the primary area of study within one department. The primary department selected by the student will receive the student's application for admissions to the Graduate School for approval. In addition, the student is required to select a minor area of study in another department that consists of at least 9 graduate credit hours. The program will meet all requirements of a master's degree, with the interpretation, that "major field" includes courses from two or more departments and in the designated interdisciplinary study area.

   d. The program of study will include the completion of a research thesis or project. The work may be submitted in the form of a publishable manuscript, technical report, thesis or creative option. The objective of the program of study should include proposed areas of skill development and proposed courses in more than one graduate degree granting department at NMSU.

   e. Justification for not using an existing degree program.

   i. Once the student has formed their committee and compiled a rough draft of the proposal, they must contact the Graduate School to make an appointment with the Dean of the Graduate School to review the proposal. The student and advisors from the main program and minor program should attend the meeting as well.

   ii. If the proposal is accepted by the Graduate School, the student will then be advised to submit an application as a Master's Interdisciplinary student through the application system.

   f. Procure final signatures from all committee members and academic department heads from primary and minor departments on the IMAS proposal. The student should submit a copy of the completed and signed proposal to the Graduate School.

Degree(s) Awarded

Students receive a Master of Arts (MA) or a Master of Science (MS) and a concentration in the designated interdisciplinary study area.

Other conditions for being awarded a degree within the interdisciplinary studies program are:

1. The student may enroll on a part-time basis keeping in mind that coursework cannot be more than seven years old at the time of the final examination.
2. The student will be administered a final comprehensive exam that is consistent with the department selected for the primary area of study. For example, if a department requires a written exam, the student in the interdisciplinary masters will also be required to take a written exam.
3. The final oral comprehensive exam will consist of questions pertinent to the area of study and the defense of the research thesis or project. In both cases, an integrated approach to the areas of study chosen should be followed.
4. All other rules for graduate study at NMSU must be followed.

Thesis/Non-thesis Option

As with any graduate student, the student in interdisciplinary studies can select to follow a thesis or non-thesis option. Students enrolled in the thesis option register for up to six thesis credits. Students not wishing to follow the thesis option will be required to complete a project report. The project must reflect the interdisciplinary nature of the program which the student is pursuing.

Comprehensive Exam

Students in interdisciplinary studies take a comprehensive exam composed of questions designed by the student's committee. The committee consists of two individuals in the area of study, the dean's representative who must be outside of the department/program/interdisciplinary study option, and a committee chair.

Second Master's Degree

NMSU discourages duplication of a master's degree. In instances where a program would like to admit students to earn a duplicate degree, a letter of support by the department involved must be submitted at the time of admission to the Graduate Dean. The applicant will need to follow standard admission requirements and graduate school policies including transfer of credits. Students wishing to earn the duplicate masters must satisfy all requirements for the degree, including completing a master's

thesis if this is a formal requirement for the degree in question. Financial Aid may not be applicable for the duplicate degree.

Teacher Licensure

Students wishing to take graduate courses for licensure, renewal of licensure, or for personal enrichment must be fully admitted to a department to do so. Undeclared students may not register for teacher licensure classes.

Endorsement is available at both the elementary and secondary levels in bilingual education, Teaching of English as a Second Language (TESOL), reading, and special education. Endorsement is also available in early childhood education at the elementary level. Contact schooloftpal@nmsu.edu for more information.

Specialist in Education

The specialist in education degree is available for experienced members of the education profession who have maintained a 3.3 grade-point average while pursuing this degree or its equivalent. Programs are available in Reading within the School of Teacher Preparation, Administration, and Leadership and in school psychology within the Department of Counseling and Educational Psychology. Emphasis is placed on the development of the competencies needed for professional specialization in a given field. Students must complete the general application for the Graduate School and they should also check with the admitting department for specific departmental requirements.

Residency and Credit Requirements

The specialist in education degree requires a minimum of 30 credits including research, intern experiences and graduate courses. Twenty-four of these credits must be completed at NMSU to meet the campus residency requirements.

Students must maintain a 3.0 GPA, no more than 6 credits of C level work are allowed for this program.

Program of Study

Students will follow the coursework requirements outlined in their degree audit. A Program of Study is not required by the Graduate School but may be prepared by the student's advisor in consultation with new graduate students for effective advising. Some programs may also use the Program of Study as part of its Application to Candidacy process.

Major Field

All course work taken for the degree should apply directly, through a logical program of study, to the specialty which candidate has selected. Each department is responsible for defining the required sequence of courses.

Internship

Each candidate will earn from three to six semester credits in an internship. This experience will consist of supervised performance of duties related to the candidate's specialty. The student's department will determine the structure of the internship and a research project will be conducted in conjunction with the internship.

Oral Examination

The oral examination committee will consist of the student's committee and a dean's representative appointed from the graduate faculty by the dean of the Graduate School. This committee will conduct an oral examination at the conclusion of the research project and no earlier than the candidate's last semester of enrollment.

The examination will consist of a defense of the project along with general questions on subject matter related to the candidate's field of study. Any candidate who fails the oral examination may upon the advisor's recommendation and with the graduate dean's approval, be granted a second examination after a lapse of at least one semester. Failure in the second examination disqualifies the candidate from obtaining the degree.

Time Limit

The specialist in education degree must be completed within seven years following admission to the program. Inclusion of any coursework over seven years old at the time of the final examination will be at the department's discretion.

Doctoral Degrees

The doctoral degree requires significant scholarly study beyond the master's program, including a minimum of 30 credit hours beyond the master's and a minimum of 18 credit hours of dissertation. As per NMSU's campus residency requirement, a minimum of 50% of degree coursework must be taken at NMSU.

Prospective candidates are expected to hold bachelor's or master's degrees from accredited institutions, based on curricula that include the prerequisites for graduate study in the department of their subject. To be considered for admission to a doctoral program, the applicant must have a grade-point average of at least 3.0. Prospective candidates are urged to consult the department in which they wish to study for information concerning specific requirements.

Professional Doctoral Degrees

Doctor of Economic Development (DED)

Students enrolled in the Doctor of Economic Development are required to complete and pass a comprehensive examination. Since a dissertation is not required, students are expected to complete an internship experience and a project paper as defined by their program. They can embark on the project paper once they have completed and passed their comprehensive examination. Students are not required to take 700/7000 level dissertation hours. However, they are expected to complete at least 12 credits at the 600/6000 level including ECDV 694 Internship and ECDV 699 Doctoral Project.

Doctor of Education (Ed.D)

The degree of Doctor of Education demonstrates proficiency in a program of graduate study in which the emphasis is on preparation for performance in educational leadership. This program is intended primarily for students pursuing careers in educational leadership, school district or higher education administration, or educational services are predominant rather than those in research. The Ed.D. Degree in educational leadership and administration is offered in the School of Teacher Preparation, Administration, and Leadership

Two concentrations are available within the Ed.D. degree: Higher Education Administration and PK-12 Administration is offered in the Department of Curriculum and Instruction; the degree in educational administration is offered in the Department of Educational Leadership and Administration. Any transfer credit or predoctoral course work to be included in the related field must have the approval of both the major and minor (if applicable) department at the outset. Specified course work in both research and statistics is required for this degree. Other requirements are described in the departmental sections of this catalog.

Doctor of Nursing Practice (DNP)

Students holding a Bachelor's degree in Nursing are required to complete and pass all required course work for the DNP program, in

addition, complete and pass their comprehensive examination. Since a dissertation is not required, they are expected to complete an internship experience and a project paper as defined by their program. They can embark on the project paper once they have completed and passed their comprehensive examination. They are not required to take 700/7000 level dissertation hours. However, they are expected to complete at least 12 credits at the 600/6000 level including NURS 6990 Advanced Practice Nursing Immersion credits sufficient to complete the DNP Final Project.

Students who hold a Master's of Science in Nursing are required to complete the following:

1. All course work requirements
2. Their comprehensive exam (with passing marks)
3. The DNP Project.

Post- MSN DNP students must complete at least 6 credits at the 600/6000 level, including NURS 6990 Advanced Practice Nursing Immersion credits sufficient to finish the DNP Project. Finalized projects must be uploaded to a national DNP Project repository approved by the Graduate Faculty of the School of Nursing in order to achieve the DNP degree.

Doctor of Philosophy (Ph.D.)
The Doctor of Philosophy degree requires distinguished attainment in both scholarship and original research. The doctoral degree requires significant scholarly study beyond the master's that is tailored to the needs and interests of the student. The degree is granted in recognition of the candidate's high attainments and ability in the special field, shown by work on the required examinations covering both the general and the special fields. The individualized program of study is designed to meet the campus residency requirement, includes a minimum of 30 graduate credits beyond the master's, and includes the preparation of a dissertation. A candidate for the Ph.D. degree is expected to maintain a higher level of work than the grade-point average of 3.0, plus at least 18 credits of dissertation work (700/7000-level courses).

Interdisciplinary Doctorate (IDOC)

Students interested in pursuing an Interdisciplinary Doctorate (IDOC) degree program must meet with the Graduate School for advisement. The advisement session will include information on completing the IDOC admission application.

The following requirements for admission to the interdisciplinary doctorate degree program are:

1. Students wishing to study in the interdisciplinary doctoral degree program must apply and be accepted into a doctorate-granting department.
2. A master's degree or equivalent program of study that includes at least 30 credits of graduate course work with a minimum cumulative GPA of 3.0.
3. Twelve credits of graduate course work must be completed at NMSU in order to apply for admission into the interdisciplinary doctorate degree program. Additional course work is required for degree completion.
4. Evidence of outstanding academic achievement in graduate school.
5. A written description of the program concept prepared by the student consisting of:
   a. Areas in which competency is required
   b. Purposed readings and course work and how these relate to required competencies
   c. Objectives and an outline for thesis research
   d. Justification for not using an existing departmental degree program
6. Student must select an advisor from his/her department to help structure and chair a committee consisting of at least five faculty members from the graduate faculty list who are willing to work on the interdisciplinary degree program. The committee must include at least two members from each of the two doctorate-granting departments. The committee chair will convene a meeting to review and approve the proposed program.
7. The Graduate School will send an Admission Referral document, signed by all the committee members, to the heads of all the departments from which the student proposes to use more than 8 credits of course work, or from the department which the faculty are requested to serve on the proposed committee.
8. Once the Admission Referral document has been approved by all departments, the committee chair will convene a meeting of the committee to review the student's program and make changes as necessary. In addition, the committee will set the format and date for the qualifying exam. An effort should be made to incorporate the interdisciplinary nature of the program into the qualifying exam.
9. Students have satisfied the requirements for admission to the program once the qualifying exam has been passed and the respective department heads approve the Admission Referral memorandum. Formal acceptance into a doctoral program may be required in order to receive financial assistance.
10. The number of courses required for degree completion will vary depending on the student's program of study, please see the department for more specific requirements. However, Interdisciplinary doctorate degree students must meet the requirements for residency, registration, the comprehensive examination, the Final Examination, the dissertation and the declaration of approved minor.
11. The dissertation work shall include at least 18 credits of a 700/7000-level course.

Completing your Doctoral Degree Program

Any student who fails to abide by the regulations in this section will be considered withdrawn from the university. In order to resume their studies, the student must formally apply for readmission to the Graduate School and satisfy any requirements that are in effect at the time of reapplication. Readmission information can be located here (https://apply.nmsu.edu/apply/?id=1c3c41ea-b5f9-48ef-83c3-b085794ba277).

Declaration of Approved Minor

Any doctoral applicant for candidacy may declare up to two approved minors in addition to the major area of study. Demonstration of competency in the minor area will be required at both comprehensive and final examinations.

Qualifying Examination

Doctoral students must pass a qualifying examination that is scheduled by the student's advisor and is administered by the major department. Its purpose is to determine the areas in which the student shows strength or weakness, and the ability to assimilate subject matter presented at the graduate level. A student may not register for dissertation credits prior to the successful completion of the qualifying examination.

The following conditions apply to students who wish to take the qualifying examination:

1. For students who enter the Graduate School with little or no previous graduate experience but wish to proceed directly to the doctorate, the

qualifying examination should be taken after 12 credits of graduate work.
2. For students who enter with a master's degree or equivalent from another university, or another department, the qualifying examination should be taken before completing one semester of graduate work.
3. For students who earn their master's degree at New Mexico State University and will continue in the same department, the department may allow the master's final examination to serve as the doctoral qualifying examination or a separate examination may be required.

Based on the result of the qualifying examination, the department will take one or more of the following actions:

1. Admit the student to further work toward the doctorate
2. Recommend that the program be limited to the master's degree
3. Recommend a re-evaluation of the student's progress after the lapse of one semester
4. Recommend discontinuation of graduate work

In all cases, the Graduate School shall be notified by the department of the results of the qualifying examination.

Students will be admitted to the doctoral program once the qualifying examination is passed. The student's advisor and department head will then appoint the doctoral committee to prepare the student's preliminary doctorate program of study.

Doctoral Graduate Committee

The doctoral committee will comprise at least four graduate faculty members who hold doctoral degrees. The following rules apply to the composition of the committee:

- The committee chair must be from a discipline within the student's major department
- At least one additional member of the committee must also be from a discipline within the student's major department.
- If an approved minor is declared, at least one (but no more than two) members of the committee must be from the minor department.
- All committee members must be members of the graduate faculty and be from a doctorate-granting department.
- Only one member may be outside of the student's department.
- One member of the committee must serve as the dean's representative. In programs where more than one department participates, the dean's representative may not be from any of those departments. The dean's representative may be one of the following
  - the member from the related area
  - a member from the minor area
  - An independent member, not from the student's department, that is appointed by the Dean of the Graduate School.

Departments may structure committees that include more than the minimum number of members, as long as the following conditions are satisfied. No changes can be made to the doctoral committee membership without prior approval from the Dean of the Graduate School.

Additional voting and nonvoting members may be any person approved or appointed by the Dean of the Graduate School

All members of the committee will attend the comprehensive oral and final defense for the student's dissertation.

Doctoral Program of Study

Students should follow the course requirements outlined in the program's catalog and pursue the roadmap featured in the program's degree audit. A minimum of 50% of the degree coursework must be taken at NMSU. If the doctoral program does not have an active degree audit, students should work with their advisor to file a Program of Study Form once they have:

- Completed 1 year of enrollment while at NMSU that are beyond the master's degree
- Successfully completed a qualifying examination if required by the program

The individualized program of study is designed to meet the campus residency requirement and includes a minimum of 30 graduate credits beyond the masters.

If the Doctoral degree requires a dissertation, at least 18 credits of dissertation work must be included. The professional doctoral degree includes a practicum or special project that culminates in a written report which demonstrates a command of the relevant scholarly literature and links it to the specific clinical or practical experience.

Comprehensive Examination

The Graduate School should receive the Program of Study and the Committee for Doctoral Students Form and the Doctoral Qualifying Examination Form.

Students will be admitted to the comprehensive examination only after the following conditions are met:

1. Completion of adequate course work, to the satisfaction of the major department and the Graduate School,
2. The graduate committee determines the student is adequately prepared for the examination, and
3. Successful completion of all language requirements (where applicable).

Students must be registered for 3 credits of graduate course work during the semester in which they take the comprehensive examination. A student taking an oral examination must enroll for at least one credit for that term (fall, spring, or summer terms).

The Doctorate of Philosophy Examination or Professional Doctorate Examination Form must be on file at the Graduate School at least ten working days prior to the proposed date for the examination. The examination must be part written and part oral. The oral examination results will be reported to the Graduate School by the Dean's Representative of the committee. These and all graduate forms are available on the Graduate School Form webpage.

Any student who fails the comprehensive examination may either be terminated from the doctoral program or upon recommendation of the committee and approval of the Dean of the Graduate School or be granted a second examination after a lapse of at least one semester.

NOTE: Generally, there should be a time-lapse of at least one year between the comprehensive and final oral examination. However, due to the type of research required and the method of administering the written comprehensive in some departments, such a time lapse is not always practical. In all cases there must be one semester between the comprehensive and the final oral examinations.

Time Limit for the Comprehensive Examination

If more than five years have passed since the date of the comprehensive examination, the candidate will be required to take another comprehensive examination before admission to the final examination.

Advancement to Candidacy

Advancement to Candidacy recognizes that the student has demonstrated the ability to sustain a level of scholarly competency commensurate with the successful completion of degree requirements. Upon advancement to candidacy, the student is cleared for the final stages of the graduate program which may include a dissertation, project or written examination.

For advancement to candidacy the following criteria must be met

1. Successful completion of the comprehensive examination
2. Recommendation of the graduate committee
3. Approval of the Dean of the Graduate School

Upon receiving advancement to candidacy, students must follow the Dissertation Registration Requirements.

Dissertation Registration during Fall/Spring Sessions

After becoming a candidate, students must continue to register for at least 3 credits of dissertation or graduate course work, each spring/ fall semester until the dissertation is approved by the Graduate School and the dissertation format review has been completed. The total number of dissertation hours must be 18 credits. The doctoral committee can impose additional requirements for courses numbered 700/7000.

A student who fails to abide by these regulations will be considered withdrawn from the university and in order to resume studies, must formally apply for readmission and satisfy the requirements in effect at the time of reapplication.

Dissertation Registration during Summer Sessions

If the final examination is to be held during the summer or the dissertation is to be completed during the summer, students must register for one credit during the summer session in which the final examination will be held or the dissertation will be completed.

Dissertation Leave of Absence

Students may seek a leave of absence from their dissertation. A leave of absence requires that a student must get prior approval from the Dean of the Graduate School, which means the student must receive permission for the leave of absence before discontinuing their formal studies.

Final Examination

NOTE: If more than five years have elapsed since the student passed the comprehensive examination, the candidate will be required to take another comprehensive examination before admission to the final examination.

Every student working toward the doctoral degree will submit a dissertation embodying the results of original research. The dissertation is expected to demonstrate the student's ability in independent investigation and to be a contribution to human knowledge. The dissertation shall display a mastery of the literature of the subject field, present an organized and coherent development of ideas with a clear exposition of results, and provide a critique of the limits and validity of the student's conclusions.

When a complete draft of the dissertation has been prepared, the student's doctoral committee (appointed after the qualifying examination) will conduct the final examination. The final examination is concerned primarily with the research work of the student as embodied in the dissertation, but it may be much broader and extend over the candidate's entire field of study. The intention of the final examination is to verify that the candidate has a satisfactory grasp of the major subject as a whole and has a general acquaintance with the fields of knowledge represented by the course of study. The final examination is oral and is open to the public.

Every student meeting the final examination qualifications must be enrolled in a minimum of 1 credit hour in order to defend. The final examination must be completed in accordance with the schedule provided in the academic calendar. Ten working days before the examination is taken the department must submit the form requesting this examination to the Graduate School. This form may be found by visiting the Graduate School website and departmental offices.

Students must ensure that each member of the examining committee receives a copy of the dissertation, no later than seven working days before the date of the final examination.

Any candidate who fails the final oral examination may either be terminated from the doctoral program or upon recommendation of the committee and approval of the Dean of the Graduate School, be granted a second examination after a lapse of at least one semester. Failure in the second examination disqualifies the candidate from obtaining the degree.

Finalizing the Doctoral Dissertation

After successful completion of the final examination, electronic submission of the approved dissertation must be submitted to ProQuest ETD, no later than the deadline posted to the Graduate School website. The format review of dissertation will be performed electronically by the Graduate School. The form and style of the dissertation must comply with the regulations given in Preparing your manuscript for submission located on the Graduate School's website (https://gradschool.nmsu.edu/current-students/graduating-thesis-and-dissertation-students.html). The dissertation is not complete until the required forms are received at the Graduate School. Required forms may be found here.

Registration at NMSU is a process that includes: (1) academic advising, (2) registering for classes, online or with your academic advisor, and (3) payment of tuition and fees. For first time freshman and transfer undergraduate students (at the Las Cruces campus), the registration process occurs during Aggie Welcome/Transfer Student Orientations. For currently enrolled Undergraduate students and all Graduate students registration occurs in collaboration with your advisor or online through the myNMSU portal. For detailed instructions and questions about registration which are not addressed on the website, please contact the University Student Records (USR) (https://records.nmsu.edu).

Admission Requirement

No person will be allowed to register for courses until formally admitted to NMSU through the Community College, International Programs, Undergraduate or Graduate Admissions processes.

Class Schedule

Each semester and summer session, the University Student Records provides an online schedule of classes which can be accessed through myNMSU or the NMSU website. Note that not all courses listed in this catalog are offered every semester.

Registration Schedule by Classification

Several groups of students (e.g. Crimson Scholars, Students with Disabilities, Veterans) receive priority dates for course registration. For other students, registration dates are determined by the student's current classification at the time of registration. A student's classification is determined by the number of credits completed, and does not include courses in progress. A student's classification depends upon the number of credits completed toward graduation. Sophomore classification is achieved with successful completion of 28 credits; Junior classification, 60 credits; Senior classification, 90 credits.

University Credits

The unit of university credit is the semester hour, which is based upon one hour of lecture class or a minimum of two hours of practice/lab per week during one semester, and assumes a minimum of two hours additional, by the student, outside of class. The number of credits associated with each course is indicated in the course schedule.

Course Load for Undergraduate Students

The full-time course load in a regular semester (fall or spring) for a main campus undergraduate students is 12-18 credits. A full-time course load for a summer term is 9-12 credits, with a maximum of 6 credits per session. Some scholarships have a 15 credit course load eligibility requirement. Each student is responsible for meeting their own scholarship eligibility requirements.

An overload is classified as more than 18 credits for a regular semester and more than 12 credits for the summer term. A one-credit course in physical education or supplemental instruction will not create an overload. Registration for a course overload requires written permission from an Associate Director of the Center for Academic Advising and Student Support (CAASS) or the Associate Dean for Academics in the student's academic college. A "Change of Schedule (https://records.nmsu.edu/_files/sro-forms/Change%20of%20Schedule%20Form.pdf)" form is required and available on the University Student Records website (https://records.nmsu.edu). Freshmen and students with a grade of D or F, or a cumulative grade-point average of less than 2.5, in either of the last two semesters, are not eligible for overloads. Concurrent enrollment in non-NMSU courses at other post-secondary institutions requires prior approval from the Associate Dean for Academics in the student's college, and these courses are counted as part of a student's class load.

Course Load for Graduate Students

A full-time course load in a regular semester (fall or spring) is 9 credits, with a maximum of 15 graded credits. A full-time course load for a summer term is 6 credits with a maximum of 9 credits.

Course Numbering

The course numbering system at NMSU indicated the levels as follows:

- 100-299/1000-2999 – Lower Division (Las Cruces and Community College Campuses)
- 300-499/3000-4999 – Upper Division (Las Cruces Campus)
- 450-499/4500-4999 – Senior and graduate courses (Las Cruces Campus)
- 500-799/5000-7999 – Graduate courses (Las Cruces Campus)

All undergraduate students must demonstrate Basic Academic Skills in both English and mathematics before enrolling in any upper-division course (numbered 300/3000 or higher). These requirements ensure that each student in the upper-division courses has the ability to succeed without compromising the learning experience of other students.

Class Delivery

Classes at NMSU are delivered in a variety of modalities. Students may see any of the following schedule types when viewing the class schedule through myNMSU or the NMSU website.

- **CL (Classroom/Lecture):** traditional in-person class meetings that occur on specified days and times in a specified location.
- **LB (Lab):** traditional in-person lab meetings that occur on specified days and times in a specified location.
- **HY (Online with In Person Meetings):** hybrid delivery that is offered both online and with required in-person class meetings that occur on specified days and times in a specified location.
- **ONL (Online with Synchronous Meetings):** online class meetings that require all students to meet virtually on specified days and times
- **WB (Online with no Synchronous Meeting):** online class meetings that do not require students to meet virtually
- **IND (Independent Meeting):** students and instructors schedule meetings on an as needed basis to discuss course content and student progress
- **TD (Thesis/Dissertation):** thesis/dissertation with implied meetings on an as needed basis to discuss course content and student progress
- **PC (Practicum):** practicum/clinical with implied meetings on an as needed basis to discuss course content and student progress

Prerequisites and Corequisites

Some courses require advance or concurrently acquired specific knowledge and skills. Prerequisite(s) and corequisite(s) for each courses are indicated in the course description section of this catalog. Students must have completed (or be presently enrolled in the prerequisite(s)) courses in order to register for a course with prerequisites. Where a student was allowed to register for a course while completing the prerequisite(s), and then subsequently fails to successfully complete a prerequisite course, the student shall be dis-enrolled from the course requiring the prerequisite. In the case of a corequisite, a student must enroll in the courses during the same semester. In some instances, where a course has an enforced "pre/corequisite" the student can elect to either take the requirement before registering for the course, or take the courses at the same time.

Registration Changes

Subject to any registration "holds" and any applicable deadlines, students may change their course registration online. Caution should be exercised as registration changes may negatively impact eligibility for scholarships, financial aid or athletic participation, the student's ability to progress through their degree program in a timely manner, and the student's obligations with respect to tuition and fees.

The University Student Records publishes an online schedule of "Important Dates for Students (https://records.nmsu.edu/students/important-dates.html)" for each semester. The student is responsible for reviewing and adhering to the Important Dates, including the deadlines to add, drop or withdraw from course(s) for the relevant semester.

Adding Courses: There are two different types of deadlines for adding courses:

1. **Last day to add a class without instructor's signature** - during this period courses may be added online through myNMSU, or through your academic advisor (if necessary).
2. **Last day to add a class with instructor's signature -** during this period courses may only be added with either the "Change of Schedule (https://records.nmsu.edu/_files/sro-forms/Change%20of%20Schedule%20Form.pdf)" form signed by the instructor (available online on the University Student Records website (https://records.nmsu.edu)).
   Or students taking classes online and who do not live in the Las Cruces Area must email the instructor, using the NMSU email, in order to get permission to be added to the course. If the instructor approves the addition, the approved response must be sent to either the student's academic advisor or to record_grade@nmsu.edu with the student's name, ID number and course CRN number they are wanting to add.

Withdrawing from Courses: There are two different types of deadlines for withdrawing from courses:

1. **Last day to drop without a "W" grade –** during this period, the student can drop the course and not have it appear on their official transcript in any form, and the student will have no financial obligation related to the course (students will receive a 100% refund if tuition has been paid for the course).
2. **Last day to drop with a "W" grade –** during this period, the student can withdraw from the course, but the course will appear on their official transcript with the withdrawal (W) designation as the grade, and the student will be responsible for the full tuition and fees related to that course.

Students are responsible for initiating official withdrawal from any course(s) they do not intend to complete. Students who experience extraordinary circumstances that prevent timely registration changes should consult with their Academic Associate Dean or the Registrar. For more information about the process for adding or withdrawing from a course(s), please speak with your academic advisor or contact the University Student Records.

Any student attending under Veteran Educational Assistance must notify the Military and Veteran's Programs office before processing registration changes to determine if changes will affect their enrollment status or benefits.

A student found insufficiently prepared for a course they are enrolled in may be transferred to a more elementary course in the same subject any day before the last day to withdraw from an individual course.

Waitlisting

Waitlisting is available for all courses across the NMSU system, except for labs that are linked to a specific lecture class. Waitlisting is an electronic list of students who are waiting to register for a filled course. Once students are put onto the waitlist, the process to get into that course is as follows:

1. A currently enrolled student must drop the course for a seat to become available.
2. The first student on the waitlist is notified through their NMSU email.
3. The notified student has 24 hours to log in to their myNMSU and register themselves for the class.
4. If the first student fails to register within their allotted 24 hours, then the first student is dropped from the waitlist and the next student on the waitlist is notified. This continues until the empty seat is filled.

A student who fails to register for the class during their allotted 24 hours is automatically dropped from the waitlist and can add themselves back onto the bottom of the waitlist for that course.

Students cannot be added to the waitlist after the first day of classes. Instructor overrides can only be made after the second day of class, at which point the instructor's signature is required on either the "Change of Schedule (https://records.nmsu.edu/_files/sro-forms/Change%20of%20Schedule%20Form.pdf)" form to add a course.

Graduate Registration Requirements for Summer

Students who have scheduled their final examination, or who are completing their thesis during a summer session, must be registered for one credit hour during the same summer session. In order to graduate during a summer session, the student must have filed the Application for Degree by the deadline posted on the Academic Calendar.

Repeating Courses for A Change in Grade

See the Grading portion of the Academic Regulations section of this catalog.

Substitutions and Waivers

Students registering for their final semester must have all course substitutions and/or waivers of degree requirements approved before two weeks after the last date of registration for full or summer terms.

Auditing a Course (No Credit)

An audited course is one in which the student registers for the learning experience but does not seek to earn academic credit for the course. A student seeking to audit a course must register and pay tuition and fees for the course and have the consent of the instructor to take the class in audit form. A student who has registered to audit a course may be dis-enrolled from the course at any time before the registration deadline expires if necessary to accommodate a student taking the course for credit. After the last day to register, the student cannot change the course option from audit course to a for credit bearing course.

Audited courses are not used in determining a maximum class load (overload) for undergraduate students in good academic standing, however, the audited course will be counted as part of the maximum allowable course load for graduate students and undergraduate students who are on academic probation.

Attendance and Student Performance

Academic success is closely correlated to student participation and attendance. Accordingly, students are expected to attend all their classes regularly. Each course instructor will establish the specific attendance and course requirements via the course syllabus. Only students who are currently enrolled in a course for either credit or audit are permitted to attend the classes officially. However, individual instructors may allow an occasional visitor and may allow a student who formally withdrew from the course to continue to participate for the remainder of the semester.

Absences from Class and Failure to Complete Assignments

Students who must miss class due to accident, illness, or other circumstances beyond their control should consult the course syllabus and the instructor for guidance. Students may be administratively withdrawn from a course due to excessive absences (consecutive absences in excess of the number of class meetings held within a week or any number of absences, including failing to use the online Learning Management System, which are impairing the student's performance), or for persistent failure to complete assignments. In such cases, the Instructor may recommend administrative withdrawal by providing the Academic Associate Dean a completed "Student Absence/Lack of Progress Report" form. If the Academic Associate Dean agrees with the recommendation of the course instructor, the student will be administratively withdrawn from the course. To appeal the decision, see the Administrative Withdrawal (https://catalogs.nmsu.edu/nmsu/regulations-policies/#withdrawalstext) section.

Any absences due to the student's participation in a university-sponsored event (e.g. ASNMSU president representing NMSU at legislative session, student-athletes competing in NMSU scheduled athletic events, or students attending educational field trips and conferences) will be excused and deemed an "Authorized Absence". Authorized absences do not relieve the student of the course assignments or responsibilities and instructors may require students to complete course work before the absence. Before the student's absence, the student will provide the instructor(s) with written notice of the dates of expected absence.

Classroom Conduct

Each instructor has the authority to establish and enforce reasonable rules of conduct in their courses. A student who engages in behavior that interferes with the educational environment of the class may be administratively dis-enrolled with the approval of the academic Department Head and Academic Associate Dean for the course, and with notification to the Provost. Any student who has been administratively dis-enrolled from a class may appeal that decision to the Dean of the College where the course was offered within ten days after notification of the dis-enrollment.

Student Performance Assessment

Individual student performance and learning outcomes in a course are measured and evaluated by the course instructor and reported to the student in the form of grades. Each instructor has the authority to establish assignments and other assessments (such as exams and quizzes) and assign grades based on the student's performance. The instructor determines the final grades for the course and reports to the University Registrar as described in the grading section of this catalog. Any student who believes that their academic performance has been evaluated unfairly may appeal the grade through the University's Academic Appeals process (https://report.nmsu.edu/decision-tree/) as provided in this Catalog.

Academic Program Assessment

New Mexico State University is committed to providing its students with a quality education and a supportive learning environment. Academic Program Assessment is a continuous improvement process achieved by identifying a program's desired learning outcomes, evaluating the extent to which students in the program collectively achieve those outcomes, and then implementing changes to enhance and improve the collective program outcomes. For assessment to be effective, students must be actively aware of and engaged in assessment activities.

Academic Program Assessment requires participation of students who are expected to provide feedback on personal, professional and academic development and to participate in a variety of assessment exercises. Assessment activities may be a part of regular graded course assignments, or may require students to engage in other activities as outlined in the course syllabus. Assessments may include course projects, exams, exit interviews, standardized tests, surveys, focus groups, etc. Data gathered through these assessments is published only in aggregate form. Learn more about NMSU's Academic Program Assessment at https://assessment.nmsu.edu/

Exam Week and Final Examinations

NMSU designates the last week of each semester as "Exam Week" during which each course has only a single 2 hour meeting time for a mandatory culminating activity which may be a final examination or some other course-related activity. The University Student Records (USR) establishes the Final Examination Schedule (https://records.nmsu.edu/students/final-examination-schedule.html) for each semester. Examinations are typically held in the course's standard lecture/lab room. Some departments hold Departmental Exams where all students for all sections of a particular course must take the final examination simultaneously. The Final Examination Schedule indicates the Department Exam dates, times, and location. For courses not scheduled to meet at the specific times listed under "Regular Class Time" on the USRO's Final Examination Schedule, the instructor and course department coordinate examination dates, times and locations with NMSU's Academic Scheduling office (575) 646-4790. Final exams for weekend courses are held during the regular class period on the last day of class.

The final exam or culminating activity must not be rescheduled for a different date, time or location, except with the department head's permission and the enrolled students' unanimous consents. During the week before Exam Week, instructors cannot hold examinations lasting more than one class period.

Any student having more than three examinations scheduled in any one day may, no later than the week before exam week, notify the instructor of the examination scheduled latest in the day to obtain an alternative date for that examination. (If the fourth exam is a departmental exam, the instructor of the third exam will make alternate arrangements for that exam upon request.)

Students who believe that their instructor(s) have not honored Exam Week requirements may appeal to the instructor's department head.

Developmental Evaluation

The academic skill level of all entering first-time students at the time of registration is evaluated based on ACT scores, SAT scores, and/or alternative placement assessments. The student's eligibility to enroll in university-level English and Mathematics courses depends on this evaluation. Students without adequate preparation for university-level courses must take developmental courses. Developmental courses are included on the transcript and will be included in the calculation of the GPA, but the developmental course credits do not count towards a degree.

Basic Academic Skills

All undergraduate students must demonstrate Basic Academic Skills in both English and mathematics before enrolling in any upper-division course (numbered 300/3000 or higher). These requirements ensure that each student in the upper-division courses has the ability to succeed without compromising the learning experience of other students. The completion of the Basic Academic Skills requirements **does not necessarily result in the award of academic credit nor satisfaction of university general education requirements** in English and mathematics. (Students should consult the General Education Courses and Requirements section in this chapter for these requirements.)

Transfer students with 45 or more credits are allowed to enroll in upper-division courses for only one semester before satisfying the Basic Academic Skills requirements. The Basic Academic Skills requirements may be satisfied in a variety of different ways as listed below:

English Basic Skill Demonstration Options (achieve one of the following):

- ACT English Score of 30
- Coursework - **ENGL 1110G**, or equivalent, completed with a grade of C- or higher.

Equivalents: the following are deemed equivalents to ENGL 1110G for the purpose of satisfying Basic Academic Skills in English:

- **ENGL 1110H –** completed with a grade of C- or higher
- ENGL 1110M - required for International students who took the TOEFL examination
- CLEP Exam score of 57 or higher in freshman college composition
- English Advanced Placement (AP) Exam score of 3, 4, or 5
- English Composition Transfer Credits - 3 or more credits with a grade of C- or above, transferred from accredited post-secondary institutions (International students may be required to take ENGL 1110M Composition I Multilingual as noted above.)

Credits from Non-accredited Institutions - As a general rule, NMSU does not accept credits from non-accredited institutions. Students with 3 or more credits of college-level English composition with a grade of C- or higher from a non-accredited institution may, however, challenge the Basic Academic Skills requirement in English and ENGL 1110G Composition I course requirement by submitting a theme paper written under the supervision of, and demonstrating achievement of ENGL 1110G Composition I learning outcomes as determined by, the Department of English.

Mathematics Basic Skill Demonstration Options (achieve one of the following):

- ACT Mathematics Score of 23
- Coursework – any one of the following courses or course combinations completed with a grade of C- or higher in each course:
  - MATH 1130G Survey of Mathematics
  - MATH 1215 Intermediate Algebra
  - MATH 1220G College Algebra
  - Any mathematics course numbered 1250G or above (prefix MATH) excluding MATH 1996 Topics in Mathematics and MATH 2992 Directed Study
- Basic Skills Exam Passing Score - offered twice a semester by the Department of Mathematical Sciences
- Calculus AB, Calculus BC or Statistics Advanced Placement (AP) Exam score of 3, 4, or 5

IMPORTANT NOTE: Basic Academic Skills Demonstration fulfillment options may not appear on the transcript, result in the award of academic credit, or satisfy general education requirements. The Basic Academic Skills requirements are used solely to determine eligibility for enrollment in upper-division courses. All students should seek to complete the Basic Academic Skills requirements as early in their academic program as possible. Students who postpone completing Basic Academic Skills may be unable to progress toward degree completion in a timely manner.

Independent Study and Directed Reading Courses

Independent study courses and directed reading (other than those designated in the catalog with a subtitle), are for students capable of and sufficiently motivated to undertake self-directed study with limited oversight of a faculty member. Only students who have completed at least 28 credits at NMSU under traditional grading, with a cumulative GPA of 2.5 or better, can enroll in independent study courses. No student is entitled to enroll in independent study and enrollment requires the consent of an instructor who agrees to supervise and evaluate the student's learning activities in the course. Students seeking registration in an independent study course should prepare an independent study proposal to present to the individual faculty member(s) in the relevant discipline for consideration. At a minimum, the proposal should include the topic of study, a brief survey of the literature or other resources on the subject, and a description of the proposed written product or another tangible outcome of the independent study. The relevant academic department for the discipline may have additional requirements. Each college determines the maximum number of credits that may be earned in independent study courses.

Adjusted Credit Option

The adjusted credit option provides eligible undergraduate students who earned a low grade-point average (less than 2.0 cumulative) during their first few semesters to reset their GPA calculation. This option may be used only once and is not reversible. These are the consequences of exercising the Adjusted Credit Option:

1. All of the student's academic history pre-dating the request, including all NMSU course credits previously attempted or completed, transfer coursework, CLEP, ACT, advanced placement, special examination, and/or military service are included in the adjustment and designated as "ADJUSTED CREDITS" on the transcript. These credits are no longer included in the cumulative grade point average calculation.
2. Courses carrying an academic grade of S, CR, C- or better, earned prior to the grading period in which the student requested this option, are treated as earned academic credit and need not be repeated, except where a higher grade is required in the student's academic program.
3. Courses carrying an academic grade of U, CD, D or F, earned prior to the grading period in which the student requested this option, remain on the student's transcript, but no academic credit is provided for these courses. The student must repeat these courses to obtain academic credit.
4. The student's academic transcripts will continue to reflect all coursework, including courses falling under the adjusted credit

option. In no circumstances will a transcript be issued that does not include all courses attempted at this university.

5. The student's current academic status, eligibility for employment, and financial aid may be impacted. Probationary status and eligibility for on-campus employment are not affected by the exercise of the adjusted credit option.
6. The repeat rule for courses starts anew.
7. The student will not be eligible for the award of an associate degree until earning thirty (30) or more additional credits after exercise of the Option.
8. The student is eligible for University honors at graduation upon completing a minimum of 60 academic credits at NMSU, after the adjusted credit option is exercised, with a resulting grade point average that satisfies University regulations for honors.

After carefully considering the consequences indicated above, eligible students may exercise the Adjusted Credit Option by paying a fee of $10 and submitting an adjusted credit option application to the University Student Records. Application forms are available on the University Student Records website and can be approved by the Director of the Center for Academic Advising and Student Support or the Associate Dean for Academics in the student's college or the Academic Vice President at the Community Colleges. Only students meeting the following criteria are eligible to exercise the Option:

1. No awarded baccalaureate degree
2. Enrolled as a degree-seeking or non-degree undergraduate student
3. A cumulative grade-point average of less than 2.0 at NMSU
4. Fewer than 60 credits accumulated (including both transfer and NMSU credits)

Credit by College Level Examination Program (CLEP)

Before or during a student's enrollment at NMSU, credits may be earned through the College Level Examination Program (CLEP) of the College Entrance Examination Board. CLEP is a national program of credit by examination that offers the opportunity to earn credits for college-level achievement wherever or however the student learned. Earned CLEP credit will be treated as transfer credit without a grade, will count toward graduation, and may be used in fulfilling specific curriculum requirements. A current NMSU CLEP policy and test schedule information is available through Testing Services DACC East Mesa, RM 210. Testing Services may be reached at: (575) 528-7294.

Credit by Examination

Any enrolled student with a cumulative GPA of at least 2.0 currently attending classes may, with permission of the appropriate department, challenge by examination any undergraduate course in which credit has not been previously earned except an independent study, research or reading course, or any foreign language course that precedes the final course in the lower-division sequence. The department in which the course is being challenged shall determine the manner of administering the examination and granting permission. Students may not enroll in a single course, challenge it by examination, and drop it during the drop/add period, unless they enroll in an additional course. In exceptional cases in which a student demonstrates outstanding ability in a course in which they are already registered, they may be permitted to challenge the course. A student desiring to apply for special examination may obtain the necessary forms from the University Student Records. The fee for challenging a course is the same as the approved tuition rate. Courses may not be challenged under the S/U option. The special examination privilege is based on the principle that the student, exclusively, has the responsibility for preparing for a special examination.

Credit for Military Service

New Mexico State University will award academic credit to United States military personnel for courses and Military Occupational Specialties (MOS), based on the American Council of Education Guide (ACE) as well as through national standardized tests, such as CLEP, AP, PEP and DANTES. Credit for military training is in accordance with NMSU Faculty Senate Legislation Proposition 24-07/08, which was passed in May 2008. Military Training and Military Occupational Specialties (MOS) must have a recommendation evaluation by ACE (in the ACE Guide) for credit to be awarded. Courses accepted for transfer credit become part of the student's official NMSU transcript and academic record. If a student wishes to appeal a decision regarding the acceptance of military training/education and/or MOS for academic credit, the student must submit a written statement of appeal to the Dean of the College to which the student has applied. The Dean will review the merits of the appeal and render a decision. The decision of the Dean is final.

Only Primary MOS (s) are eligible for academic credit in the initial review and evaluation. Credit for Duty and/or Secondary MOS may qualify for academic credit if the student petitions the college's Academic Dean. Primary MOS is the primary specialty of a soldier and reflects the broadest and most in-depth scope of military experience. Veterans, active-duty personnel, National Guard and Reservists who are current students or students applying for admission to New Mexico State University may be granted academic credit on a case-by-case basis upon evaluation of military transcripts - the Joint Service Transcript (jst.doded.mil) and the Community College of the Air Force transcripts. Course equivalencies and credit hours awarded for a particular NMSU degree are determined by colleges and/or academic departments. Credit hours may be awarded for specific courses toward degree requirement, or as elective credit. The number of credit hours awarded will be determined by the college and/or academic department.

NOTE: Students submitting military transcripts for credit evaluation must keep in mind the Maximum Time Frame policy. See Financial Aid *(*https://catalogs.nmsu.edu/nmsu/financial-aid-scholarship-services/*) Section.*

Graduate Course Deficiencies

Students admitted with departmental deficiencies may be required to take diagnostics tests and additional qualifying examinations. They must complete satisfactorily, in a manner specified by the major department, all undergraduate course deficiencies as prescribed by the department responsible for the graduate program. Courses taken to satisfy deficiencies will be listed on the undergraduate transcript; however, these course grades will not be calculated in the student's graduate GPA or graduate hours. With the permission of the student's advisor and the head of the department, courses to meet undergraduate deficiencies may be taken under a S/U option (with S being a grade satisfactory to the professor), and such courses will not affect the maximum number of S/U graduate credits permitted.

Short Courses for Graduate Students

Short course(s) that are numbered 450/4500 and above have been approved to carry graduate credit. Graduate students must be registered for the short course(s) to receive graduate credit. Concurrent enrollment of graduate students in regular and short courses for the fall/spring

semesters is allowed, provided the combined total credits does not exceed 15. All short courses carrying one-semester credit will be graded on a S/U basis, and these credits will be counted toward the student's limit of S/U credits.

Challenging Graduate Courses

A graduate student may challenge a graduate course by examination, please see the Graduate School for more information.

University Grading System

Each course department or instructor establishes the system for assessing student performance in achieving course learning objectives. Students should consult the course syllabus for a description of the grading system used in each course. At the conclusion of each course, instructors are required to report a final grade reflecting the instructor's assessment of each student's performance. Shortly after the end of the term, students can access their grades through the MyNMSU portal. No other grade notification will be issued. The final grade is reported on the student transcript. Instructors may elect whether to use fractional grading (the use of the plus and minus) in assigning final letter grades.

The NMSU system for final grades is expressed in letters, which carry grade points that are used in calculating the cumulative grade-point average, as shown in this table:

Letter Grade	Grade Points per Unit of Credit
A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	2.0
D+, D, D-	1.0
F	0
W- Withdrawal	0
N- Grade not submitted	0
CR- Credit authorized, but not letter grade	0
IP- In progress	0
RR- Progress in undergraduate course	0
PR- Progress in graduate thesis	0
S- Satisfactory work[1]	0
U- Unsatisfactory work	0
I- Incomplete work	0
AU- Audit	0

[1] S grades are grades that are satisfactory to the professor and are normally equivalent to the letter grade of C- or higher.

Any courses for which only CR, S or PR is awarded, but no traditional letter grade is given, will be included in the total number of earned hours but is not computed in the grade-point average. Traditional letter grades are those which are used in the grade point average determination: A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D- and F. In computing the overall grade-point-average, the total credits in which grades of A+ through F have been assigned is divided into the total number of grade points earned.

Midterm and Six-Week Early Performance Grades

A Six-Week Early Performance Grade (sometimes referred to as Midterm Grade) for courses numbered 100/1000-299/2999 will be posted and available to students through the MyNMSU portal. The purpose of the early grade posting is to ensure that students have an opportunity to address any performance issues. Students should be mindful that the Six-Week Early Performance Grade reflects a students' performance on only that portion of the total coursework that has been graded at that time. Any student who is doing poorly, or not as well as they would like, should meet with the instructor to discuss how they can improve. Students who have concerns about their progress in multiple courses or who are considering withdrawal from course(s) must meet with their academic advisor.

In courses numbered 300/3000 or higher, the posting of Early Performance Grades is optional and may occur through the online course management system rather than the MyNMSU portal. However, prior to the last day to withdraw from a course, upon request, instructors will provide information to students about their progress in the course.

Retention of Grading Records

Individual assignments and exams that are not returned to students should be retained by the instructor or department through the end of the subsequent regular semester. The records used to compute individual final grades should be retained for two years after the completion of a course. If a final grade is appealed, these records are kept for at least two years after the completion of the appeal. Departments, colleges, or the library may require that records be kept for longer periods.

Minimum Grade Requirement for Undergraduate Students

Undergraduate degrees require a cumulative GPA of 2.0 or higher for degree completion. Although D+, D, or D- can be considered passing, some departments have higher grade requirements for the courses within their program and/or their program as a whole. Students should check with their departments regarding specific course grading requirements for their particular degree program.

Minimum Grade Requirement for Graduate Students

Graduate degrees require a cumulative graduate G.P.A. of 3.0 or higher. Although B- and C grades (including C+ and C-) earned at NMSU may be counted toward the requirements for a graduate degree in some programs, this grade does not reflect acceptable graduate-level performance and may cause the cumulative G.P.A. to fall below the 3.0 required for graduate students. Some departments have higher grading requirements for courses in their programs. Students should check with their departments regarding specific course grading requirements for their particular degree program.

Courses in which a student earns a D or F grade do not ever satisfy graduate degree requirements; however, these grades will be calculated in determining the students' cumulative grade-point average. To obtain

academic credit, students must retake courses in which a grade of D or F was earned.

S/U Grading

S/U grading allows the student to attempt to earn course credit without having a course grade included in their grade point average calculations. Under S/U grading, the instructor assigns an S grade for satisfactory achievement of the course learning objectives (normally equivalent to the letter grade of C- or higher) and a U grade for unsatisfactory performance in the class.

Designated S/U Courses

Each academic college may designate courses in which the grading will be on the basis of S or U for all students enrolled in the courses. Credits in designated S/U courses are not included in the limitations on the number of S/U credits a student may take and are not subject to the student eligibility requirements described below.

Election of the S/U Grading Option - Undergraduate Students

In courses other than those designated as S/U for all students, eligible individual students may elect the S/U Grading Option, subject to the regulations stated below. To be eligible for the S/U (satisfactory/unsatisfactory) Grading Option, undergraduate students must meet the eligibility requirements and obtain the approval of an academic advisor. Eligibility requires the completion of 28 credits at NMSU under traditional grading, with an overall average of 2.5 or better. (Upon approval of the adjusted credit option, students must re-establish eligibility.) Non-degree seeking students may take courses under the S/U option without regard to eligibility requirements. However, these courses may not be subsequently applied toward an undergraduate degree at NMSU.

The S/U option must be elected as part of the course registration and may not be added once the course registration period closes. Other than honors courses and courses officially designed as S/U, the following limitations apply to courses in which the S/U option is elected:

1. No more than 7 credits per semester or 4 credits per summer session.
2. Not to exceed a total of 21 credits towards a degree.
3. Not a required course for the student's major.

Students electing the S/U option should be mindful that upon a change of majors, the new major department may require a traditional grade for a course within that major that was previously completed with an S grade. In such cases, the student may request that the original instructor process a change of grade form to apply a traditional grade, however, if more than 2 years have elapsed or if the instructor is no longer at NMSU, such a change will not be possible and the student may be required to retake the course or obtain a traditional grade through a course challenge.

Election of the S/U Grading Option Election - Graduate Students

With approval from their advisor and department head, graduate students in good academic standing may elect the S/U option, at the time of registration, for courses taken outside the major department, subject to the regulations stated below:

1. No more than a total of 6 credits of elected S/U courses are permitted in the master's degree.
2. Doctoral candidates may take an additional 6 credits under the S/U option after application to candidacy.

I Grade Designation

The letter grade of I (incomplete) is given for passable work that could not be completed due to circumstances beyond the student's control that develop after the last day to withdraw from the course. In no case is an I grade to be used to avoid assigning D, F, U or RR grades for marginal or failing work. Examples of appropriate circumstances include documented illness, documented death or crisis in the student's immediate family, unexpected military deployment and similar circumstances. Other job-related circumstances are generally not appropriate grounds for assigning an I grade. Students requesting an I grade are responsible for providing satisfactory evidence of such circumstances. (In the case of medical records, instructors should review the information provided, note that adequate medical documentation was provided for review, and return the documentation to the student. Under no circumstances should the instructor retain any medical records or indicate the specifics of any medical condition in the academic records.) The refusal to grant an I grade may be appealed in the same manner as any other final grade.

To assign an I grade, the instructor must complete the "I grade Information Form (https://records.nmsu.edu/_files/sro-forms/I%20Grade%20Information%20Form.pdf)" by the deadline for final grade submission in the semester the student was enrolled in the course, and have the form delivered to the associate dean of the course college. The instructor must indicate on the form whether the student will be given the option to complete the remaining coursework and have the I grade changed to the earned letter grade. If so, the instructor should indicate the steps necessary to complete the remaining coursework. The I grade form should either be signed by the student in person or digitally, or the associate dean must send a copy of the document to the student's official permanent address or university email address, as recorded in the University Student Records, with a notation on the form that the student was not available for signature.

The I grade will be permanent in instances where (1) the instructor did not provide an option to complete the coursework, (2) the instructor left NMSU before completion of the coursework and grade change, or (3) the student failed to complete the coursework by the relevant deadline, and the instructor did not indicate that the I grade would be changed to the earned grade upon failure to complete. In such instances, the student will be required to re-enroll in the course to receive credit (in which case the permanent I grade and the subsequently earned letter grade will both appear on the transcript).

The student is entitled to have the I grade removed from the transcript only if, within 12 months or any earlier deadline established by the instructor on the "I Grade Information Form" and before graduation, the student completes the remaining coursework, as specified on the I Grade Form, in a manner satisfactory to the instructor. If the student fails to complete the coursework, the instructor may change the I grade to any appropriate grade (including D, F, or U) only if the instructor stated that this would occur on the "I Grade Information Form." The instructor should assign whatever grade was earned for the entire course.

To change the I grade, the instructor must complete a "Change of Grade Form," obtain the signature of the associate dean for the course, and submit the form to the University Student Records.

RR Grade

The RR grade may be assigned only in undergraduate developmental courses (CCDE, CCDL, CCDM & CCDR) and indicates that the student has made substantial progress toward completing the requirements of the

course. It carries neither penalty nor credit, so a student must re-enroll and successfully complete the course in order to earn credit. The grade of RR may be received only once in any given course, and is a permanent notation on the student's transcript.

W Grade Designation

The W grade is assigned only in courses when the student withdraws or is administratively dis-enrolled from the course after the last day to drop the course. The W grade is permanent.

Effect of Change of Grade

The effect of a change of grade on a student's academic standing (academic warning, probation or suspension) depends on the date the transaction is officially recorded on the student's academic record. If the transaction is recorded before the student begins another semester, the grade change (such as replacing the I grade with an earned grade) is included in the grade-point average calculation to establish the student's academic standing. If the transaction is recorded after the student begins another semester, for the purpose of calculating academic standing, the new grade is included with any other grades earned for the semester in which the grade change is processed.

Repeating Courses for a Change in Grade

Undergraduate: Undergraduate students may repeat courses, for a change in grade, when the original grade earned was a D or F. Once a grade of C- or better is earned, the course will then be substituted in the calculation of the grade-point- average and students will no longer be able to repeat that course for change of grade purposes. Student transcripts will continue to show the grade awarded for each course attempt, but only the higher grade will be included in the GPA calculations.
a. If the student's original grade was a D and the student repeats the course, but receives an F, the second grade will not be substituted for the original. Repeat options apply only to courses that were completed prior to the time a student was awarded a degree.

Graduate: Graduate students may repeat courses for a change in grade, to be updated on the official student transcript, when the original grade earned was a B- or lower. Students with active graduate status (admitted to a graduate program) are eligible to use this policy.
a. A course may only be repeated once (a total of two instances within the active program of study), and the course numbers and subtitles must be identical (e.g. GEOG 598 – Intro to Geography AI).
b. To replace the original grade on the transcript, the repeated course must result in an improvement of the previous grade. The higher grade will replace the lower grade in the calculation of the cumulative GPA and earned credit hours.
c. The original grade will remain on the student's transcript. An "E" will appear next to the course to indicate that the lower grade is removed from GPA calculation.
d. No grade may be replaced after a graduate degree has been awarded.
e. Symbol grades such as CR, PR, S, U, and W are not replaceable since these grades do not affect the overall grade point average.

Grade Point Average

Grade point average (GPA) calculations are based solely on courses taken at NMSU or under an approved National Student Exchange.

Grading in Graduate Research

In grading both master's and doctoral research, thesis and dissertation work in progress, the instructor reports for each enrollment period the grade S (satisfactory) or U (unsatisfactory) rather than a traditional letter grade. These assigned grades are permanent notations on the student's transcript. Only those credits graded S (satisfactory) accumulate toward the minimum number of research credits required.

U indicates that the student has stopped work or is doing work of unacceptable quality. After the final examination, and/or when the thesis/dissertation is submitted to the electronic dissertation submission system, the instructor will report the final S or U grade for the research.

The report of an S (satisfactory) grade means that the degree will be certified. A U (unsatisfactory) grade means that the student is doing work of unacceptable quality.

If a student accumulates a total of two U (unsatisfactory) grades in courses numbered either 598, 599, 600, 699 or 700, the student will be placed on Academic Probation I. If three U (unsatisfactory) grades are reported for these courses, the student will be dismissed from the Graduate School.

For more information regarding how withdrawals impact tuition refunds, please see the Tuition, Fees & Other Expenses (https://catalogs.nmsu.edu/nmsu/tuition-fees-expenses/#newitemtext) section of the catalog.

Withdrawal from a Single Course

Any student wishing to formally withdraw from a single course, after the last day to drop has passed, can do so through their Academic Advisor or the University Student Records. All such withdrawals will be registered on the student's transcript with the "W" grade indication.

For students wishing to withdraw from all courses, please see the section on Withdrawal from NMSU.

Leave of Absence from the Graduate School

Students working on advanced degrees and planning to have an interruption in studies for a calendar year should request a leave of absence through their department head. The student must submit a formal letter through their department head to the Dean of the Graduate School, an email will not be accepted. The request should include the beginning date and the anticipated ending date for the period of absence.

A graduate student on leave of absence will be expected not to use university facilities and place no demands upon the university faculty and staff, and, therefore will pay no fees. Time spent in the "leave-of-absence" status will not be counted toward the advanced degree time limits.

A graduate student who fails to register for one calendar year without obtaining a leave of absence from the Graduate School will be considered withdrawn from the university, by the Graduate School. In order to resume their studies after such absences, the student must go through the formal readmission process.

Administrative Withdrawals

If a student has stopped attending class without formally withdrawing, stopped using the online Learning Management System, or has a history of persistent unexcused absences or failures to complete assignments,

the University reserves the right to remove the student from the class by means of an administrative withdrawal. An administrative withdrawal may be requested under the following circumstances, excluding absences through University policy:

1. At the beginning of the semester, if a student misses the first two (2) class meetings or online activities.
2. At any point in the semester, if a student misses four (4) consecutive class meetings or online activities.
3. If over the course of the semester, the student persistently fails to attend class or fails to complete assignments.

Except in documented cases of persistent unexcused absence/nonparticipation, administrative withdrawals will not be used to avoid the assigning of D, F, U or RR grades for marginal or failing work. Administrative withdrawals are subject to the same refund rules as student-initiated withdrawals (100% refund prior to census and no refund after census).

To request consideration for an administrative withdrawal, the instructor must complete the Student Absence/Lack of Progress Report (https://records.nmsu.edu/_files/sro-forms/Student%20Absence%20or%20Lack%20of%20Progress%20Report%20-%20Administrative%20Withdrawal.pdf), found on the forms page of the University Student Records webpage, and route for approvals as soon as a pattern of non-attendance/non-participation is established. The University Student Records is ultimately responsible for processing the administrative withdrawal. The form is to be submitted as soon as the pattern of persistent absence/nonparticipation is established. Normally it will be submitted no later than one week after the deadline for a student to withdraw themselves from the course.

Upon receipt of a fully approved Student Absence/Lack of Progress Report, from the Dean's Office, the Student Records staff will notify the student that they will be withdrawn from the class within 48 hours unless they appeal the action. This notification will be sent to the student's official NMSU email address. Students wishing to appeal the administrative withdrawal, should reply to the Student Records' notification email, with a valid reason for non-attendance / non-completion of coursework, within 48 hours of the email delivery time stamp.

If the appeal circumstances are determined reasonable and accepted, the student will not be withdrawn from the class and will be expected to actively participate in all future meetings and coursework. The Student Records will notify the instructor, Department Head and Associate Dean of the determination, via official NMSU email.

When an administrative withdrawal is initiated for a student who is representing the university at an official out-of-town event any administrative withdrawals will become effective upon the student's return from the event or five days after the drop slip fully approved form is submitted to the Student Records.

Military Withdrawal

New Mexico State University understands that our military students may be called to active duty, specialized training, or disaster relief efforts with little notice. U.S. active-duty military students wishing to withdraw from all their classes must present their orders and their request for full withdrawal, as indicated below. However, the below policy does not pertain to a student's basic and/or annual training. A student who has an order for training is encouraged to formally request, through the proper military chain of command, a postponement of their orders until the summer or the end of the semester they are currently enrolled in. If a student's request for postponement is denied, the student may then follow the steps below but must provide documentation that their postponement request was formally denied.

All NMSU students called for active duty must take the following steps to withdraw from all their classes:

1. **Military and Veterans Programs (MVP):** TA/VA students ordered to Active Duty must provide a copy of orders to the MVP office, in Corbett Center Student Union, Room 244, or by email mvp@nmsu.edu. To assist in reporting accurate information to their military service or the VA Regional Office, the student should also provide, in writing, the last day of class attendance.

1. **NMSU University Student Records:** All students presenting their orders to the University Student Records, (575) 646-3411, or records@nmsu.edu, will receive a military withdrawal from classes and full tuition and fees refund for that semester.

1. **Bookstore:** Students who still have their receipts for textbooks purchased the semester in which they are called to active duty will be given a full refund for these textbook purchases when they present their orders. Please contact the bookstore for assistance at (575) 646-4431 or nmsu@bkstr.com.

Military Readmission Policy

New Mexico State University (NMSU) acknowledges that students may be temporarily unable to attend classes or be required to suspend their studies to perform military service. NMSU encourages such students to resume their education once a military service obligation has ended and adopts this policy to ensure the timely readmission of such students.

In accordance with federal regulations, 34 C.F.R. § 668.18 and the Department of Defense (DoD) Voluntary Education Partnership Memorandum of Understanding (MOU), the university will promptly readmit service members who seek readmission to a program that was interrupted due to a uniformed service obligation.

Eligibility

This policy shall apply to (1) service members who are unable to attend classes for more than 30 consecutive days, and (2) service members who are unable to attend classes for less than 30 days (about 4 and a half weeks) when such an absence would result in a withdrawal from NMSU.

A student is eligible for readmission under this policy if, during an absence, the student performs uniformed service, voluntary or involuntary, in the Armed Forces, including the National Guard or Reserve, active duty, active duty for training, or full-time National Guard (under federal authority). The cumulative length of all absences for uniformed service (service time only) must not exceed five years.

Notification of Military Service

The student (or an appropriate officer of the armed forces or official of the Department of Defense) must give written notice of such service to the school as far in advance as is reasonable under the circumstances. Such notice does not need to indicate when the student will return to NMSU.

Notification of Intent to Return
The student must also give written notice of Intent to Return and supporting official military obligation documentation to University Student Records within three years after the completion of the period of service.

Tuition and Fees
If the student is readmitted to the same program, NMSU will assess the tuition and fee charges that would have been assessed for the academic year during which the student left (first academic year only). However, if veterans' education benefits or other service member education benefits will pay the higher tuition and fee charges that other students in the program are paying for the year, NMSU will assess those charges to the student.

Readmission Requirements

A returning student will be permitted to reenroll in the next class(es) scheduled in the same academic program unless the student requests a later date of re-enrollment or agrees to a different program. A returning student will be readmitted into the same academic program they were enrolled in before the military service obligation. If the exact program no longer exists, the student must be admitted to the program that is most similar, unless the student requests or agrees to admission to a different program. Returning students will be reenrolled with the same enrollment status, number of completed credit hours, and academic standing as the last academic year of attendance.

If NMSU determines that a returning student is not prepared to resume the program with the same academic status or is unable to complete the degree, NMSU will make reasonable efforts to enable the student to resume or complete the program at no additional cost to the student.

NMSU is not required to readmit the student if it determines:

- that there are no reasonable efforts it can take to prepare the student to resume the program at the point where they left off or to enable them to complete the program, or

- that after it makes reasonable efforts (those that do not place an undue hardship on the institution), the student is not prepared to resume or complete the program.

"Undue hardship" means an action requiring significant difficulty or expense considering the overall financial resources of NMSU and the impact of such action on its operation. NMSU has the burden to prove by a preponderance of the evidence that the student is not prepared to resume the program with the same academic status at the point where they left off or that they will not be able to complete the program.

In accordance with federal regulations, returning students who receive a dishonorable or bad conduct discharge, general court-martial, or federal or state prison sentence from the Armed Forces (including the National Guard and Reserves) are not eligible for readmission#under this policy.

Students are encouraged to speak with Military and Veterans Programs regarding any absence due to military service. For more information, please contact mvp@nmsu.edu.

Military Experience Waiver

Before graduating, during the student's junior and/or senior year, NMSU students are required to take two 3-credit Viewing a Wider World (VWW) upper-division (300-400 level) courses. These courses emphasize the international character and multicultural influences in study and strengthen information retrieval skills. There are two options that NMSU allows for replacing one of the two courses (3 credits) of VWW requirement with another form of educational experience, these are: (Study Abroad Experience or Military Experience for students who have served at least four weeks of U.S. Military Foreign/Sea Service in a foreign country.

Steps needed to request a Military Experience Waiver (replacing 3 credits of VWW):

1. Obtain a copy of your DD-214 or Memo from your Commanding Officer proving your 4-week deployment

1. Provide the above copy to your college academic advisor to request a waiver

1. Wait for your college to approve and confirm

Note: Credits are not being waived, only one of the two courses is being waived within the requirement. You may still need to complete three credits in consultation with your academic advisor. Please contact the MVP or your academic advisor for questions and concerns.

Student Medical Withdrawal

A student medical withdrawal applies to a student who becomes seriously ill, injured or hospitalized and is therefore unable to complete an academic term for which they are enrolled. This action applies to all courses a student is registered for in the affected semester(s). The student cannot select which courses they want to withdraw from and which they want to remain registered for when exercising this option. The students' attending physician must provide a letter, on official letterhead with an original signature, stating the date(s) within the semester that the student was under medical care and must withdraw because of that medical condition. This letter must be submitted within the semester or no later than one academic year after the end of the term for which the withdrawal is being requested.

Once the information is reviewed a final determination will be made if the student is eligible for the consideration of tuition or other refunds (students receiving funds awarded by the University Financial Aid and Scholarship Services should be aware of policies regarding withdrawal from the University). At the Las Cruces campus, medical withdrawal begins and ends at the University Student Records. At all other campuses, medical withdrawal begins at the Student Services Office but is ultimately finalized with the University Student Records on the Las Cruces campus.

Medical Conditions of a Family Member Withdrawal

A student who is withdrawing because of a medical condition of an immediate family member must submit a letter from the family member's attending physician. This action applies to all courses a student is registered for in the affected semester(s). The student cannot select which courses they want to withdraw from and which they want to remain registered for when exercising this option. It must be on official letterhead with an original signature, stating the date(s) within the semester that the student's immediate family member was under medical care and that the student must withdraw to attend to the immediate

family member's medical condition. This letter must be submitted within the semester or no later than one academic year at the end of the term for which the withdrawal is being requested.

Immediate family member, in this instance, includes a spouse; a domestic partner, as defined in the NMSU Policy Manual 7.04; a child, parent or legal guardian; a sister or brother and a grandparent or a grandchild. Familial relationships that are created by law are also included (i.e. mother/father in law; half or step siblings); any other relationships can be considered on a case-by-case basis.

Once the information is reviewed a final determination will be made if the student is eligible for consideration of tuition or other refunds (Students receiving funds awarded by the University Financial Aid and Scholarship Services should be aware of policies regarding withdrawal from the University.) At the Las Cruces campus, medical withdrawal begins at the University Student Records. At all other campuses, medical withdrawal begins at the Student Services Office.

Withdrawal from NMSU

Withdrawal from any NMSU campus is an official procedure that must be:

1. Initiated by the student (using the Withdrawal form)
2. Have all necessary signatures (as indicated on the form)
3. Be approved and processed through the University Student Records

Students who withdraw from all courses for the semester should do through the University Student Records. However, students who are unable to come in person may submit an e-mail using their NMSU e-mail account to records@nmsu.edu. Students who leave without following the official procedure are graded appropriately by the instructor.

Applicable dates for the last day to withdrawal are published on the approved university academic calendar or under important dates at: http://registration.nmsu.edu (https://records.nmsu.edu/faculty-and-staff/academic-calendar.html).

A student who withdraws from all classes for the semester will retain access to their NMSU account per current policy but will lose access to other services and privileges available to enrolled students.

Financial information concerning drops and withdrawals can be found at https://uar.nmsu.edu/refunds/withdrawals.html. Financial Aid Recipients should contact University Financial Aid and Scholarship Services before withdrawing. Students receiving funds awarded by the University Financial Aid and Scholarship Services should be aware of policies regarding withdrawal from the University.

The Federal Higher Education Act requires the University to calculate a Return of Federal Student Aid Funds for students who withdraw (officially or unofficially) from all classes on or before the 60 percent attendance point in the semester. Using a pro-rata schedule, the percentage of the semester attended is used to calculate the amount of the student's earned versus unearned Federal student aid funds. The unearned portion of Federal student aid funds will be returned to the appropriate aid program(s). Students withdrawing from classes are responsible for payment of any balance due after the required return of Federal student aid funds.

Graduation Requirements

For specific graduation requirements for any degree offered at NMSU please see the Degrees, Majors, Minors and Other Academic Programs of Study (https://catalogs.nmsu.edu/nmsu/regulations-policies/#academicprogramsofstudytext) section, as well as the departmental sections for those requirements. These requirements will include the minimum GPA, total credits and specific course requirements for graduation.

Applying for a Degree

Any students that are in their final semester of classes are considered degree candidates and are required to submit an "Application for Degree" as well as pay graduation fees for each degree being sought. The application for Degree form is available online through the myNMSU website. It must be completed and submitted by the designated deadline for that semester. The fees for the Las Cruces campus are all listed in the Tuition, Fees and other Expenses (https://catalogs.nmsu.edu/nmsu/tuition-fees-expenses/) section of the catalog. Once a student submits the application, the fee will be included in the total cost for the semester or session in which the candidate anticipates completing their degree requirements.

If degree requirements are not completed during the semester/ session the student originally applied for, the student must then reapply and pay the appropriate fees. A $50 late fee applies to applications received after the application deadline, and no applications will be accepted after the posted deadline date.

A student must specify which catalog they are using for their degree requirements in order for the university to determine if the requirements are met and if a degree can be certified. The latest date for substitution or waiver of required courses for degree candidates is two weeks after the last date of registration for full or summer terms.

Attendance at the Commencement Ceremony

Commencement is a symbolic ceremony, that students can elect to participate in after they have applied for their degree (https://commencement.nmsu.edu/apply-to-graduate/). Participation in commencement does not, in itself, mean that a student is considered an NMSU graduate. In order to be awarded a degree, a student must fulfill university requirements as determined by academic colleges. The degree will reflect the graduation date from the application for degree in which all degree requirements were determined by the academic colleges.

The academic colleges will confirm students' eligibility to participate in the commencement ceremony that is held at the end of the fall and spring semesters. Eligible candidates who are in the process of completing their final degree requirements and degree recipients from the previous summer session will participate in the fall ceremony. Students who are in the process of completing their final degree requirements in the spring can participate in the spring ceremony. However, degree candidates who wish to participate in a spring commencement, prior to completing degree requirements in summer school may do so if they meet the following conditions:

1. Receive permission from the Academic Dean of their college
2. Show a minimum cumulative grade-point average of 2.0
3. Only need 12 or fewer credit hours to complete their degree requirements
4. These remaining credit hours are being offered in the upcoming summer schedule of classes

5. Submit a degree application and approved petition form (available in the Dean's office of the student's primary major) by the late application deadline to apply for a degree in the spring semester.

Academic Regalia

Each college may approve distinctive symbols to be worn by the top 10 percent of its graduates at commencement. Only one symbol may be worn by each graduate. In addition, the student with the highest honors in each college may wear a crimson- colored gown. No other symbolic additions to academic regalia are allowed without the approval of the Academic Deans Council.

Diploma

All fees and bills owed the university must be paid in full before a student may receive a diploma or official transcripts. The degree title and major(s) will be printed on the diplomas, in accordance to the degree application award, determined by the academic colleges. Academic honors will also be printed on the diplomas below the degree and major(s). The name on the diploma will reflect the student's current official NMSU records. Name changes are only processed for currently admitted students.

Diplomas will be mailed to graduates approximately eight weeks after the individual colleges certify the degree requirements and the final grades have been processed by University Student Records. The diploma will be mailed to the address specified on the degree application, unless an address change was requested before the last day of the semester.

Undergraduate Academic Standing

When a student does not maintain adequate academic standing, he/she is placed in Academic Warning. If the student's academic standing does not improve, the placement progresses to Academic Probation I. Continued unimproved academic standing moves a student into Academic Probation II, then finally, Academic Suspension. Each stage imposes more structure and limitations on the student in order to help them return to normal academic standing. The intent is not to punish, but to help the student return to normal academic standing and success. Since some of these limitations involve limitations on the number of credit hours, students on Probation or Suspension may be subject to loss of financial aid. It is the student's responsibility to determine the impact of their changed academic standing on their financial aid. Notification to students of academic warning, probation, or suspension appears on the student's grade report at the end of each grading period.

Undergraduate Academic Warning

Issued only once, the first time a student's cumulative GPA falls below a 2.0 while in good academic standing. The University Student Records will notify the student of the consequences should the cumulative grade point remain below a 2.0 at the conclusion of the semester. A student on Academic Warning remains eligible for all extracurricular activities as governed by the rules of the specific activity.

While under Academic Warning the following restrictions may apply:

1. The student cannot enroll in more than 15 hours of coursework during the semester.
2. The student may be required to enroll in a 3-credit hour special study skills/time management course specifically designed for students on Academic Warning, or an equivalent course approved by the appropriate associate dean or CAO of their campus.
3. Students may be required to enter into a contract with their advisor, approved by their department head that places further stipulations on Academic Warning. The contract may include, but is not limited to the following:
4. The student may be required to take at least one repeat course to try to improve their GPA.
5. Except for the special study skills/time management course, the student's coursework may be restricted to their major.
6. The student may be required to get tutoring help.
7. The student may be required to see an academic counselor on a specified time schedule.
8. The number of credit hours a student may register for may be restricted (due to extenuating circumstances such as the student's workload commitments).

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

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

Undergraduate Academic Probation I

This occurs when a student under Academic Warning has a semester GPA less than 2.0, and the cumulative GPA remains below 2.0 at the conclusion of the semester or if the student maintains a semester GPA greater than 2.0 while on Academic Probation I but the cumulative GPA is still less than 2.0. Academic Probation I will also occur if a student falls below a 2.0 cumulative GPA from Good Academic Standing if Academic Warning already occurred in a previous term.

Under Academic Probation I the following conditions apply:

1. The student cannot enroll in more than 13 hours of coursework during the semester. *Note: Students falling below 12 credits in any one semester will jeopardize their financial aid.* Should this occur, students should see the associate dean in their college as soon as possible to try to implement corrective measures.
2. The student may enter into a contract or individualized education plan with their advisor and be approved by the associate dean or CAO that place further stipulations on Academic Probation I. The associate dean or CAO may place the student on Academic Probation II or Academic Suspension should the student not adhere to the contract stipulations.
3. Students on Academic Probation receiving educational benefits from the Veterans' Administration must obtain counseling from the Military & Veterans Programs Office.
4. Students admitted under special provisions whose transcripts indicate less than a 2.0 GPA are admitted on Academic Probation I.

The student must maintain a semester GPA equal to or greater than 2.0 until such time that the cumulative GPA is greater than 2.0 at which time the student goes back to good academic standing. Until the transition happens the student remains on Academic Probation I. The student will be placed on Academic Probation II if they cannot maintain a 2.0 semester GPA, and the cumulative remains below a 2.0 GPA, while under

Academic Probation I. A student on Academic Probation I remains eligible for all extracurricular activities as governed by the rules of the specific activity.

Undergraduate Academic Probation II

Academic Probation II is issued in two ways.

- The first is when a student falls below a semester 2.0 GPA and the cumulative GPA remains below a 2.0 while on Academic Probation I.
- The second is when a student maintains a semester GPA greater than 2.0 while on Academic Probation II, but the cumulative GPA is still less than 2.0.

The following restrictions are in place for student's in Academic Probation II:

1. The student cannot enroll in more than 7 credit hours of coursework during the semester.
2. As with rule 2 under Academic Warning and Academic Probation I and at the discretion of the associate dean or CAO, the student will be required to enter into a contract with their advisor, approved by the associate dean or CAO, to place further stipulations on Academic Probation II.

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

The student must maintain a semester 2.0 GPA or higher until the cumulative GPA reaches a 2.0 or higher, at which time they are placed on good academic standing. A student unable to maintain a semester GPA of 2.0 or higher, and the cumulative remains below 2.0 GPA, while under Probation II will be placed on Academic Suspension. A student on Academic Probation II remains eligible for all extracurricular activities as governed by the rules of the specific activity.

Continuing in Probationary Status

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

Removal of Academic Probation

Such academic standing is removed when the cumulative GPA is raised to 2.0 or higher, with the following exceptions:

1. a transfer student may not remove probation by summer work alone;
2. If an I grade is removed after the student has enrolled, the new grade's effect on academic standing is based on its inclusion with grades for the term for which the student is enrolled;
3. exercise of the Adjusted Credit Option does not change academic status until subsequent grades are earned.

Academic Suspension

When a student does not achieve a semester 2.0 GPA or higher, and the cumulative remains below a 2.0 while under Academic Probation II, the student is placed on Academic Suspension. Students under Academic Suspension are not allowed to take NMSU courses while under suspension. Students on Academic Suspension must sit out a minimum of 1 semester and apply for re-admission.

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

Summer Attendance Impact on Academic Standing

A student may use summer classes to get a warning or probationary status removed. Students suspended at the close of the spring semester may have their Academic Suspension rescinded if they attend a summer session at NMSU or one of its Community College campuses. Such attendance must raise the combined spring semester and summer GPA to 2.0 or better. Under no circumstances may a student on Academic Warning or Academic Probation be allowed to register for an overload. The current academic status is continued if the student withdraws from the university and the probation or suspension status applies to all subsequent enrollments until the cumulative GPA is 2.0 or higher.

Graduate Academic Probation and Suspension

Graduate Academic Standing is based on the student's semester GPA and cumulative GPA. The student must maintain a cumulative GPA of 3.0 or higher to remain on Graduate Academic Good Standing. A student may not remain eligible for all extracurricular activities or Graduate Assistantship as governed by the rules of the specific activity.

Graduate Academic Probation I: A graduate student is placed on Graduate Academic Probation I when the student's cumulative GPA drops below 3.0 and the previous academic standing is Graduate Academic Good Standing. If a student on Probation I earns a semester GPA above 3.0 but the cumulative GPA remains below 3.0, the student continues on Graduate Academic Probation I

Graduate Academic Probation II: If the semester GPA of a continuing or re-admitted graduate student on Graduate Academic Probation I drops below 3.0 then the student is placed on Graduate Academic Probation II

Graduate Academic Suspension: If the graduate student cannot maintain a semester GPA of 3.0 or higher and the cumulative remains below 3.0 GPA while under Graduate Academic Probation II, the student will then be placed on Graduate Academic Suspension.

Students on Graduate Academic Suspension are barred from enrolling in graduate-level courses at NMSU while on suspension. Graduate students on Graduate Academic Suspension must sit out a minimum of one semester. Graduate students on suspension who wish to continue Graduate School after suspension must re-apply to the department and Graduate School. The student must also petition College Academic Dean or the Graduate School Dean, based on the major and degree the student is pursuing to be removed from Graduate Academic Suspension. At this time the graduate academic suspension status will be evaluated for possible readmission to the department. Should the suspension be lifted, the graduate student is placed on Graduate Academic Probation II or Graduate Re-admit on Probation II until such time that the graduate cumulative GPA equals or exceeds 3.0.

If you have questions about your academic standing, please contact your department academic advisor or Graduate Dean's office.

Student Academic Code of Conduct

The Student Academic Code of Conduct (SACC), applicable to both undergraduate and graduate students, provides procedures for reviewing and resolving of alleged or suspected academic misconduct within a reasonably prompt time frame. The full SACC is found in the university's published Administrative Rules and Procedures (ARP), specifically ARP 5.10 and ARP 5.11.

While it is essential to refer to the detailed governing rules in the ARP, the process is summarized as follows: An institution-wide Academic Conduct Officer is responsible for processing each case of alleged academic misconduct. The accused student is provided notice of the allegation and has the right to participate during the fact-finding process. The student may contest the investigative findings or sanction in a formal review before a university Hearing Panel. Either party to the matter has the right to a final appeal of the results or a Level II sanction to the Office of the Provost.

The SACC distinguishes between Level I Sanctions and Level II sanctions, depending upon the severity of the offense and other factors. The Level I sanction includes a formal warning. Graduate students' offenses and repeat undergraduate offenses are subject to a Level II sanction, even if less severe. Level II sanctions consist of a notation of academic misconduct on the student's academic transcript.

The full policy, examples of academic misconduct, report form and a flowchart of the procedures for resolving alleged student academic misconduct is available at:

Policies

- ARP 5-10 (https://arp.nmsu.edu/chapter-5/5-10.html)
- ARP 5-11 (https://arp.nmsu.edu/chapter-5/5-11.html)

Examples of Academic Misconduct and Report Form

- ARP Appendix 5.10-A (Examples) (https://arp.nmsu.edu/appendices/appendix-5-10-a.html)
- ARP Appendix 5.11-B (Form) (https://cm.maxient.com/reportingform.php?NewMexicoStateUniv&layout_id=15)

Flowchart of Procedures

- ARP Appendix 5.11-A (https://arp.nmsu.edu/pdf/Appendix-5-11-A.pdf)

Privacy Rights

The following information has been designated as directory information and is subject to release to the public under the Buckley Amendment (PL 98-380), "The Family Educational Rights and Privacy Act of 1974." student's name, class level, college and major, dates of attendance, degree(s) earned, honors and awards, address, telephone number, NMSU email address, Aggie ID number, most recent previous educational institution attended, place of birth, and some information about students involved in recognized activities and sports.

Other information regarding disclosure of student data is posted on the University Student Records website (https://records.nmsu.edu) and with University Student Records (USR), in compliance with the Act.

Requests for withholding directory information must be filed in writing with University Student Records . A student may choose to hide his/her address and phone number from the campus phonebook through the myNMSU portal. This will only hide the information from the public but the records will still be officially kept within University Student Records.

Social Security Numbers in Student Records

As required by law, social security numbers are collected from prospective and current students who are either applying for admission to the university or plan to seek employment on campus. The social security number is a confidential record and is maintained as such by the university in accordance with the Family Educational Rights and Privacy Act.

In addition, the university is mandated by federal tax regulations to provide tuition and fee payment information to the student and the Internal Revenue Service so that applicable educational tax credits may be computed. The social security number is required for tax reporting purposes.

Change in Demographic Information

Students wishing to make a legal name change, citizenship change, social security number update or a gender update can do so through the University Student Records (USR). All students will need to fill out the "Demographic Change Form" located at https://records.nmsu.edu/forms/inventory.html and provide one of the following documents to University Student Records. Legal name changes will only be processed for students currently enrolled at New Mexico State University.

1. **Legal name change**: students will need one legal documentation with the new name on it. This can be a Government Issued ID (drivers license, state card or valid passport), a Birth Certificate, a Court Order, a Marriage Certificate/Divorce Decree or a Certificate of Naturalization/I551 Card. *Note: Documentation is not required to add/delete hyphen, space, apostrophe, or to abbreviate a middle name to initial.*
2. **Citizenship change:** Certificate of Naturalization or I551 card.
3. **Social Security Number Update**: students will need to provide an original signed Social Security Card. Unsigned cards will not be accepted.
4. **Gender Update**: students will need to bring a Government Issued ID (drivers license, state ID card or valid passport) and a Revised Birth Certificate

Students may update their "preferred name", which is the name used in lieu of a student's legal name, on certain documents, such as, the email display name, learning management system, the phonebook, class rosters and advisee lists. This can be done by the student through the myNMSU portal and does not need to be done at the USR.

For more information about the specific documents that are needed please contact the University Student Records at (575) 646-3411.

Changes in Residency Status for Tuition Purposes

University Student Records (USR) does not determine the laws and rulings for determining Residency, these are state laws that USR simply

administers. An individual must establish legal residency in New Mexico before he or she is entitled to pay in-state tuition rates.

The student's initial residency status is determined at the time of admission, any changes to this status must be initiated by the student through USR. A continuing student, classified as a non-resident, who has satisfied the requirements to establish residency may submit a Petition for In-State Residency Tuition Classification along with the required supporting documentation to USR. Petitions must be filed on or before the third Friday of the semester for which the student is requesting resident tuition.

For specific information about the process of petitioning for In-State Residency or for information about who is eligible for residency for tuition purposes please visit the https://records.nmsu.edu/students/residency.html website.

Official Transcripts

An official transcript is the University's certified statement of your complete NMSU academic record in chronological order by semester and year. It includes the student's coursework, grades and any degrees that were awarded. Any credit hours earned through transfer work are listed as the equivalent course at NMSU. Grades are not transferred, nor are they used to calculate the NMSU grade point averages. Official transcripts will not be released if the student is in debt to the university.

Transcripts can be ordered online at https://records.nmsu.edu/forms/transcripts.html. A fee will apply, which may vary depending on the total number of transcripts ordered and the selected delivery method. Students can request two types of transcripts: an electronic version sent as a secure PDF or a printed hard copy delivered in a sealed envelope.

The name that will appear on the student's transcript will match the name on the student's official NMSU record. Name changes will only be processed for students currently enrolled at NMSU or any of its Community Colleges.

Purging of Student Files

All academic files for students who attend NMSU are kept for five (5) years following the student's final term enrolled. Only archival documentation will be retained. The files of students who do not enroll within one year after being admitted are destroyed.

Student Complaint Resolution

Students enrolled at New Mexico State University (NMSU)—whether taking a single course or enrolled full-time—have the right to submit a complaint or grievance on any issue or subject they deem important, without fear of retaliation or any other adverse action.

Students are encouraged to address their complaint or grievance first with the individual most directly connected to the issue, unless there are compelling reasons not to do so. For more information about student complaint and grievance policies, students can review Administrative Rules and Procedures 5.05 (https://arp.nmsu.edu/chapter-5/5-05.html). To file a student complaint, visit the NMSU Report (https://report.nmsu.edu/) website.

NC-SARA (State Authorization Reciprocity Agreement) - Distance Education

NMSU participates in the State Authorization Reciprocity Agreement (SARA) (https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fnc-sara.org%2F&data=05%7C02%7Cgdmart%40nmsu.edu%7C0591e30ed11041ab447e08de162ffaa8%7Ca3ec87a89fb84158ba8ff11bace1eba%7C1%7C0%7C638972592539740100%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXa%3D%3D%7C0%7C%7C%7C&sdata=dKgEhzpUZa9INZyCnDINRWmpW%2BaYWhbRGNpIrm76Anc%3D&reserved=0). SARA is an agreement among member states, districts, and territories that establishes national standards for interstate delivery of postsecondary distance education courses and programs.

If a distance education student located in a SARA member state has a complaint about NMSU, the student must first follow the university's standard grievance procedures described above. If the complaint remains unresolved after exhausting NMSU's internal processes, the student may then submit the complaint to the New Mexico SARA Portal Agency (https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fhed.nm.gov%2Fstudents-parents%2Fnc-sara&data=05%7C02%7Cgdmart%40nmsu.edu%7C0591e30ed11041ab447e08de162ffaa8%7Ca3ec87a89fb84158ba8ff11bace1eba%7C1%7C0%7C638972592539789040%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXa%3D%3D%7C0%7C%7C%7C%7C&sdata=DEEVhqxF6pXui2%2F8Nio7XZEtvNS79IlNWvGDorRvL2M%3D&reserved=0), the New Mexico Higher Education Department (NMHED). The SARA portal agency in the student's home state will be notified of the complaint and may assist as needed.

SARA complaints may include issues related to tuition, accreditation, licensure, or transfer of courses. Grade disputes and student conduct issues, however, are not covered under SARA. Examples of the types of complaints that may be brought to the SARA portal entity include:

- Misrepresentation in recruitment or marketing materials (e.g., admission requirements, tuition, fees, financial aid)
- Inaccuracy of job placement data
- Inaccuracy of information regarding the institution's accreditation or programmatic/specialized accreditation
- Misrepresentation about whether coursework meets relevant professional licensing requirements
- Inaccurate information regarding the transferability of credit to or from other institutions
- Operation of distance education programs inconsistent with expectations of Accreditors and/or the C-RAC Interregional Guidelines for the Evaluation of Distance Education

Higher Learning Commission (HLC)

If all other avenues have been exhausted, unresolved complaints may be filed with the Higher Learning Commission (HLC) (https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.hlcommission.org%2Ffor-students%2Ffile-a-complaint-against-an-institution%2F&data=05%7C02%7Cgdmart%40nmsu.edu%7C0591e30ed11041ab447e08de162ffaa8%7Ca3ec87a89fb84158ba8ff11bace1eba%7C1%7C0%7C638972592539806707%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXa%3D%3D%7C0%7C%7C%7C%7C&sdata=s2w8RohL61ehRZBeGoJPG4KTFk9Zc8mHxO30cT22snA%3D&reserved=0), NMSU's accrediting agency.

Graduation Requirements

A student may specify choice of either the current catalog at the time of admittance or a subsequent catalog, provided the selected catalog is not more than six years old when (s)he satisfies the requirements for

graduation. In all other cases, the student will be subject to the current catalog.

Students planning to graduate must clear all of their accounts with the DACC Cashiers Office. Delinquent accounts due to outstanding balances for tools, books, and personal materials should be cleared in the community college's Cashiers Office, located at the East Mesa Campus, Student Resources Building (DASR) 102B. 575-527-7513.

Graduation with Honors

See the section titled, "Recognition for Academic Achievement (https://catalogs.nmsu.edu/nmsu/recognition-academic-achievement/)."

Associate's Degree

Associate's degrees are of two types. The academic associate's degree prepares students to transfer to a baccalaureate program and generally includes credits toward the first two years of a four-year degree. Academic associate's degrees include the Associate of Arts, the Associate of Science, and other named degrees that link to a specific major (the Associate of Education, for example). Other associate degrees, typically called Associate of Applied Science, prepare students for entry into the workforce. Credits for these programs may or may not apply toward a four-year degree. Associate degree-seeking students who are interested in a dual degree should consult with their academic advisor. The Associate of Arts and the Associate of Science degrees cannot be earned together.

Students interested in transferring to NMSU or another four-year institution should check the appropriate sections of the university catalog for more information.

Requirements for the two-year associate degrees are found in the respective catalogs and sections concerning these degrees. The following requirements apply to all associate degrees:

1. **Minimum Credit Hours:** a minimum of 60 credits (excluding "N" suffix courses). Some programs of study require coursework in excess of the 60 credit-hour minimum.
2. **New Mexico General Education-** state mandated general education courses (as specified in General Education section); such courses are designed with a "G"
   a. For Associates Degrees: 32-35 credits
   b. For Applied Associates Degrees: 15-18 credits
3. **GPA requirement:** Students must have a cumulative GPA of 2.0 or better in all courses taken at NMSU or one of its community colleges.
   a. For Associates Degrees: students must earn a C- or better in classes they take to meet the Basic Skills requirement (ENGL 1110G and one of several math course options).
   b. For Applied Associate Degrees: Basic Skills requirements do not apply, but if the student plans to pursue a Bachelor's degree at any point in the future it would be highly recommended.
4. **Residency** - A minimum of 15 of the 60 credits for the associate's degree must be completed at NMSU or one of its community colleges. Individual academic programs may have additional requirements.
5. **Major**: All requirements for at least one major field of study as specified in the college and departmental sections of the respective catalog.

Associate Major

An associate major, consisting of at least 18 credits, may include courses from more than one department. Requirements for the Associate Majors are specified in the respective Community College Catalogs.

Certificate of Completion

The Certificate of Completion requires a minimum of 16 credits (other Title IV requirements must be met to be eligible for financial aid) and has been approved through the academic review process. These courses can be a subset of those required for a corresponding Applied Associates Degree. These certificates are recorded on the student's transcript.

Requirements for certificates are found in the respective catalogs and sections concerning these programs. The following requirements apply to all certificates.

1. **Minimum Credit Hours**: The number of credit hours varies from certificate to certificate. Students must complete the total number of credit hours outlined in the respective catalogs and sections describing these certificates.
2. **GPA requirement:** Students must successfully complete all courses for the certificate as outlined in the catalog. In addition, students must have a cumulative GPA of 2.0 or better in all courses taken at NMSU or one of its community colleges**.**
3. **Residency:** A minimum of 6 credits earned toward the certificate must be completed at NMSU or one of its community colleges.

Certificate of Achievement

The Certificate of Achievement is a program of study less than 16 credits and is not eligible for Federal financial aid. This Certificate provides employment-related and/or career-enhancing skills necessary to succeed in a job or a chosen field of study. These courses can be a subset of those required for a corresponding Certificate of Completion or Applied Associates Degree. These certificates are recorded on the student's transcript. The following requirements apply to all certificates of achievements:

1. **Minimum Credit Hours**: The number of credit hours varies from certificate to certificate but must be fewer than 16 credits. Students must successfully complete the total number of credit hours as outlined in the respective catalogs and sections describing these certificates.
2. **GPA requirement:** Students must successfully complete all courses for the certificate as outlined in the catalog and have a cumulative GPA of 2.0 or greater in all courses required for the certificate, but may have a cumulative GPA of less than 2.0 for courses taken outside of the certificate.
3. **Residency:** A minimum of 6 credits earned toward the certificate must be completed within the NMSU system including Las Cruces Main Campus, Global Campus, and community colleges. If the certificate requires fewer than 6 credits, all credits must be completed at NMSU or one of its community colleges. Individual academic programs may have additional requirements.

Filing Notice of Candidacy for a Degree or Certificate

Students of DACC are not required pay fees for submitting an application for a degree or certificate. Students are highly encouraged to seek the advisement and/or assistance of their academic advisor to apply for their chosen degree and/or certificate program through their my.nmsu.edu (https://my.nmsu.edu) account. Students are also strongly encouraged to submit their application for a degree or certificate by the stated

deadline in the NMSU Academic Calendar (https://records.nmsu.edu/faculty-and-staff/academic-calendar.html). The latest date for substitution or waiver of required courses for candidates for degrees is two weeks after the last date of registration for regular or summer terms. All tuition, fees and bills owed the university must be paid before a student may receive a diploma or transcript of credits.

Diploma

All fees and bills owed the university must be paid in full before a student may receive a diploma or official transcripts. The degree title and major(s) will be printed on the diplomas, in accordance to the degree application award, determined by the academic colleges. Academic honors will also be printed on the diplomas below the degree and major(s). The name on the diploma will reflect the student's current official NMSU records. Name changes are only processed for currently admitted students.

Diplomas will be mailed to graduates approximately eight weeks after the individual colleges certify the degree requirements and the final grades have been processed by University Student Records. The diploma will be mailed to the address specified on the degree application, unless an address change was requested before the last day of the semester.

Recognition of Degrees and Certificates

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

Transcript of Credits

Recognition of degrees earned is made on the official transcript (academic record) of students completing all requirements for a degree or certificate. The official transcript is available in printed or electronic form.

Printed copies of the transcript may be requested either at the NMSU University Students Records Office (575) 646-3411 or online, fees may apply. For more information, visit https://records.nmsu.edu/forms/transcripts/ (https://records.nmsu.edu/forms/transcripts.html). No transcript of credits will be released if the student owes a debt to DACC/NMSU.

Attendance at Commencement

DACC certifies eligibility to participate in commencement exercises for students planning to receive an associate degree and/or a certificate.

DACC holds commencement exercises at the end of the spring semester in May. Eligible candidates for degrees and certificates are encouraged to participate in the commencement ceremony. Students wishing to participate in spring commencement prior to completing degree requirements in the following summer session should call (575) 527-7530 for specific requirements.

Developmental Studies, First Year Experience, and General Education Courses

Developmental Studies Mission and Value Statement

Our mission is to provide general education and developmental instruction designed to meet individual educational goals and foster lifelong learning.

By providing a high-quality curriculum through interdisciplinary instruction that honors and recognizes the academic and workforce needs of our diverse community of lifelong learners, the DACC developmental studies programs

- are student-centered, and
- encourage students to become risk-taking and self-motivated learners.

Developmental/First Year Experience Courses

Developmental courses are designed to help students acquire the skills and attitudes necessary for college success. Developmental Studies includes English, math, reading, and study skills.

Developmental English, math and reading courses are identified by an "N" that appears after the course number. Developmental Studies courses are included on the transcript and will be calculated in the academic grade point average, but do not count toward a degree.

On the other hand, First Year Experience (FYEX) courses do carry academic credit and are designed to help students acquire the attitudes and strategies necessary for college success.

Students' placement in developmental studies courses will be determined by one or more of the following instruments: High School GPA, ACT, SAT, Accuplacer, Math Placement Exam, and locally developed tests or surveys. Students must earn a grade of *C-* or better in courses with "CCD-" prefixes to continue on to the next course.

Course descriptions appear in this catalog and are listed by course prefix (the letters appearing before a course number). The various prefixes represent different areas of study as shown:

- **CCDE:** Developmental English
- **CCDM:** Developmental Mathematics
- **FYEX:** First Year Experience

General Education Courses

General Education courses at NMSU are state-certified under the model for general education. This model emphasizes the development of five transferable, essential skills that all college graduates need for success:

- Communication
- Critical Thinking
- Quantitative Reasoning

- Personal and Social Responsibility
- Information and Digital Literacy

General education courses taught at DACC are lower-division, university-level courses that are the same as those taught at NMSU. They are identified by the "G" that appears after the course number. In addition to meeting DACC graduation requirements, they may also be used to meet requirements for bachelor's degree programs at NMSU.

General Education & Transfer Options

Many of the credits earned at Doña Ana Community College can be applied toward degrees at New Mexico State University, as well as at other colleges and universities. It must be noted, however, that courses are not automatically accepted for transfer credit, and they frequently must be evaluated by the receiving institution before transfer credit can be given. Because of such uncertainties, it is imperative for students considering transferring to another college or university to consult with their academic advisor prior to enrolling in courses at DACC.

The menu items on the left, under "Applying DACC Credit Towards Bachelor's Degree Programs," link to information about courses and programs for which there are established transfer agreements.

General Education

The following core matrix of approved courses are guaranteed to transfer and meet general education requirements at any New Mexico public college or university. The New Mexico General Education Requirements commonly offered at DACC are listed here. For a complete list of all NMSU courses that meet the New Mexico General Education Requirements, consult the current *NMSU Undergraduate Catalog*.

Associates Degree

The New Mexico General Education Requirements

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

In accordance to state law (Post-Secondary Education Articulation Act) (https://www.srca.nm.gov/parts/title05/05.055.0006.html), the New Mexico Higher Education Department has established a state-wide model for General Education. Within the General Education model, is nine credits of electives that will be determined at an institutional level. The current approved NMSU General Education courses are listed below under each of the six general education areas.

Prefix	Title	Credits
Area I: Communications		**10**
Select one course from each sub group:		
English Composition-Level 1		
ENGL 1110G	Composition I	
ENGL 1110H	Composition I Honors	
ENGL 1110M	Composition I Multilingual	
English Composition-Level 2		
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional and Technical Communication	
ENGL 2210H	Professional and Technical Communication Honors	
ENGL 2210M	Professional and Technical Communication for Multilingual Students	
ENGL 2215G	Advanced Technical and Professional Communication	
ENGL 2221G	Writing in the Humanities and Social Science	
Oral Communication		
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HNRS 2175G	Introduction to Communication Honors	
Area II: Mathematics		**3-4**
MATH 1130G	Survey of Mathematics	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
MATH 1521H	Calculus and Analytic Geometry II Honors	
MATH 2134G	Fundamentals of Elementary Math II	
MATH 2350G	Statistical Methods	
MATH 2530G	Calculus III	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences [1]		**10-11**
Area III: Laboratory Sciences		
AGRO 1110G/ HORT 1115G	Introduction to Plant Science (Lecture & Lab)	
ANTH 1135G & ANTH 1135L	Introduction to Biological Anthropology and Introduction to Biological Anthropology Lab	
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
CSCI 1115G	Modern Computing in Practice	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
ENVS 1110G	Environmental Science I	
EPWS 1110G & EPWS 1110L	Applied Biology and Applied Biology Lab	
FSTE 2110G	Food Science I	
FWCE 1110G	Introduction to Natural Resources Management	
GEOG 1110G	Physical Geography	

GEOG 1115G	Maps and GIScience
GEOL 1110G	Physical Geology
HNRS 1135G & HNRS 1135L	Introduction to Biological Anthropology and Introduction to Biological Anthropology Lab
HNRS 2116G	Earth, Time and Life
HORT 1115G	Introductory Plant Science
PHYS 1115G	Survey of Physics with Lab
PHYS 1125G	Physics of Music
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I
PHYS 2240G & PHYS 2240L	General Physics for Life Science II and Laboratory to General Physics for Life Science II
Area IV: Social/Behavioral Sciences	
AEEC 2130G	Survey of Food and Agricultural Issues
ANTH 1115G	Introduction to Anthropology
ANTH 1140G	Introduction to Cultural Anthropology
ANTH 1160G	World Archaeology
ANTH 2140G	Indigenous Peoples of North America
BEST 1110G	Introduction to Borderlands and Ethnic Studies
BEST 2750G	Introduction to Palestine Studies: History, Land, Resistance, and Justice
BUSA 2230G	Human Relations in Business
CEPY 1120G	Human Growth and Behavior
CJUS 1110G	Introduction to Criminal Justice
ECON 1110G	Survey of Economics
ECON 2110G	Macroeconomic Principles
ECON 2120G	Microeconomics Principles
ECON 2120H	Principles of Microeconomics Honors
FSTE 2130G	Survey of Food and Agricultural Issues
GEOG 1120G	World Regional Geography
GEOG 1130G	Human Geography
GEOG 1150G	Introduction to Environmental Studies
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies
GNDR 2120G	Representing Women Across Cultures
HNRS 2161G	Window of Humanity
HNRS 2170G	The Human Mind
HNRS 2172G	Archaeology: Search for the Past
HNRS 2180G	Citizen and State Great Political Issues
HRTM 1120G	Introduction to Tourism
JOUR 105G	Media and Society
LING 2110G	Introduction to the Study of Language and Linguistics
PHLS 1110G	Personal Health & Wellness
PHLS 1110H	Personal Health and Wellness Honors
POLS 1110G	Introduction to Political Science
POLS 1120G	American National Government
POLS 1130G	Issues in American Politics
POLS 2120G	International Relations
PSYC 1110G	Introduction to Psychology
SOCI 1110G	Introduction to Sociology
SOCI 2310G	Contemporary Social Problems
SOWK 2110G	Introduction to Human Services & Social Work
Area V: Humanities	**3**
AFST 1110G	Introduction to Africana Studies
AFST 2110G	African American History
AFST 2140G	Black Women in the African Diaspora
CCST 2110G	Introduction to Chicana and Chicano Studies
ENGL 1410G	Introduction to Literature
ENGL 2520G	Film as Literature
ENGL 2610G	American Literature I
ENGL 2620G	American Literature II
ENGL 2630G	British Literature I
ENGL 2640G	British Literature II
ENGL 2650G	World Literature I
FREN 2120G	French IV
FREN 2135G	Frontiers and Border Crossings in the French-Speaking World
HIST 1110G	United States History I
HIST 1120G	United States History II
HIST 1130G	World History I
HIST 1140G	World History II
HIST 1150G	Western Civilization I
HIST 1160G	Western Civilization II
HIST 1170G	Survey of Early Latin America
HIST 1180G	Survey of Modern Latin America
HIST 2245G	Islamic Civilizations to 1800
HIST 2250G	East Asia to 1600
HIST 2251G	East Asia since 1600
HMRT 2110G	Introduction to Human Rights
HMRT 2175G	Border Justice & Human Rights
HNRS 2117G	The World of the Renaissance: Discovering the Modern
HNRS 2140G	Plato and the Discovery of Philosophy
HNRS 2141G	Bamboo and Silk: The Fabric of Chinese Literature
HNRS 2145G	Celtic Literature
HNRS 2160G	New Testament as Literature
HNRS 2165G	Introduction to Humanities in the 21st Century
HNRS 2190G	Claiming a Multiracial Past
NATV 1150G	Introduction to Native American Studies
PHIL 1115G	Introduction to Philosophy
PHIL 1120G	Logic, Reasoning, & Critical Thinking
PHIL 1140G	Philosophy and World Religions
PHIL 1145G	Philosophy, Law, and Ethics
PHIL 2110G	Introduction to Ethics
PHIL 2230G	Philosophical Thought
Area VI: Creative and Fine Arts	**3**
ARTH 1115G	Orientation in Art
ARTH 2110G	History of Art I
ARTH 2120G	History of Art II
ARTS 1145G	Visual Concepts
DANC 1110G	Dance Appreciation
ENGL 2310G	Introduction to Creative Writing
HNRS 2114G	Music in Time and Space

HNRS 2115G	Encounters with Art	
HNRS 2130G	Shakespeare on Film	
HNRS 2178G	Theatre: Beginnings to Broadway	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
THEA 1210G	Acting for Non-Majors	
General Education Elective		**3-4**
This requirement can be met with any "G" course in any area, excluding Area I: Communications and any crosslisted courses, that exceeds the minimum requirement.		
or		
ENGR 100G	Introduction to Engineering	
or ENGR 100GH	Introduction to Engineering Honors	
Total Credits		**32-35**

[1] For Area III: Laboratory Sciences and Area IV: Social/Behavioral Sciences, students ***must*** take one course from each for a total of 7 credits.
Students will then take an additional course in either Area III or Area IV for 3-4 credits depending on the student's selection (i.e. Area III is 4 credits, Area IV is 3 credits).

Alternatives for Meeting General Education Requirements (9 credit hour rule)

Students taking nine or more credits in a specific subject area, even though the courses are not designated as General Education courses, will have met the general education requirements for that subject area. The courses can meet both major and general education requirements for the degree. For example, a student may complete ARTS 2610 Drawing II, ARTS 1240 Design I and ARTS 1250 Design II (9 hours) and thereby satisfy one course from the Area VI: Creative and Fine Arts category even though none of those courses carries a G suffix. Please check with the Center for Academic Advising and Student Support.

Transferring Courses Within Degree Programs

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

Student Responsibility in the Transfer Process

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

Transfer Credit Appeal Process

All New Mexico public post-secondary institutions are required to establish policies for receiving and resolving complaints from students or from other complainants regarding the transfer of coursework from other public institutions in the state. A copy of NMSU's transfer credit policy may be obtained from the University Student Records Office, or from:

Deputy Secretary for Academic Affairs
Higher Education Dept.
2048 Galisteo St.
Santa Fe, NM 87505-2100

Applied Associates Degree

The New Mexico General Education Requirements

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

In accordance to state law (Post-Secondary Education Articulation Act) (https://www.srca.nm.gov/parts/title05/05.055.0006.html), the New Mexico Higher Education Department has established a state-wide model for General Education. Within the General Education model, is nine credits of electives that will be determined at an institutional level. The current approved NMSU General Education courses are listed below under each of the six general education areas.

Prefix	Title	Credits
Select one course from four of the following six content areas for a total of 12-14 credits		**12-14**
Each course selected must be from a different area and students cannot take multiple courses in the same area.		
Area I: Communications		
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
ENGL 1110G	Composition I	
ENGL 1110H	Composition I Honors	
ENGL 1110M	Composition I Multilingual	
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional and Technical Communication	
ENGL 2210H	Professional and Technical Communication Honors	
ENGL 2210M	Professional and Technical Communication for Multilingual Students	
ENGL 2215G	Advanced Technical and Professional Communication	
ENGL 2221G	Writing in the Humanities and Social Science	
HNRS 2175G	Introduction to Communication Honors	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
MATH 1521H	Calculus and Analytic Geometry II Honors	
MATH 2134G	Fundamentals of Elementary Math II	
MATH 2350G	Statistical Methods	
MATH 2530G	Calculus III	

Area III: Laboratory Sciences	
AGRO 1110G/ HORT 1115G	Introduction to Plant Science (Lecture & Lab)
ANTH 1135G & ANTH 1135L	Introduction to Biological Anthropology and Introduction to Biological Anthropology Lab
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory
ASTR 1120G	The Planets Lecture & Laboratory
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)
BIOL 1190G	Contemporary Problems in Biology
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory
CSCI 1115G	Modern Computing in Practice
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors
EPWS 1110G & EPWS 1110L	Applied Biology and Applied Biology Lab
ENVS 1110G	Environmental Science I
FSTE 2110G	Food Science I
FWCE 1110G	Introduction to Natural Resources Management
GEOG 1110G	Physical Geography
GEOL 1110G	Physical Geology
HNRS 1135G & HNRS 1135L	Introduction to Biological Anthropology and Introduction to Biological Anthropology Lab
HNRS 2116G	Earth, Time and Life
HORT 1115G	Introductory Plant Science
PHYS 1115G	Survey of Physics with Lab
PHYS 1125G	Physics of Music
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I
PHYS 2240G & PHYS 2240L	General Physics for Life Science II and Laboratory to General Physics for Life Science II
Area IV: Social/Behavioral Sciences	
AEEC/FSTE 2130G	Survey of Food and Agricultural Issues
ANTH 1115G	Introduction to Anthropology
ANTH 1140G	Introduction to Cultural Anthropology
ANTH 1160G	World Archaeology
ANTH 2140G	Indigenous Peoples of North America
BEST 1110G	Introduction to Borderlands and Ethnic Studies
BUSA 2230G	Human Relations in Business
CEPY 1120G	Human Growth and Behavior
CJUS 1110G	Introduction to Criminal Justice
ECON 1110G	Survey of Economics
ECON 2110G	Macroeconomic Principles
ECON 2120G	Microeconomics Principles
ECON 2120H	Principles of Microeconomics Honors
FSTE 2130G	Survey of Food and Agricultural Issues
GEOG 1120G	World Regional Geography
GEOG 1130G	Human Geography
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies
GNDR 2120G	Representing Women Across Cultures
HNRS 2161G	Window of Humanity
HNRS 2170G	The Human Mind
HNRS 2172G	Archaeology: Search for the Past
HNRS 2180G	Citizen and State Great Political Issues
HRTM 1120G	Introduction to Tourism
JOUR 105G	Media and Society
LING 2110G	Introduction to the Study of Language and Linguistics
PHLS 1110G	Personal Health & Wellness
PHLS 1110H	Personal Health and Wellness Honors
POLS 1110G	Introduction to Political Science
POLS 1120G	American National Government
POLS 1130G	Issues in American Politics
POLS 2120G	International Relations
PSYC 1110G	Introduction to Psychology
SOCI 1110G	Introduction to Sociology
SOCI 2310G	Contemporary Social Problems
SOWK 2110G	Introduction to Human Services & Social Work
Area V: Humanities	
AFST 1110G	Introduction to Africana Studies
AFST 2110G	African American History
AFST 2140G	Black Women in the African Diaspora
CCST 2110G	Introduction to Chicana and Chicano Studies
ENGL 1410G	Introduction to Literature
ENGL 2520G	Film as Literature
ENGL 2610G	American Literature I
ENGL 2620G	American Literature II
ENGL 2630G	British Literature I
ENGL 2640G	British Literature II
ENGL 2650G	World Literature I
FREN 2120G	French IV
FREN 2135G	Frontiers and Border Crossings in the French-Speaking World
HIST 1110G	United States History I
HIST 1120G	United States History II
HIST 1130G	World History I
HIST 1140G	World History II
HIST 1150G	Western Civilization I
HIST 1160G	Western Civilization II
HIST 2245G	Islamic Civilizations to 1800

HIST 2250G	East Asia to 1600	
HIST 2251G	East Asia since 1600	
HNRS 2117G	The World of the Renaissance: Discovering the Modern	
HNRS 2140G	Plato and the Discovery of Philosophy	
HNRS 2141G	Bamboo and Silk: The Fabric of Chinese Literature	
HNRS 2145G	Celtic Literature	
HNRS 2160G	New Testament as Literature	
HNRS 2165G	Introduction to Humanities in the 21st Century	
HNRS 2190G	Claiming a Multiracial Past	
NATV 1150G	Introduction to Native American Studies	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
Area VI: Creative and Fine Arts		
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTH 2120G	History of Art II	
ARTS 1145G	Visual Concepts	
DANC 1110G	Dance Appreciation	
ENGL 2310G	Introduction to Creative Writing	
HNRS 2114G	Music in Time and Space	
HNRS 2115G	Encounters with Art	
HNRS 2130G	Shakespeare on Film	
HNRS 2178G	Theatre: Beginnings to Broadway	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
THEA 1210G	Acting for Non-Majors	
General Education Elective		**3-4**
This requirement can be met with any "G" course in any area, excluding any crosslisted courses.		
or		
ENGR 100G	Introduction to Engineering	
or ENGR 100GH	Introduction to Engineering Honors	
Total Credits		**15-18**

Alternatives for Meeting General Education Requirements (9 credit hour Rule)

Students taking nine or more credits in a specific subject area, even though the courses are not designated as General Education courses, will have met the general education requirements for that subject area. The courses can meet both major and general education requirements for the degree. For example, a student may complete ARTS 2610 Drawing II, ARTS 1240 Design I and ARTS 1250 Design II (9 hours) and thereby satisfy one course from the Area VI: Creative and Fine Arts category even though none of those courses carries a G suffix. Please check with the Center for Academic Advising and Student Support.

Applying DACC Credit Toward Bachelor's Degree Programs

Many DACC courses may be accepted at NMSU and other New Mexico public colleges and universities. When planning to apply DACC credits toward a bachelor's degree program, it is best to consult with advisors at both DACC and the university that has been selected for continued study.

Articulated Programs of Study

A DACC program is said to be "articulated" when, with adequate planning, a majority of the credits earned in the DACC program may be used to satisfy degree requirements for a baccalaureate degree at another institution. Articulation plans have been developed for the following DACC programs:

- **Any applied associate degree** to the Bachelor of Applied Studies offered by the NMSU College of Arts and Sciences
- **Any transfer associate degree** to the Bachelor of Individualized Studies offered by the NMSU College of Arts and Sciences
- **Associate of Arts Degree** to the NMSU College of Arts and Sciences
- **Associate of Science Degree** to the NMSU College of Arts and Sciences
- **Computer- and technology-related associate degree programs** to the NMSU Information and Communication Technology bachelor's degree program in the Engineering Technology Department, NMSU College of Engineering
- **Computer- and technology-related associate degree programs** to programs leading to the Bachelor of Applied Science in Operations Management and Supervision and the Bachelor of Applied Science in Career and Technical Teacher Education at Western New Mexico University
- **Criminal Justice** to the Department of Criminal Justice in the NMSU College of Arts and Sciences
- **Dental Hygiene** to the Bachelor of Science in Dental Hygiene at the University of New Mexico
- **Early Childhood Education and Education programs** to the NMSU College of Health, Education and Social Transformation
- **General Engineering** to bachelor's degree programs in the NMSU College of Engineering
- **Hospitality Services Management** to the School of Hotel, Restaurant and Tourism Management in the NMSU College of Agricultural, Consumer and Environmental Sciences
- **Pre-Architecture** to the UNM School of Architecture and Planning and to Texas Tech University
- **Pre-Business** to the NMSU College of Business
- **Public Health** to the Department of Health Science, NMSU College of Health Education and Social Transformation

Partially Articulated Programs

A significant number of the credits earned in the following associate degree programs at DACC will apply toward meeting bachelor's degree requirements of specified departments at NMSU:

- **Any associate degree in allied health** to the Department of Public Health Science in the NMSU College of Health, Education and Social Transformation
- **Aerospace Technology** to the Mechanical Engineering Technology bachelor's degree program in the NMSU College of Engineering
- **Automation and Manufacturing Technology** to the Mechanical Engineering Technology bachelor's degree program in the NMSU College of Engineering
- **Business Management** to the Department of Agricultural Economics and Agricultural Business in the NMSU College of Agricultural, Consumer and Environmental Sciences

- **Civil/Survey Technology (Drafting and Graphics Technologies Program)** to the Civil Engineering Technology bachelor's degree program in the NMSU College of Engineering
- **Computer- and technology-related associate degree programs** to the Information Engineering Technology bachelor's degree program in the Department of Engineering Technology, NMSU College of Engineering
- **Creative Media Technology programs** to the Bachelor of Creative Media at the NMSU Creative Media Institute
- **Electronics Technology** to the Department of Engineering Technology in the NMSU College of Engineering
- **Hospitality and Tourism** to the School of Hospitality, Restaurant, and Tourism Management, NMSU College of Agricultural, Consumer, and Environmental Sciences
- **Mechanical Drafting and Solid Modeling** to the Mechanical Engineering Technology bachelor's degree in the NMSU College of Engineering
- **Nursing** to the Department of Nursing, NMSU College of Health, Education and Social Transformation
- **Surveying Technology** to the Geomatics bachelor's degree program in the NMSU College of Engineering
- **Career Technical Education programs.** Those planning to teach at the secondary level may apply between 18 and 32 credits of technical subject matter earned in the following DACC programs toward the technology teaching licensure program offered within the bachelor of science degree program in Agricultural and Extension Education (NMSU College of Agricultural, Consumer, and Environmental Sciences):
  - Automation and Manufacturing Technology;
  - Automotive Technology;
  - Building Construction Technology;
  - Computer and Information Technology;
  - Creative Media Technology;
  - Drafting and Design Technologies;
  - Electrical Programs;
  - Electronics Technology;
  - Environmental and Energy Technologies;
  - Heating, Ventilation, Air Conditioning and Refrigeration;
  - Water Technology; and
  - Welding Technology.

NOTE: Students who plan to transfer to another institution should always consult that institution's catalog for the most current information.

Common Course Numbering Crosswalk

The Post-secondary Education Articulation Act (https://hed.state.nm.us/resources-for-schools/public_schools/nm-course-numbering-system/) charges the New Mexico Higher Education Department with establishing and maintaining a common course numbering system, in consultation with faculty. To this end, the common course numbering system includes both equivalent (Common) and unique courses.

- **Common Course:** is any course that is offered at multiple institutions throughout the state, has the same prefix/number combination, the same title, the same description, and at least 80% of the learning outcomes for the course are the same.
- **Unique Course:** is any course that is unique to the institution (the NMSU system), has a prefix/number combination, title, description and learning outcomes that are unique to the institution (the NMSU System).

The table below shows the previous NMSU System-wide course prefix/number combination, the future Common Course Numbering prefix/number combination, and an indicator of whether the course is deemed Common or Unique throughout the state.

Current Course	Past Course	Course Type Indicator
ACCT-ACCOUNTING		
ACCT 1115	OATS 120	Common
ACCT 1120	OATS 121	Common
ACCT 1150	OATS 205	Common
ACCT 1410	OATS 244	Common
ACCT 2110	ACCT 221	Common
ACCT 2120	ACCT 222	Common
ACCT 2170	OATS 140	Common
ACCT 2220	OECS 200	Common
ACCT 2520	OATS 241	Common
ACES-AGRI,CONSUMER & ENV SCIE		
ACES 1120	ACES 111	Unique
ACES 1210	ACES 121	Unique
ACES 1220	ACES 199	Unique
ACOM-AG COMMUNICATION		
ACOM 1110	AXED 1120	Unique
ACOM 1130G	AXED 2120G	Unique
ACOM 3110	AXED 360	N/A
AEEC-AGRICULTURAL ECONOMICS		
AEEC 1110	AG E 100	Common

AEEC 1120	AG E 101	Unique
AEEC 2110	AG E 236	Unique
AEEC 2120	AG E 260	Unique
AEEC 2130G	AG E 210G	Unique
AEEC 2140	AG E 250	Unique
AEEC 2996	AG E 200	Unique
AEEC 315V	AEEC 3110V	N/A
AEEC 337V	AEEC 3120V	N/A
AEEC 384V	AEEC 3130V	N/A
AEEC 445V	AEEC 3140V	N/A
AEEC 305	AEEC 3210	N/A
AEEC 311	AEEC 3220	N/A
AEEC 313	AEEC 3230	N/A
AEEC 314	AEEC 3240	N/A
AEEC 340	AEEC 3250	N/A
AEEC 342	AEEC 3260	N/A
AEEC 350	AEEC 3270	N/A
AEEC 385	AEEC 3280	N/A
AEEC 300	AEEC 3998	N/A
AEEC 425	AEEC 4110	N/A
AEEC 400	AEEC 4410	N/A
AEEC 451	AEEC 4510	N/A
AEEC 452	AEEC 4520	N/A
AEEC 456	AEEC 4530	N/A
AEEC 458	AEEC 4540	N/A
AEEC 470	AEEC 4550	N/A
AEEC 420	AEEC 4997	N/A
AEEC 499	AEEC 4999	N/A
AEEC 503	AEEC 5110	N/A
AEEC 501	AEEC 5120	N/A
AEEC 502	AEEC 5130	N/A
AEEC 545	AEEC 5140	N/A
AEEC 506	AEEC 5150	N/A
AEEC 520	AEEC 5210	N/A
AEEC 511	AEEC 5220	N/A
AEEC 522	AEEC 5230	N/A
AEEC 540	AEEC 5240	N/A
AEEC 550	AEEC 5320	N/A
AEEC 551	AEEC 5330	N/A
AEEC 556	AEEC 5340	N/A
AEEC 575	AEEC 5350	N/A
AEEC 585	AEEC 5360	N/A
AEEC 597	AEEC 5991	N/A
AEEC 598	AEEC 5994	N/A
AEEC 590	AEEC 5996	N/A
AEEC 596	AEEC 5997	N/A
AEEC 593	AEEC 5998	N/A
AEEC 594	AEEC 5998	N/A
AEEC 595	AEEC 5998	N/A
AEEC 599	AEEC 5999	N/A
AGRO-AGRONOMY		
AGRO 1110G	AGRO 100G	Common

AGRO 2160	AGRO 250	Unique
AGRO 2996	AGRO 200	Unique
AIML-ARTIFICIAL INTELLIGENCE MACHINE LEARNING		
AIML 1310	CSEC 115	Common
AIML 1320	CSEC 190	Common
AIML 2310	CSEC 191	Common
ANSC-ANIMAL SCIENCE		
ANSC 1110	ANSC 220	Common
ANSC 1120	ANSC 100	Common
ANSC 1120H	ANSC 100 H	Unique
ANSC 1120L	ANSC 100 L	Unique
ANSC 1130	ANSC 190	Unique
ANSC 1140	ANSC 205	Unique
ANSC 1160	ANSC 103	Unique
ANSC 1170	ANSC 261	Unique
ANSC 1180	ANSC 112	Unique
ANSC 2120	ANSC 288	Common
ANSC 2130	ANSC 290	Common
ANSC 2140	ANSC 285	Unique
ANSC 2150	ANSC 289	Unique
ANSC 2310	ANSC 262	Common
ANSC 2330	ANSC 200	Common
ANSC 2340	ANSC 201	Common
ANSC 2996	ANSC 250	Unique
ANTH-ANTHROPOLOGY		
ANTH 1115G	ANTH 201G	Common
ANTH 1135G	ANTH 130G	Common
ANTH 1135L	ANTH 130GL	Common
ANTH 1136	ANTH 118	Unique
ANTH 1137G	ANTH 120G	Unique
ANTH 1140G	ANTH 125G	Common
ANTH 1160G	ANTH 202G	Common
ANTH 2140G	ANTH 115	Common
ANTH 2150	ANTH 116	Common
ANTH 2996	ANTH 297	Unique
ARCH-ARCHITECTURE		
ARCH 1105	ARCT 150	Unique
ARCH 1110	ARCT 104	Common
ARCH 1112	ARCT 124	Unique
ARCH 1114	ARCT 154	Unique
ARCH 1120	ARCT 101	Common
ARCH 1121	ARCT 170	Unique
ARCH 1122	ARCT 204	Unique
ARCH 1220	ARCT 111	Unique
ARCH 2111	ARCT 210	Unique
ARCH 2113	ARCT 224	Unique
ARCH 2114	ARCT 250	Unique
ARCH 2115	ARCT 254	Unique
ARCH 2116	ARCT 260	Unique
ARCH 2122	ARCT 274	Unique
ARCH 2124	ARCT 295	Unique
ARCH 2220	ARCT 211	Unique

ARCH 2994	ARCT 264	Unique
ARCH 2995	ARCT 291	Unique
ARCH 2996	ARCT 290	Unique
ARSC-ARTS & SCIENCES		
ARSC 1115	A S 101	Unique
ARSC 1120	A S 103	Unique
ARSC 2996	A S 200	Unique
ARSC 3110	A S 305	N/A
ARSC 3130	A S 350	N/A
ARSC 3996	A S 300	N/A
ARSC 4550	A S 480	N/A
ARSC 4555	A S 490	N/A
ARTH-ART HISTORY		
ARTH 1115G	ART 101G	Common
ARTH 2110G	ART 295G	Common
ARTH 2120G	ART 296G	Common
ARTH 2136	ARTS 2671	Unique
ARTH 300	ART 300	N/A
ARTH 305	ART 305	N/A
ARTH 310	ART 310	N/A
ARTH 311	ART 311	N/A
ARTH 312	ART 312	N/A
ARTH 321	ART 321	N/A
ARTH 323	ART 323	N/A
ARTH 325	ART 325	N/A
ARTH 330	ART 330	N/A
ARTH 336	ART 336	N/A
ARTH 338	ART 338	N/A
ARTH 339	ART 339	N/A
ARTH 342	ART 342	N/A
ARTH 343	ART 343	N/A
ARTH 390	ART 390	N/A
ARTH 444	ART 444	N/A
ARTH 477	ART 477	N/A
ARTH 478	ART 478	N/A
ARTH 479	ART 479	N/A
ARTH 500	ART 500	N/A
ARTH 510	ART 510	N/A
ARTH 511	ART 511	N/A
ARTH 521	ART 521	N/A
ARTH 525	ART 525	N/A
ARTH 536	ART 536	N/A
ARTH 538	ART 538	N/A
ARTH 539	ART 539	N/A
ARTH 542	ART 542	N/A
ARTH 543	ART 543	N/A
ARTH 578	ART 578	N/A
ARTH 579	ART 579	N/A
ARTH 597	ART 597	N/A
ARTH 599	ART 599	N/A
ARTS-ART STUDIO		
ARTS 1121	ART 125	Unique

ARTS 1145G	ART 110G	Unique
ARTS 1240	ART 155	Common
ARTS 1250	ART 156	Common
ARTS 1310	ART 275	Common
ARTS 1320	ART 276	Common
ARTS 1410	ART 270	Common
ARTS 1520	ART 161	Common
ARTS 1520	ART 272	Common
ARTS 1610	ART 150	Common
ARTS 1610	ART 250	Common
ARTS 1630	ART 260	Common
ARTS 1710	ART 280	Common
ARTS 1711	ART 160	Unique
ARTS 1712	ART 163	Unique
ARTS 1713	ART 165	Unique
ARTS 1810	ART 285	Common
ARTS 2010	ART 267	Common
ARTS 2355	ART 286	Unique
ARTS 2410	OEPT 100	Common
ARTS 2430	OEPT 155	Common
ARTS 2431	ART 255	Unique
ARTS 2440	OEPT 120	Unique
ARTS 2610	ART 151	Common
ARTS 2611	ART 269	Unique
ARTS 2616	ART 252	Unique
ARTS 2630	ART 261	Common
ARTS 2635	ART 262	Common
ARTS 2839	ART 265	Unique
ARTS 2993	ART 208	Unique
ARTS 2996	ART 294	Unique
ARTS 308	ART 308	N/A
ARTS 340	ART 340	N/A
ARTS 350	ART 350	N/A
ARTS 355	ART 355	N/A
ARTS 360	ART 360	N/A
ARTS 365	ART 365	N/A
ARTS 370	ART 370	N/A
ARTS 373	ART 373	N/A
ARTS 374	ART 374	N/A
ARTS 375	ART 375	N/A
ARTS 376	ART 376	N/A
ARTS 385	ART 385	N/A
ARTS 394	ART 394	N/A
ARTS 401	ART 401	N/A
ARTS 402	ART 402	N/A
ARTS 403	ART 403	N/A
ARTS 404	ART 404	N/A
ARTS 440	ART 440	N/A
ARTS 450	ART 450	N/A
ARTS 455	ART 455	N/A
ARTS 465	ART 465	N/A
ARTS 470	ART 470	N/A

ARTS 474	ART 474	N/A
ARTS 475	ART 475	N/A
ARTS 485	ART 485	N/A
ARTS 490	ART 490	N/A
ARTS 494	ART 494	N/A
ARTS 495	ART 495	N/A
ARTS 496	ART 496	N/A
ARTS 499	ART 499	N/A
ARTS 501	ART 501	N/A
ARTS 502	ART 502	N/A
ARTS 503	ART 503	N/A
ARTS 504	ART 504	N/A
ARTS 540	ART 540	N/A
ARTS 550	ART 550	N/A
ARTS 555	ART 555	N/A
ARTS 560	ART 560	N/A
ARTS 565	ART 565	N/A
ARTS 570	ART 570	N/A
ARTS 575	ART 575	N/A
ARTS 576	ART 576	N/A
ARTS 580	ART 580	N/A
ARTS 585	ART 585	N/A
ARTS 595	ART 595	N/A
ARTS 596	ART 596	N/A
ARTS 598	ART 598	N/A
ASTR-ASTRONOMY		
ASTR 1115G	ASTR 110G	Common
ASTR 1116	ASTR 199	Unique
ASTR 1120G	ASTR 105G	Unique
AXED-AGRICULTURAL EXTN EDUC		
AXED 1110	AXED 100	Unique
AXED 1130	AXED 105	Unique
AXED 2110	AXED 205	Common
AXED 2130	AXED 230	Unique
AXED 2140	AXED 232	Unique
AXED 2996	AXED 200	Unique
AXED 3115	AXED 303	N/A
AXED 3120	AXED 331	N/A
AXED 3130	AXED 348	N/A
AXED 3150	AXED 380	N/A
AXED 3210V	AXED 466V	N/A
AXED 3996	AXED 300	N/A
AXED 4110	AXED 400	N/A
AXED 4210	AXED 443	N/A
AXED 4215	AXED 445	N/A
AXED 4220	AXED 446	N/A
AXED 4230	AXED 447	N/A
AXED 4235	AXED 448	N/A
AXED 4510	AXED 456	N/A
AXED 4520	AXED 460	N/A
AXED 4610	AXED 475	N/A
AXED 4620	AXED 484	N/A

AXED 4710	AXED 488	N/A
AXED 4715	AXED 489	N/A
AXED 4991	AXED 499	N/A
AXED 4997	AXED 490	N/A
AXED 5110	AXED 500	N/A
AXED 5155	AXED 515	N/A
AXED 5160	AXED 530	N/A
AXED 5170	AXED 536	N/A
AXED 5210	AXED 543	N/A
AXED 5215	AXED 545	N/A
AXED 5220	AXED 546	N/A
AXED 5230	AXED 547	N/A
AXED 5235	AXED 548	N/A
AXED 5310	AXED 565	N/A
AXED 5510	AXED 556	N/A
AXED 5515	AXED 571	N/A
AXED 5610	AXED 575	N/A
AXED 5615	AXED 586	N/A
AXED 5993	AXED 594	N/A
AXED 5994	AXED 598	N/A
AXED 5996	AXED 590	N/A
AXED 5998	AXED 595	N/A
AXED 5999	AXED 599	N/A
BCIS-BUSINESS COMPUTER INFORMATION SYSTEMS		
BCIS 1110	BCIS 110	Common
BCIS 1110	C S 110	Common
BCIS 1160	CTEC 135	Common
BCIS 1215	OATS 215	Common
BCIS 1220	OATS 211	Common
BCIS 1230	OATS 217	Common
BCIS 1750	OATS 209	Common
BCIS 2120	OECS 280	Common
BCIS 2130	OECS 223	Common
BCIS 2221	OATS 213	Common
BCIS 2310	OECS 253	Common
BFIN-BUSINESS FINANCE		
BFIN 2110	FIN 206	Common
BFIN 2110	FIN 210	Common
BFIN 303V	FIN 303V	N/A
BFIN 311	FIN 311	N/A
BFIN 322	FIN 322	N/A
BFIN 323	FIN 323	N/A
BFIN 324	FIN 324	N/A
BFIN 325	FIN 325	N/A
BFIN 326	FIN 326	N/A
BFIN 341	FIN 341	N/A
BFIN 355	FIN 355	N/A
BFIN 360	FIN 360	N/A
BFIN 385	FIN 385	N/A
BFIN 391	FIN 391	N/A
BFIN 392	FIN 392	N/A
BFIN 393	FIN 393	N/A

BFIN 406	FIN 406	N/A
BFIN 421	FIN 421	N/A
BFIN 435	FIN 435	N/A
BFIN 445	FIN 445	N/A
BFIN 455	FIN 455	N/A
BFIN 470	FIN 470	N/A
BFIN 475	FIN 475	N/A
BFIN 480	FIN 480	N/A
BFIN 490	FIN 490	N/A
BFIN 498	FIN 498	N/A
BFIN 500	FIN 500	N/A
BFIN 503	FIN 503	N/A
BFIN 511	FIN 511	N/A
BFIN 521	FIN 521	N/A
BFIN 535	FIN 535	N/A
BFIN 545	FIN 545	N/A
BFIN 555	FIN 555	N/A
BFIN 575	FIN 575	N/A
BFIN 581	FIN 581	N/A
BFIN 590	FIN 590	N/A
BFIN 598	FIN 598	N/A
BIOL-BIOLOGY		
BIOL 1120G	BIOL 101G	Unique
BIOL 1120L	BIOL 101GL	Unique
BIOL 1130G	BIOL 154	Common
BIOL 1190G	BIOL 110G	Unique
BIOL 1996	BIOL 150	Unique
BIOL 2110G	BIOL 211G	Unique
BIOL 2110L	BIOL 211GL	Unique
BIOL 2210	BIOL 225	Common
BIOL 2221	BIOL 254	Unique
BIOL 2225	BIOL 226	Common
BIOL 2310	BIOL 221	Common
BIOL 2310L	BIOL 221 L	Common
BIOL 2320	BIOL 219	Unique
BIOL 2505	BIOL 227	Common
BIOL 2511	BIOL 262	Common
BIOL 2512	BIOL 263	Unique
BIOL 2610G	BIOL 111G	Common
BIOL 2610L	BIOL 111GL	Common
BIOL 2996	BIOL 250	Unique
BLAW-BUSINESS LAW		
BLAW 2110	BLAW 230	Common
BLAW 2110	BMGT 231	Common
BLED-BILINGUAL EDUCATION		
BLED 1110	EDUC 103	Common
BLED 2110	EDUC 204	Common
BLED 3110	BLED 303	N/A
BLED 3120	BLED 342	N/A
BLED 3130	BLED 343	N/A
BLED 3140	BLED 344	N/A
BLED 4110	BLED 483	N/A

BLED 4996	BLED 489	N/A
BLED 5110	BLED 504	N/A
BLED 5120	BLED 505	N/A
BLED 5130	BLED 520	N/A
BLED 5210	BLED 522	N/A
BLED 5220	BLED 542	N/A
BLED 5230	BLED 543	N/A
BLED 5310	BLED 545	N/A
BLED 5320	BLED 583	N/A
BLED 5330	BLED 584	N/A
BLED 5410	BLED 585	N/A
BLED 5420	BLED 587	N/A
BLED 5990	EDUC 590	N/A
BLED 5992	BLED 570	N/A
BLED 5996	BLED 560	N/A
BLED 5998	BLED 550	N/A
BLED 6110	BLED 616	N/A
BLED 6120	BLED 617	N/A
BLED 6130	BLED 621	N/A
BLED 6210	BLED 623	N/A
BLED 6220	BLED 633	N/A
BLED 6310	BLED 635	N/A
BLED 6320	BLED 637	N/A
BLED 6992	BLED 670	N/A
BLED 6998	BLED 640	N/A
BMET-BIOMEDICAL TECHNOLOGY		
BMET 1140	OEBM 140	Unique
BMET 1141	OEBM 141	Unique
BMET 2211	OEBM 211	Unique
BMET 2241	OEBM 241	Unique
BMET 2998	OEBM 200	Unique
BUSA-BUSINESS ADMINISTRATION		
BUSA 1110	BMGT 110	Common
BUSA 1110	BUSA 111	Common
BUSA 1115	OATS 105	Common
BUSA 1180	OATS 106	Common
BUSA 1210	OATS 110	Common
BUSA 2175	OATS 239	Common
CAST-CHILD ADVOCACY STUDIES		
CAST 1110	CAST 201	Unique
CAST 2110	CAST 202	Unique
CAST 2120	CAST 203	Unique
CEPY-COUNSELING & EDUC PSY		
CEPY 1120G	C EP 110G	Unique
CEPY 1150	C EP 199	Unique
CEPY 2110	C EP 210	Common
CEPY 2120	C EP 215	Unique
CEPY 2130	C EP 240	Unique
CEPY 2140	C EP 298	Unique
CEPY 2140H	C EP 298 H	Unique
CEPY 3110	CEPY 320	N/A
CEPY 3210V	CEPY 300V	N/A

CEPY 4110V	CEPY 451V	N/A
CEPY 4120	CEPY 420	N/A
CEPY 4130	CEPY 455	N/A
CEPY 4140	CEPY 461	N/A
CEPY 4150	CEPY 495	N/A
CEPY 4150H	CEPY 495 H	N/A
CEPY 4997	CEPY 499	N/A
CEPY 4998	CEPY 498	N/A
CEPY 5110	CEPY 503	N/A
CEPY 5120	CEPY 512	N/A
CEPY 5130	CEPY 517	N/A
CEPY 5140	CEPY 515	N/A
CEPY 5150	CEPY 520	N/A
CEPY 5160	CEPY 522	N/A
CEPY 5170	CEPY 524	N/A
CEPY 5180	CEPY 556	N/A
CEPY 5210	CEPY 532	N/A
CEPY 5220	CEPY 542	N/A
CEPY 5230	CEPY 550	N/A
CEPY 5235	CEPY 554	N/A
CEPY 5240	CEPY 558	N/A
CEPY 5250	CEPY 562	N/A
CEPY 5260	CEPY 566	N/A
CEPY 5270	CEPY 551	N/A
CEPY 5280	CEPY 563	N/A
CEPY 5310	CEPY 505	N/A
CEPY 5320	CEPY 552	N/A
CEPY 5985	CEPY 572	N/A
CEPY 5990	CEPY 578	N/A
CEPY 5997	CEPY 598	N/A
CEPY 5998	CEPY 580	N/A
CEPY 5999	CEPY 599	N/A
CEPY 6120	CEPY 612	N/A
CEPY 6130	CEPY 617	N/A
CEPY 6140	CEPY 615	N/A
CEPY 6150	C EP 619	N/A
CEPY 6160	CEPY 540	N/A
CEPY 6170	CEPY 618	N/A
CEPY 6180	CEPY 579	N/A
CEPY 6185	CEPY 624	N/A
CEPY 6190	CEPY 622	N/A
CEPY 6210	CEPY 630	N/A
CEPY 6220	CEPY 616	N/A
CEPY 6240	CEPY 658	N/A
CEPY 6250	CEPY 662	N/A
CEPY 6260	CEPY 671	N/A
CEPY 6265	CEPY 608	N/A
CEPY 6270	CEPY 651	N/A
CEPY 6320	CEPY 652	N/A
CEPY 6330	CEPY 646	N/A
CEPY 6340	CEPY 647	N/A
CEPY 6350	CEPY 648	N/A

CEPY 6410	CEPY 634	N/A
CEPY 6420	CEPY 642	N/A
CEPY 6425	CEPY 632	N/A
CEPY 6430	CEPY 636	N/A
CEPY 6440	CEPY 637	N/A
CEPY 6450	CEPY 693	N/A
CEPY 6510	CEPY 672	N/A
CEPY 6520	CEPY 676	N/A
CEPY 6530	CEPY 675	N/A
CEPY 6540	CEPY 681	N/A
CEPY 6550	CEPY 673	N/A
CEPY 6560	CEPY 677	N/A
CEPY 6570	CEPY 678	N/A
CEPY 6580	CEPY 679	N/A
CEPY 6590	CEPY 670	N/A
CEPY 6610	CEPY 684	N/A
CEPY 6620	CEPY 680	N/A
CEPY 6630	CEPY 682	N/A
CEPY 6640	CEPY 685	N/A
CEPY 6996	CEPY 698	N/A
CEPY 6999	CEPY 699	N/A
CEPY 7000	C EP 700	N/A
CHEM-CHEMISTRY		
CHEM 1111	CHEM 100	Unique
CHEM 1120G	CHEM 110G	Common
CHEM 1121	CHEM 101	Unique
CHEM 1122	CHEM 102	Unique
CHEM 1123	CHEM 103	Unique
CHEM 1215G	CHEM 111G	Common
CHEM 1216	CHEM 115	Unique
CHEM 1225G	CHEM 112G	Common
CHEM 1226	CHEM 116	Unique
CHEM 2111	CHEM 242	Unique
CHEM 2115	CHEM 211	Common
CHEM 2120	CHEM 210	Common
CHEM 2226	CHEM 217	Unique
CHEM 2991	CHEM 241	Unique
CHEM 2996	CHEM 251	Unique
CHIN-CHINESE		
CHIN 1110	CHIN 111	Common
CHIN 1120	CHIN 112	Common
CHIN 2110	CHIN 211	Common
CHIN 2120	CHIN 212	Common
CHSS-CONN HEALTH/SOC SRVCS		
CHSS 1110	CHSS 101	Unique
CHSS 2110	CHSS 216	Unique
CHSS 2510	CHSS 299	Common
CHSS 2511	CHSS 295	Unique
CIST-COMPUTER INFORMATION SYSTEMS TECHNOLOGY		
CIST 1110	OECS 125	Common
CIST 1111	OECS 101	Unique
CIST 1121	OECS 185	Common

CIST 1261	OECS 195	Common
CIST 1409	CTEC 120	Common
CIST 1412	CTEC 185	Common
CIST 1605	CSEC 127	Common
CIST 1611	OECS 207	Common
CIST 1996	CTEC 255	Common
CIST 2210	CTEC 145	Common
CIST 2211	OECS 231	Common
CIST 2237	CTEC 150	Common
CIST 2251	CTEC 156	Common
CIST 2275	CTEC 154	Common
CIST 2311	CTEC 140	Common
CIST 2321	CSEC 175	Common
CIST 2331	CSEC 180	Common
CIST 2411	CTEC 280	Common
CIST 2611	CTEC 235	Common
CIST 2636	CTEC 230	Common
CIST 2811	CSEC 285	Common
CIST 2812	CSEC 280	Common
CIST 2996	CTEC 299	Common
CIST 2998	CTEC 220	Common
CIST 2999	CTEC 295	Common
CJUS-CRIMINAL JUSTICE		
CJUS 1120	C J 205	Common
CJUS 1996	C J 199	Unique
CJUS 2120	C J 250	Common
CJUS 2140	C J 221	Common
CJUS 2150	C J 230	Common
CJUS 2160	C J 293	Common
CJUS 2220	C J 210	Common
CJUS 300	C J 300	N/A
CJUS 301	C J 301	N/A
CJUS 302	C J 302	N/A
CJUS 303	C J 303	N/A
CJUS 304	C J 304	N/A
CJUS 306	C J 306	N/A
CJUS 307	C J 307	N/A
CJUS 321	C J 321	N/A
CJUS 331	C J 331	N/A
CJUS 332	C J 332	N/A
CJUS 333	C J 333	N/A
CJUS 345	C J 345	N/A
CJUS 346	C J 346	N/A
CJUS 347	C J 347	N/A
CJUS 348	C J 348	N/A
CJUS 360	C J 360	N/A
CJUS 380	C J 380	N/A
CJUS 391	C J 391	N/A
CJUS 393	C J 393	N/A
CJUS 399	C J 399	N/A
CJUS 405	C J 405	N/A
CJUS 410	C J 410	N/A

CJUS 412	C J 412	N/A
CJUS 414	C J 414	N/A
CJUS 416	C J 416	N/A
CJUS 417	C J 417	N/A
CJUS 424	C J 424	N/A
CJUS 425	C J 425	N/A
CJUS 427	C J 427	N/A
CJUS 428	C J 428	N/A
CJUS 429	C J 429	N/A
CJUS 430	C J 430	N/A
CJUS 431	C J 431	N/A
CJUS 432	C J 432	N/A
CJUS 434	C J 434	N/A
CJUS 435	C J 435	N/A
CJUS 436	C J 436	N/A
CJUS 437	C J 437	N/A
CJUS 440V	C J 440V	N/A
CJUS 449	C J 449	N/A
CJUS 451	C J 451	N/A
CJUS 453	C J 453	N/A
CJUS 454	C J 454	N/A
CJUS 455	C J 455	N/A
CJUS 484	C J 484	N/A
CJUS 501	C J 501	N/A
CJUS 511	C J 511	N/A
CJUS 514	C J 514	N/A
CJUS 515	C J 515	N/A
CJUS 520	C J 520	N/A
CJUS 524	C J 524	N/A
CJUS 525	C J 525	N/A
CJUS 527	C J 527	N/A
CJUS 529	C J 529	N/A
CJUS 531	C J 531	N/A
CJUS 532	C J 532	N/A
CJUS 535	C J 535	N/A
CJUS 537	C J 537	N/A
CJUS 541	C J 541	N/A
CJUS 545	C J 545	N/A
CJUS 555	C J 555	N/A
CJUS 560	C J 560	N/A
CJUS 581	C J 581	N/A
CJUS 591	C J 591	N/A
CJUS 592	C J 592	N/A
CJUS 593	C J 593	N/A
CJUS 599	C J 599	N/A
CNST-CONSTRUCTION		
CNST 1110	BCT 100	Common
CNST 1121	BCT 101	Unique
CNST 1122	BCT 102	Unique
CNST 1133	BCT 103	Unique
CNST 1144	BCT 104	Unique
CNST 1155	BCT 105	Unique

CNST 1166	BCT 106	Unique
CNST 1160	BCT 109	Common
CNST 1120	BCT 110	Common
CNST 1311	BCT 111	Unique
CNST 1114	BCT 114	Unique
CNST 1115	BCT 115	Unique
CNST 1116	BCT 116	Unique
CNST 1118	BCT 118	Unique
CNST 1220	BCT 123	Common
CNST 1330	BCT 130	Unique
CNST 1710	BCT 150	Unique
CNST 1240	BCT 206	Common
CNST 2290	BCT 209	Unique
CNST 2217	BCT 217	Unique
CNST 1215	BCT 219	Common
CNST 2995	BCT 221	Common
CNST 1230	BCT 223	Common
CNST 2996	BCT 255	Common
CNST 2994	BCT 290	Unique
COMM-COMMUNICATION		
COMM 1115G	COMM 265G	Common
COMM 1130G	COMM 253G	Common
COMM 2110	COMM 285	Unique
COMM 2111	COMM 250	Unique
COMM 2996	COMM 291	Unique
COMM 2997	COMM 290	Unique
COMM 3110	COMM 310	N/A
COMM 3120	COMM 351	N/A
COMM 3510	COMM 370	N/A
COMM 3710	COMM 376	N/A
COMM 3530	COMM 377	N/A
COMM 3610	COMM 384	N/A
COMM 4210	COMM 440	N/A
COMM 4220	COMM 450	N/A
COMM 4230	COMM 457	N/A
COMM 4310	COMM 471	N/A
COMM 4520	COMM 425	N/A
COMM 4530	COMM 470	N/A
COMM 4550	COMM 478	N/A
COMM 4560	COMM 479	N/A
COMM 4620	COMM 460	N/A
COMM 4630	COMM 462	N/A
COMM 4640	COMM 465	N/A
COMM 4720	COMM 475	N/A
COMM 4730	COMM 477	N/A
COMM 4750	COMM 480	N/A
COMM 4997	COMM 490	N/A
COMM 4996	COMM 491	N/A
COMM 4998	COMM 495	N/A
COMM 5110	COMM 583	N/A
COMM 5120	COMM 551	N/A
COMM 5130	COMM 505	N/A

COMM 5140	COMM 506	N/A
COMM 5210	COMM 540	N/A
COMM 5220	COMM 550	N/A
COMM 5230	COMM 557	N/A
COMM 5310	COMM 571	N/A
COMM 5510	COMM 570	N/A
COMM 5710	COMM 576	N/A
COMM 5610	COMM 584	N/A
COMM 5550	COMM 578	N/A
COMM 5560	COMM 579	N/A
COMM 5630	COMM 562	N/A
COMM 5640	COMM 565	N/A
COMM 5994	COMM 598	N/A
COMM 5996	COMM 591	N/A
COMM 5997	COMM 590	N/A
COMM 5998	COMM 595	N/A
COMM 5999	COMM 599	N/A
CSCI-COMPUTER SCIENCE		
CSCI 1110	C S 111	Unique
CSCI 1115G	C S 171G	Unique
CSCI 1120	C S 117	Unique
CSCI 1240	C S 151	Common
CSCI 1210	C S 152	Common
CSCI 1220	C S 153	Common
CSCI 1225	C S 154	Unique
CSCI 1235	C S 158	Unique
CSCI 1720	C S 172	Unique
CSCI 2996	C S 209	Common
CSCI 2210	C S 271	Common
CSCI 2220	C S 272	Common
CSCI 2230	C S 273	Common
CSCI 2310	C S 278	Common
CSCI 2410	C S 281	Common
CSCI 3790	C S 343	N/A
CSCI 3730	C S 370	N/A
CSCI 3710	C S 371	N/A
CSCI 3720	C S 372	N/A
CSCI 4225	C S 380	N/A
CSCI 4270	C S 381	N/A
CSCI 4265	C S 382	N/A
CSCI 4425	C S 383	N/A
CSCI 4430	C S 384	N/A
CSCI 4240	C S385	N/A
CSCI 3410	C S 390	N/A
CSCI 4435	C S 391	N/A
CSCI 4235	C S 394	N/A
CSCI 4440	C S 395	N/A
CSCI 3997	C S 409	N/A
CSCI 4110	C S 419	N/A
CSCI 4980	C S 448	N/A
CSCI 4999	C S449	N/A
CSCI 4510	C S 451	N/A

CSCI 4505	C S452	N/A
CSCI 4520	C S 453	N/A
CSCI 4525	C S 454	N/A
CSCI 4530	C S 458	N/A
CSCI 4540	C S 460	N/A
CSCI 4545	C S 462	N/A
CSCI 4550	C S 463	N/A
CSCI 4560	C S 465	N/A
CSCI 4580	C S 466	N/A
CSCI 4575	C S 468	N/A
CSCI 5110	C S 469	N/A
CSCI 4105	C S 471	N/A
CSCI 4230	C S 473	N/A
CSCI 4120	C S 474	N/A
CSCI 4405	C S 475	N/A
CSCI 4410	C S 476	N/A
CSCI 4255	C S 477	N/A
CSCI 4205	C S 478	N/A
CSCI 4996	C S 479	N/A
CSCI 4130	C S 480	N/A
CSCI 4260	C S 481	N/A
CSCI 4140	C S 482	N/A
CSCI 4245	C S 484	N/A
CSCI 4250	C S 485	N/A
CSCI 4305	C S 486	N/A
CSCI 4420	C S 487	N/A
CSCI 4415	C S 488	N/A
CSCI 4310	C S 489	N/A
CSCI 4215	C S 491	N/A
CSCI 4565	C S 493	N/A
CSCI 4210	C S 494	N/A
CSCI 4220	C S 496	N/A
CSCI 5140	C S 502	N/A
CSCI 5245	C S 504	N/A
CSCI 5405	C S 505	N/A
CSCI 5410	C S 506	N/A
CSCI 5415	C S 508	N/A
CSCI 5310	C S 509	N/A
CSCI 5510	C S 510	N/A
CSCI 5205	C S 513	N/A
CSCI 5210	C S 514	N/A
CSCI 5250	C S 515	N/A
CSCI 5305	C S 516	N/A
CSCI 5255	C S 517	N/A
CSCI 5260	C S 518	N/A
CSCI 5420	C S 519	N/A
CSCI 5215	C S 521	N/A
CSCI 5220	C S 522	N/A
CSCI 5225	C S 525	N/A
CSCI 5265	C S 532	N/A
CSCI 5425	C S 533	N/A
CSCI 5430	C S 534	N/A

CSCI 5240	C S 535	N/A
CSCI 5435	C S 536	N/A
CSCI 5235	C S 544	N/A
CSCI 5440	C S 545	N/A
CSCI 5505	C S 570	N/A
CSCI 5605	C S 574	N/A
CSCI 5750	C S 575	N/A
CSCI 5996	C S 579	N/A
CSCI 5810	C S 581	N/A
CSCI 5820	C S 582	N/A
CSCI 5840	C S 584	N/A
CSCI 5860	C S 586	N/A
CSCI 5991	C S 589	N/A
CSCI 5994	C S 598	N/A
CSCI 5999	C S 599	N/A
CSCI 6991	C S 600	N/A
CSCI 7000	C S 700	N/A
CTFM-CLTHNG/TXTLS/FSHN MRCHDSG		
CTFM 1110	CTFM 178	Unique
CTFM 2120	CTFM 270	Unique
CTFM 2130	CTFM 273	Unique
CTFM 2990	CTFM 202	Unique
DANC-DANCE		
DANC 1110G	DANC 101G	Common
DANC 1130	DANC 123	Common
DANC 1131	DANC 125	Unique
DANC 1135	DANC 109	Unique
DANC 1140	DANC 129	Common
DANC 1150	DANC 126	Common
DANC 1155	DANC 102	Common
DANC 1185	DANC 121	Unique
DANC 1220	DANC 122	Unique
DANC 1235	DANC 118	Unique
DANC 2114	DANC 204	Unique
DANC 2130	DANC 223	Common
DANC 2130L	DANC 223 L	Unique
DANC 2140	DANC 229	Common
DANC 2140L	DANC 229 L	Unique
DANC 2142	DANC 210	Unique
DANC 2142L	DANC 210 L	Unique
DANC 2150	DANC 226	Common
DANC 2150L	DANC 226 L	Unique
DANC 2155	DANC 207	Unique
DANC 2157	DANC 212	Unique
DANC 2161	DANC 227	Unique
DANC 2250	DANC 205	Unique
DANC 2251	DANC 206	Unique
DANC 2265	DANC 289	Unique
DANC 2270	DANC 280	Unique
DANC 2310	DANC 222	Unique
DANC 2311	DANC 225	Unique
DANC 2320	DANC 232	Unique

DANC 2321	DANC 235	Unique
DANC 3110	DANC 345	N/A
DANC 3114	DANC 304	N/A
DANC 3130	DANC 323	N/A
DANC 3130L	DANC 323 L	N/A
DANC 3140	DANC 329	N/A
DANC 3140L	DANC 329 L	N/A
DANC 3142	DANC 310	N/A
DANC 3142L	DANC 310 L	N/A
DANC 3145	DANC 339	N/A
DANC 3150	DANC 326	N/A
DANC 3150L	DANC 326 L	N/A
DANC 3155	DANC 307	N/A
DANC 3157	DANC 312	N/A
DANC 3175	DANC 375	N/A
DANC 3250	DANC 305	N/A
DANC 3251	DANC 306	N/A
DANC 3265	DANC 389	N/A
DANC 3310	DANC 322	N/A
DANC 3311	DANC 325	N/A
DANC 3320	DANC 332	N/A
DANC 3321	DANC 335	N/A
DANC 3510V	DANC 451V	N/A
DANC 4250	DANC 466	N/A
DANC 4266	DANC 489	N/A
DANC 4310	DANC 422	N/A
DANC 4311	DANC 425	N/A
DANC 4320	DANC 432	N/A
DANC 4321	DANC 435	N/A
DANC 4610	DANC 447	N/A
DANC 4710	DANC 465	N/A
DANC 4990	DANC 411	N/A
DANC 4990	DANC 412	N/A
DANC 4990	DANC 413	N/A
DANC 4996	DANC 450	N/A
DANC 4997	DANC 499	N/A
DANC 5114	DANC 504	N/A
DANC 5130	DANC 523	N/A
DANC 5140	DANC 529	N/A
DANC 5142	DANC 510	N/A
DANC 5145	DANC 539	N/A
DANC 5150	DANC 526	N/A
DANC 5155	DANC 507	N/A
DANC 5157	DANC 512	N/A
DANC 5250	DANC 505	N/A
DANC 5251	DANC 506	N/A
DANC 5310	DANC 522	N/A
DANC 5311	DANC 525	N/A
DANC 5320	DANC 532	N/A
DANC 5321	DANC 535	N/A
DANC 5510	DANC 551	N/A
DANC 5550	DANC 566	N/A

DANC 5710	DANC 570	N/A
DANC 5900	DANC 599	N/A
DANC 5992	DANC 501	N/A
DANC 5996	DANC 550	N/A
DANC 5998	DANC 567	N/A
DANC 6998	DANC 670	N/A
DAST-DENTAL ASSISTING		
DAST 1111	DAS 117	Common
DAST 1123	DAS 115	Common
DAST 1515	DAS 111	Common
DAST 1519	DAS 113	Common
DAST 2222	DAS 129	Common
DAST 2990	DAS 123	Unique
DHYG-Dental Hygiene		
DHYG 2210	DHYG 110	Common
DHYG 2212	DHYG 112	Unique
DHYG 2213	DHYG 114	Common
DHYG 2214	DHYG 116	Common
DHYG 2215	DHYG 117	Common
DHYG 2216	DHYG 118	Common
DHYG 2220	DHYG 120	Common
DHYG 2222	DHYG 122	Unique
DHYG 2223	DHYG 124	Common
DHYG 2224	DHYG 126	Common
DHYG 2225	DHYG 134	Common
DHYG 2226	DHYG 215	Common
DHYG 2227	DHYG 132	Unique
DHYG 2228	DHYG 218	Common
DHYG 2228L	DHYG 219	Common
DHYG 2230	DHYG 210	Common
DHYG 2232	DHYG 212	Unique
DHYG 2233	DHYG 214	Common
DHYG 2234	DHYG 217	Unique
DHYG 2240	DHYG 220	Common
DHYG 2242	DHYG 222	Unique
DHYG 2243	DHYG 224	Common
DHYG 2244	DHYG 225	Common
DHYG 2996	DHYG 255	Common
DMSO-DIAGNOSTIC MEDICAL SONOGRAPHY		
DMSO 1110	DMS 100	Unique
DMSO 1111	DMS 101	Unique
DMSO 1114	DMS 105	Unique
DMSO 1116	DMS 116	Unique
DMSO 1116L	DMS 116L	Unique
DMSO 1131	DMS 130	Unique
DMSO 1131L	DMS 130L	Unique
DMSO 1140	DMS 140	Unique
DMSO 1140L	DMS 140L	Unique
DMSO 1150	DMS 150	Unique
DMSO 1170	DMS 170	Unique
DMSO 1180	DMS 180	Unique
DMSO 1526	DMS 160	Unique

DMSO 1527	DMS 165	Unique
DMSO 1528	DMS 260	Unique
DMSO 2020	DMS 248	Common
DMSO 2216	DMS 216	Unique
DMSO 2226	DMS 226	Unique
DMSO 2227	DMS 227	Unique
DMSO 2230	DMS 230	Unique
DMSO 2240	DMS 240	Unique
DMSO 2245	DMS 245	Unique
DMSO 2250	DMS 250	Unique
DMSO 2270	DMS 270	Unique
DMSO 2280	DMS 280	Unique
DMSO 2291	DMS 291	Unique
DMSO 2292	DMS 292	Unique
DMSO 2293	DMS 293	Unique
DMSO 2295	DMS 290	Unique
ECED-EARLY CHILDHOOD EDUCATION		
ECED 1110	ECED 115	Common
ECED 1115	ECED 125	Common
ECED 1120	ECED 265	Common
ECED 1125	ECED 255	Common
ECED 1130	ECED 135	Common
ECED 2110	ECED 245	Common
ECED 2115	ECED 235	Common
ECED 2120	ECED 215	Common
ECED 2121	ECED 220	Common
ECED 2130	ECED 225	Common
ECED 2131	ECED 230	Common
ECED 2140	ECED 275	Common
ECED 2141	ECED 276	Common
ECED 2215	ECED 270	Common
ECED 2280	ECED 280	Common
ECED 2281	ECED 281	Unique
ECED 3110	ECED 325	N/A
ECED 3120	ECED 345	N/A
ECED 3210	ECED 351	N/A
ECED 3996	ECED 395	N/A
ECED 4110	SPED 450	N/A
ECED 4120	SPED 451	N/A
ECED 4210	ECED 420	N/A
ECED 4211	ECED 425	N/A
ECED 4220	ECED 465	N/A
ECED 4250	ECED 440	N/A
ECED 4260	ECED 455	N/A
ECED 4310	ECED 329	N/A
ECED 4320	RDG 350	N/A
ECED 4810	ECED 470	N/A
ECED 4996	ECED 489	N/A
ECED 4998	ECED 458	N/A
ECED 5110	SPED 550	N/A
ECED 5120	SPED 551	N/A
ECED 5130	ECED 515	N/A

ECED 5210	ECED 530	N/A
ECED 5220	ECED 570	N/A
ECED 5230	ECED 479	N/A
ECED 5310	ECED 510	N/A
ECED 5410	ECED 520	N/A
ECED 5420	ECED 540	N/A
ECED 5510	RDG 550	N/A
ECED 5520	RDG 551	N/A
ECED 5810	ECED 550	N/A
ECED 6110	ECED 612	N/A
ECED 6996	ECED 698	N/A
ECON-ECONOMICS		
ECON 1110G	ECON 201G	Common
ECON 2110G	ECON 251G	Common
ECON 2110H	ECON 251GH	Common
ECON 2120G	ECON 252G	Common
ECON 2120H	ECON 252GH	Common
EDLT-EDUCATION		
EDLT 2110	EDLT 268	Unique
EDLT 3110	EDLT 368	N/A
EDLT 5110	EDLT 528	N/A
EDLT 5120	EDLT 520	N/A
EDLT 5130	EDLT 522	N/A
EDLT 5140	EDLT 560	N/A
EDLT 5210	EDLT 561	N/A
EDLT 5220	EDLT 573	N/A
EDLT 5230	EDLT 575	N/A
EDLT 5240	EDLT 577	N/A
EDLT 5250	EDLT 580	N/A
EDLT 5310	EDLT 578	N/A
EDLT 5320	EDLT 579	N/A
EDLT 5330	EDLT 581	N/A
EDLT 5992	EDLT 592	N/A
EDLT 5999	EDLT 590	N/A
EDLT 6110	EDLT 628	N/A
EDLT 6120	EDLT 672	N/A
EDLT 6210	EDLT 607	N/A
EDLT 6220	EDLT 620	N/A
EDLT 6230	EDLT 610	N/A
EDLT 6240	EDLT 677	N/A
EDLT 6998	EDLT 612	N/A
EDUC-EDUCATION		
EDUC 1110	EDUC 101	Unique
EDUC 1120	EDUC 250	Common
EDUC 1140	EDUC 150	Unique
EDUC 1150	EDUC 151	Unique
EDUC 1185	EDUC 281	Unique
EDUC 1995	EDUC 181	Unique
EDUC 1996	EDUC 195	Unique
EDUC 1998	EDUC 102	Unique
EDUC 2710	EDUC 219	Unique
EDUC 2998	EDUC 202	Unique

EDUC 3110V	EDUC 317	N/A
EDUC 3120	EDUC 315	N/A
EDUC 3220	EDUC 343	N/A
EDUC 3996	EDUC 395	N/A
EDUC 3997	EDUC 381	N/A
EDUC 4310	EDUC 451	N/A
EDUC 4320	EDUC 452	N/A
EDUC 4330	EDUC 454	N/A
EDUC 4410	EDUC 463	N/A
EDUC 4420	EDUC 462	N/A
EDUC 4430	EDUC 461	N/A
EDUC 4440	EDUC 460	N/A
EDUC 4510	EDUC 402	N/A
EDUC 4520	EDUC 475	N/A
EDUC 4530	EDUC 476	N/A
EDUC 4810	EDUC 470	N/A
EDUC 4811	EDUC 481	N/A
EDUC 4820	EDUC 471	N/A
EDUC 4821	EDUC 482	N/A
EDUC 4992	EDUC 495	N/A
EDUC 4996	EDUC 489	N/A
EDUC 5110	EDUC 530	N/A
EDUC 5120	EDUC 515	N/A
EDUC 5130	EDUC 518	N/A
EDUC 5140	EDUC 519	N/A
EDUC 5150	EDUC 505	N/A
EDUC 5160	EDUC 516	N/A
EDUC 5170	EDUC 520	N/A
EDUC 5210	EDUC 542	N/A
EDUC 5220	EDUC 543	N/A
EDUC 5310	EDUC 551	N/A
EDUC 5320	EDUC 552	N/A
EDUC 5330	EDUC 554	N/A
EDUC 5410	EDUC 563	N/A
EDUC 5420	EDUC 562	N/A
EDUC 5430	EDUC 561	N/A
EDUC 5440	EDUC 560	N/A
EDUC 5510	EDUC 573	N/A
EDUC 5520	EDUC 571	N/A
EDUC 5530	EDUC 572	N/A
EDUC 5540	EDUC 577	N/A
EDUC 5810	EDUC 510	N/A
EDUC 5811	EDUC 509	N/A
EDUC 5990	EDUC 5999	N/A
EDUC 5991	EDUC 598	N/A
EDUC 5992	EDUC 595	N/A
EDUC 5996	EDUC 501	N/A
EDUC 5997	EDUC 5999	N/A
EDUC 5998	EDUC 558	N/A
EDUC 6110	EDUC 603	N/A
EDUC 6120	EDUC 604	N/A
EDUC 6210	EDUC 623	N/A

EDUC 6220	EDUC 633	N/A
EDUC 6230	EDUC 634	N/A
EDUC 6310	EDUC 635	N/A
EDUC 6320	EDUC 637	N/A
EDUC 6330	EDUC 630	N/A
EDUC 6410	EDUC 607	N/A
EDUC 6420	EDUC 613	N/A
EDUC 6430	EDUC 636	N/A
EDUC 6440	EDUC 606	N/A
EDUC 6910	EDUC 694	N/A
EDUC 6990	EDUC 685	N/A
EDUC 6991	EDUC 600	N/A
EDUC 6996	EDUC 698	N/A
EDUC 6997	EDUC 605	N/A
EDUC 6998	EDUC 602	N/A
EDUC 6999	EDUC 699	N/A
EDUC 7000	EDUC 700	N/A
ELAD-EDUC LEADERSHIP & ADMIN		
ELAD 2210	ELA 255	Unique
ELAD 2340	ELA 215	Unique
ELAD 2996	ELA 298	Unique
ELAD 3110V	ELAD 350V	N/A
ELAD 3210	ELAD 342	N/A
ELAD 3996	ELAD 398	N/A
ELAD 4110	ELAD 440	N/A
ELAD 4120	ELAD 450	N/A
ELAD 4130	ELAD 455	N/A
ELAD 4410	ELAD 411	N/A
ELAD 4420	ELAD 412	N/A
ELAD 4510	ELAD 485	N/A
ELAD 4998	ELAD 499	N/A
ELAD 5110	ELAD 575	N/A
ELAD 5120	ELAD 578	N/A
ELAD 5130	ELAD 590	N/A
ELAD 5140	ELAD 576	N/A
ELAD 5150	ELAD 579	N/A
ELAD 5160	ELAD 530	N/A
ELAD 5170	ELAD 531	N/A
ELAD 5180	ELAD 564	N/A
ELAD 5185	ELAD 565	N/A
ELAD 5210	ELAD 582	N/A
ELAD 5215	ELAD 563	N/A
ELAD 5220	ELAD 520	N/A
ELAD 5230	ELAD 555	N/A
ELAD 5240	ELAD 540	N/A
ELAD 5250	ELAD 550	N/A
ELAD 5260	ELAD 580	N/A
ELAD 5270	ELAD 569	N/A
ELAD 5280	ELAD 566	N/A
ELAD 5285	ELAD 567	N/A
ELAD 5310	ELAD 586	N/A
ELAD 5320	ELAD 570	N/A

ELAD 5410	ELAD 511	N/A
ELAD 5510	ELAD 585	N/A
ELAD 5992	ELAD 502	N/A
ELAD 5996	ELAD 595	N/A
ELAD 5997	ELAD 598	N/A
ELAD 6110	ELAD 615	N/A
ELAD 6120	ELAD 685	N/A
ELAD 6210	ELAD 622	N/A
ELAD 6220	ELAD 623	N/A
ELAD 6310	ELAD 630	N/A
ELAD 6320	ELAD 671	N/A
ELAD 6410	ELAD 682	N/A
ELAD 6510	ELAD 683	N/A
ELAD 6520	ELAD 679	N/A
ELAD 6525	ELAD 650	N/A
ELAD 6610	ELAD 635	N/A
ELAD 6620	ELAD 689	N/A
ELAD 6630	ELAD 676	N/A
ELAD 6635	ELAD 655	N/A
ELAD 6710	ELAD 645	N/A
ELAD 6910	ELAD 693	N/A
ELAD 6991	ELAD 600	N/A
ELAD 6996	ELAD 698	N/A
ELAD 6998	ELAD 670	N/A
ELAD 7000	ELAD 700	N/A
ELTR-ELECTRICAL		
ELTR 1130	ELWK 130	Common
ELTR 1160	ELWK 131	Common
ELTR 1230	BCT 223	Common
ELTR 2120	ELWK 140	Common
ELTR 1165	ELWK 141	Common
ELTR 2995	ELWK 221	Common
ELTR 1120	OEET 110	Common
ELTR 1140	OEET 120	Common
ELTR 1115	OEET 205	Common
ELTR 2891	OEET 251	Common
ELTR 2892	OEET 252	Common
ELTR 2893	OEET 253	Common
ELTR 2894	OEET 254	Common
ELTR 1996	OEET 295	Common
EMSS-EMERGENCY MEDICAL SERVICES		
EMSS 1116	OEEM 101	Common
EMSS 1120	OEEM 120	Common
EMSS 1120L	OEEM 120L	Common
EMSS 1121	OEEM 121	Common
EMSS 1153	OEEM 153	Common
EMSS 2120	OEEM 150	Common
EMSS 2120L	OEEM 150L	Common
EMSS 2121	OEEM 151	Common
EMSS 2240	OEEM 206	Common
EMSS 2245	OEEM 201	Common
EMSS 2255	OEEM 207	Common

EMSS 2255L	OEEM 207L	Common
EMSS 2310	OEEM 202	Common
EMSS 2310L	OEEM 202L	Common
EMSS 2410	OEEM 210	Common
EMSS 2510	OEEM 204/OEEM 216	Common
EMSS 2610	OEEM 203	Common
EMSS 2610L	OEEM 203L	Common
EMSS 2650	OEEM 242	Common
EMSS 2710	OEEM 213	Common
EMSS 2890	OEEM 230	Common
EMSS 2895	OEEM 231	Common
EMSS 2998	OEEM 243	Common
ENGL-ENGLISH		
ENGL 1105M	SPCD 1110	Unique
ENGL 1110G	ENGL 111G	Common
ENGL 1110H	ENGL 111GH	Unique
ENGL 1110M	ENGL 111 M	Unique
ENGL 1120	ENGL 112	Common
ENGL 1410G	ENGL 115G	Common
ENGL 2130G	ENGL 311G	Common
ENGL 2210G	ENGL 203G	Common
ENGL 2210G	ENGL 218G	Common
ENGL 2215G	ENGL 318G	Unique
ENGL 2221G	ENGL 211G	Unique
ENGL 2280	ENGL 263	Unique
ENGL 2310G	ENGL 220G	Common
ENGL 2381	ENGL 232	Unique
ENGL 2382	ENGL 235	Unique
ENGL 2520G	ENGL 116G	Common
ENGL 2521	ENGL 243	Unique
ENGL 2610	ENGL 251	Common
ENGL 2620	ENGL 252	Common
ENGL 2630	ENGL 271	Common
ENGL 2640	ENGL 272	Common
ENGL 2650G	ENGL 244G	Common
ENGL 2996	ENGL 299	Unique
ENTR-ENTRPRENEURSHIP		
ENTR 1110	BMGT 275	Common
ENVS-ENVIRONMENTAL SCIENCE		
ENVS 1110G	E S 110G	Common
ENVS 2111	E S 256	Unique
ENVS 2111L	E S 256 L	Unique
ENVS 300	E S 300	N/A
ENVS 301	E S 301	N/A
ENVS 312	E S 312	N/A
ENVS 361	E S 361	N/A
ENVS 370	E S 370	N/A
ENVS 391	E S 391	N/A
ENVS 422	E S 422	N/A
ENVS 449	E S 449	N/A
ENVS 451	E S 451	N/A
ENVS 452	E S 452	N/A

ENVS 457	E S 457	N/A
ENVS 460	E S 460	N/A
ENVS 462	E S 462	N/A
ENVS 470	E S 470	N/A
ENVS 471	E S 471	N/A
ENVS 557	E S 557	N/A
ENVS 596	E S 596	N/A
ENVS 599	E S 599	N/A
ENVS 605	E S 605	N/A
ENVS 696	E S 696	N/A
ENVS 700	E S 700	N/A
EPWS-ENTMLGY/PLNT PTHLGY/WD SCI		
EPWS 1110	EPWS 100	Unique
EPWS 1110L	EPWS 100 L	Unique
EPWS 2996	EPWS 200	Unique
FCSC-FAMILY & CONSUMER SCI		
FCSC 2250	FCSE 245	Unique
FCSC 2330	FCSE 235	Unique
FCSC 345	FCSE 345	N/A
FCSC 348	FCSE 348	N/A
FCSC 445	FCSE 445	N/A
FCSC 446	FCSE 446	N/A
FCSC 447	FCSE 447	N/A
FCSC 448	FCSE 448	N/A
FCSC 492	FCSE 492	N/A
FCSC 545	FCSE 545	N/A
FCSC 546	FCSE 546	N/A
FCSC 547	FCSE 547	N/A
FCSC 548	FCSE 548	N/A
FCSC 590	FCSE 590	N/A
FCST-FAMILY AND CHILD STUDIES		
FCST 1130	FCS 181	Unique
FCST 2110	FCS 210	Unique
FCST 2135	FCS 212	Unique
FCST 2140	FCS 213	Unique
FCST 300	FCS 300	N/A
FCST 301	FCS 301	N/A
FCST 380	FCS 380	N/A
FCST 383	FCS 383	N/A
FCST 424	FCS 424	N/A
FCST 449V	FCS 449V	N/A
FCST 456	FCS 456	N/A
FCST 492	FCS 492	N/A
FCST 510	FCS 510	N/A
FCST 511	FCS 511	N/A
FCST 512	FCS 512	N/A
FCST 524	FCS 524	N/A
FCST 525	FCS 525	N/A
FCST 548	FCS 548	N/A
FCST 549	FCS 549	N/A
FCST 562	FCS 562	N/A
FCST 572	FCS 572	N/A

FCST 582	FCS 582	N/A
FCST 583	FCS 583	N/A
FCST 584	FCS 584	N/A
FCST 585	FCS 585	N/A
FCST 586	FCS 586	N/A
FCST 587	FCS 587	N/A
FCST 589	FCS 589	N/A
FCST 590	FCS 590	N/A
FCST 592	FCS 592	N/A
FCST 598	FCS 598	N/A
FCST 599	FCS 599	N/A
FDMA-FILM & DIGITAL MEDIA		
FDMA 1110	CMT 170	Common
FDMA 1120	CMT 140	Common
FDMA 1210	CMT 190	Common
FDMA 1220	CMI 216	Common
FDMA 1220	CMT 195	Common
FDMA 1260	CMT 108	Common
FDMA 1260	CMT 120	Common
FDMA 1360	CMT 130	Common
FDMA 1410	CMT 247	Common
FDMA 1415	CMT 206	Unique
FDMA 1510	CMI 260	Common
FDMA 1510	CMT 135	Common
FDMA 1515	CMT 145	Common
FDMA 1531	CMT 151	Unique
FDMA 1535	CMT 142	Common
FDMA 1536	CMT 242	Unique
FDMA 1545	CMT 115	Common
FDMA 1555	CMI 100	Unique
FDMA 1630	CMT 180	Common
FDMA 1710	CMT 150	Unique
FDMA 1715	CMI 245	Unique
FDMA 1720	CMT 175	Unique
FDMA 1996	CMT 155	Unique
FDMA 2111	CMT 220	Unique
FDMA 2120	CMT 126	Common
FDMA 2125	CMT 156	Common
FDMA 2150	CMT 240	Common
FDMA 2210	CMT 210	Unique
FDMA 2241	CMT 258	Unique
FDMA 2285	CMT 215	Common
FDMA 2287	CMT 223	Common
FDMA 2310	CMI 228	Unique
FDMA 2311	CMI 231	Unique
FDMA 2311	CMT 253	Unique
FDMA 2312	CMT 254	Unique
FDMA 2325	CMT 245	Common
FDMA 2326	CMT 216	Unique
FDMA 2360	CMT 230	Common
FDMA 2365	CMT 235	Unique
FDMA 2370	CMT 275	Unique

FDMA 2381	CMI 232	Unique
FDMA 2382	CMI 235	Unique
FDMA 2410	CMT 236	Common
FDMA 2510	CMI 200	Common
FDMA 2520	CMI 205	Common
FDMA 2520	CMT 205	Common
FDMA 2530	CMI 280	Common
FDMA 2530	CMT 160	Common
FDMA 2535	CMI 240	Unique
FDMA 2570	CMT 292	Unique
FDMA 2710	CMI 250	Unique
FDMA 2715	CMT 260	Unique
FDMA 2720	CMI 290	Unique
FDMA 2725	CMI 270	Unique
FDMA 2730	CMT 227	Unique
FDMA 2735	CMT 290	Unique
FDMA 2740	CMT 291	Unique
FDMA 2745	CMI 233	Unique
FDMA 2750	CMT 229	Unique
FDMA 2755	CMI 220	Unique
FDMA 2770	CMT 200	Unique
FDMA 2775	CMT 252	Unique
FDMA 2785	CMT 228	Unique
FDMA 2993	CMT 276	Unique
FDMA 2994	CMT 295	Unique
FDMA 2995	CMT 226	Unique
FDMA 2996	CMT 255	Unique
FDMA 2997	CMT 298	Unique
FDMA 2998	CMT 221	Unique
FDMA 300	CMI 300	N/A
FDMA 301	CMI 301	N/A
FDMA 303	CMI 303	N/A
FDMA 305	CMI 305	N/A
FDMA 308	CMI 308	N/A
FDMA 309	CMI 309	N/A
FDMA 310	CMI 310	N/A
FDMA 311	CMI 311	N/A
FDMA 312	CMI 312	N/A
FDMA 314	CMI 314	N/A
FDMA 315	CMI 315	N/A
FDMA 316	CMI 316	N/A
FDMA 318	CMI 318	N/A
FDMA 320	CMI 320	N/A
FDMA 325	CMI 325	N/A
FDMA 328	CMI 328	N/A
FDMA 332	CMI 332	N/A
FDMA 341	CMI 341	N/A
FDMA 348	CMI 348	N/A
FDMA 350	CMI 350	N/A
FDMA 360	CMI 360	N/A
FDMA 362	CMI 362	N/A
FDMA 365	CMI 365	N/A

FDMA 377	CMI 377	N/A
FDMA 395	CMI 395	N/A
FDMA 396	CMI 396	N/A
FDMA 397	CMI 397	N/A
FDMA 398	CMI 398	N/A
FDMA 400	CMI 400	N/A
FDMA 401	CMI 401	N/A
FDMA 410	CMI 410	N/A
FDMA 412	CMI 412	N/A
FDMA 420	CMI 420	N/A
FDMA 425	CMI 425	N/A
FDMA 433	CMI 433	N/A
FDMA 450	CMI 450	N/A
FDMA 470	CMI 470	N/A
FDMA 477	CMI 477	N/A
FDMA 480	CMI 480	N/A
FDMA 490	CMI 490	N/A
FDMA 491	CMI 491	N/A
FDMA 492	CMI 492	N/A
FDMA 493	CMI 493	N/A
FDMA 494	CMI 494	N/A
FDMA 495	CMI 495	N/A
FDMA 497	CMI 497	N/A
FREN-FRENCH		
FREN 1110	FREN 111	Common
FREN 1120	FREN 112	Common
FREN 2110	FREN 211	Common
FREN 2120	FREN 212	Common
FSTE-FOOD SCIENCE & TECHNOLOGY		
FSTE 1120	FSTE 175	Unique
FSTE 2110G	FSTE 263G	Unique
FSTE 2120	FSTE 275	Unique
FSTE 2130G	FSTE 210G	Unique
FSTE 2996	FSTE 200	Unique
FWCE-FISH,WILDLF,CONSERV ECOL		
FWCE 1110G	FWCE 110G	Unique
FWCE 1120	FWCE 109	Unique
FWCE 2110	FWCE 255	Unique
FYEX-FIRST YEAR EXPERIENCE		
FYEX 1110	COLL 101	Common
FYEX 1112	UNIV 150	Unique
FYEX 1116	COLL 103	Unique
FYEX 1117	UNIV 114	Unique
FYEX 1131	UNIV 110	Unique
FYEX 1132	UNIV 112	Unique
FYEX 1133	COLL 108	Unique
FYEX 1134	UNIV 113	Unique
FYEX 1140	COLL 120	Unique
FYEX 1160	UNIV 101	Unique
FYEX 1170	UNIV 161	Unique
FYEX 1995	UNIV 116	Unique
FYEX 1996	COLL 155	Unique

FYEX 2111	COLL 201	Unique
FYEX 2994	COLL 185	Unique
GENE-GENETICS		
GENE 1110	GENE 110	Unique
GEOG-GEOGRAPHY		
GEOG 1110G	GEOG 111G	Common
GEOG 1120G	GEOG 112G	Common
GEOG 1130G	GEOG 120G	Common
GEOG 2130	GEOG 281	Unique
GEOG 2996	GEOG 291	Unique
GEOL-GEOLOGY		
GEOL 1110G	GEOL 111G	Common
GEOL 2130	GEOG 257	Common
GEOL 2996	GEOL 220	Unique
GNDR-WOMEN'S STUDIES		
GNDR 2110G	W S 201G	Common
GNDR 2120G	HON 218	Unique
GNDR 2120G	W S 202G	Unique
GNDR 350	W S 350	N/A
GNDR 359	W S 359	N/A
GNDR 360	W S 360	N/A
GNDR 380V	W S 380V	N/A
GNDR 381V	W S 381V	N/A
GNDR 401	W S 401	N/A
GNDR 402	W S 402	N/A
GNDR 403	W S 403	N/A
GNDR 405	W S 405	N/A
GNDR 406	W S 406	N/A
GNDR 407	W S 407	N/A
GNDR 408	W S 408	N/A
GNDR 411	W S 411	N/A
GNDR 412	W S 412	N/A
GNDR 433V	W S 433V	N/A
GNDR 450	W S 450	N/A
GNDR 451	W S 451	N/A
GNDR 453	W S 453	N/A
GNDR 454	W S 454	N/A
GNDR 455	W S 455	N/A
GNDR 461	W S 461	N/A
GNDR 465	W S 465	N/A
GNDR 471	W S 471	N/A
GNDR 474	W S 474	N/A
GNDR 482	W S 482	N/A
GNDR 484	W S 484	N/A
GNDR 501	W S 501	N/A
GNDR 502	W S 502	N/A
GNDR 505	W S 505	N/A
GNDR 507	W S 507	N/A
GNDR 508	W S 508	N/A
GNDR 511	W S 511	N/A
GNDR 512	W S 512	N/A
GNDR 533	W S 533	N/A

GNDR 550	W S 550	N/A
GNDR 554	W S 554	N/A
GNDR 555	W S 555	N/A
GNDR 561	W S 561	N/A
GNDR 565	W S 565	N/A
GNDR 571	W S 571	N/A
GNDR 582	W S 582	N/A
GNDR 584	W S 584	N/A
GRMN-GERMAN		
GRMN 1110	GER 111	Common
GRMN 1120	GER 112	Common
GRMN 2110	GER 211	Common
GRMN 2120	GER 212	Common
GRMN 305	GER 305	N/A
GRMN 313	GER 313	N/A
GRMN 325	GER 325	N/A
GRMN 330	GER 330	N/A
GRMN 333V	GER 333V	N/A
GRMN 340	GER 340	N/A
GRMN 341	GER 341	N/A
GRMN 343	GER 343	N/A
GRMN 350	GER 350	N/A
GRMN 399	GER 399	N/A
GRMN 410	GER 410	N/A
GRMN 413	GER 413	N/A
GRMN 425	GER 425	N/A
GRMN 451	GER 451	N/A
GRMN 453	GER 453	N/A
GRMN 471	GER 471	N/A
HIST-HISTORY		
HIST 1105G	HIST 110G	Unique
HIST 1110G	HIST 201G	Common
HIST 1120G	HIST 202G	Common
HIST 1130G	HIST 111G	Common
HIST 1140G	HIST 112G	Common
HIST 1150G	HIST 101G	Common
HIST 1160G	HIST 102G	Common
HIST 2110	HIST 261	Common
HIST 2245G	HIST 221G	Unique
HIST 2246G	HIST 222G	Unique
HIST 2250G	HIST 211G	Unique
HIST 2251G	HIST 212G	Unique
HIST 2996	HIST 269	Unique
HITP - HEALTH INFORMATION TECHNOLOGY		
HITP 1110	HIT 110	Unique
HITP 1120	HIT 120	Common
HITP 1120	HIT 120/NURS 120	Common
HITP 1140	HIT 140	Common
HITP 2208	OATS 208	Common
HITP 2208	OATS 208	Common
HITP 2240	HIT 240	Common
HITP 2248	HIT 248	Common

HITP 2258	HIT 258	Common
HITP 2268	HIT 268	Common
HITP 2288	OATS 228	Common
HITP 2288	OATS 228	Common
HITP 2996	HIT 255	Common
HITP 2998	HIT 221	Common
HLED-HEALTH EDUCATION		
HLED 1110	OEEM 103	Common
HLED 1154	P E 134	Common
HLSC-HEALTH SCIENCE		
HLSC 1510	AHS 120	Common
HLSC 1510	AHS 120/OATS 150	Common
HLSC 1515	HIT 158	Common
HLSC 1520	AHS 140	Common
HLSC 1530	NURS 140	Common
HLSC 1540	AHS 202	Common
HMSV-HUMAN SERVICES		
HMSV 2110	S WK 253	Common
HNRS-HONORS		
HNRS 1110	HON 115	Unique
HNRS 2110G	HON 210	Unique
HNRS 2111	HON 214	Unique
HNRS 2114G	HON 208G	Unique
HNRS 2115G	HON 216G	Unique
HNRS 2116G	HON 219G	Unique
HNRS 2117G	HON 220G	Unique
HNRS 2120G	HON 222G	Unique
HNRS 2140G	HON 227G	Unique
HNRS 2141G	HON 230G	Unique
HNRS 2150G	HON 228G	Unique
HNRS 2160G	HON 229G	Unique
HNRS 2161G	HON 235G	Unique
HNRS 2170G	HON 232G	Unique
HNRS 2171G	HON 234G	Unique
HNRS 2172G	HON 237G	Unique
HNRS 2173G	HON 239G	Unique
HNRS 2174G	HON 249G	Unique
HNRS 2175G	HON 265G	Unique
HNRS 2178G	HON 270G	Unique
HNRS 2180G	HON 248G	Unique
HNRS 2185G	HON 211	Unique
HNRS 2190G	HON 242G	Unique
HNRS 2996	HON 221	Unique
HNRS 304V	HON 304V	N/A
HNRS 306V	HON 306V	N/A
HNRS 313	HON 313	N/A
HNRS 314	HON 314	N/A
HNRS 317V	HON 317V	N/A
HNRS 318V	HON 318V	N/A
HNRS 321V	HON 321V	N/A
HNRS 324V	HON 324V	N/A
HNRS 326V	HON 326V	N/A

HNRS 328V	HON 328V	N/A
HNRS 335V	HON 335V	N/A
HNRS 340V	HON 340V	N/A
HNRS 341V	HON 341V	N/A
HNRS 347V	HON 347V	N/A
HNRS 348V	HON 348V	N/A
HNRS 349V	HON 349V	N/A
HNRS 353V	HON 353V	N/A
HNRS 362V	HON 362V	N/A
HNRS 370V	HON 370V	N/A
HNRS 371V	HON 371V	N/A
HNRS 374V	HON 374V	N/A
HNRS 378V	HON 378V	N/A
HNRS 379V	HON 379V	N/A
HNRS 381V	HON 381V	N/A
HNRS 384V	HON 384V	N/A
HNRS 387V	HON 387V	N/A
HNRS 388V	HON 388V	N/A
HNRS 390V	HON 390V	N/A
HNRS 394V	HON 394V	N/A
HNRS 400	HON 400	N/A
HNRS 410	HON 410	N/A
HNRS 411V	HON 411V	N/A
HNRS 412	HON 412	N/A
HNRS 413	HON 413	N/A
HNRS 420	HON 420	N/A
HNRS 421	HON 421	N/A
HNRS 422	HON 422	N/A
HNRS 425V	HON 425V	N/A
HNRS 450V	HON 450V	N/A
HNRS 521	HON 521	N/A
HORT-HORTICULTURE		
HORT 1115G	HORT 100G	Unique
HORT 2110	HORT 210	Unique
HORT 2120	HORT 211	Unique
HORT 2130	HORT 240	Unique
HORT 2160	HORT 250	Unique
HORT 2990	HORT 241	Unique
HORT 2996	HORT 200	Unique
HRTM-HOTEL/RESTRNT/TOURISM MGT		
HRTM 1120G	HRTM 201	Unique
HRTM 1130	HRTM 221	Unique
HRTM 1310	HRTM 2110	Unique
HRTM 1320	HRTM 2120	Unique
HRTM 2130	HRTM 235	Unique
HRTM 2996	HRTM 200	Unique
HRTM 3210	HRTM 301	N/A
HRTM 3410	HRTM 302	N/A
HRTM 3220	HRTM 304	N/A
HRTM 3910	HRTM 307	N/A
HRTM 3230	HRTM 311	N/A
HRTM 3310	HRTM 363	N/A

HRTM 4998	HRTM 408	N/A
HRTM 4910	HRTM 409	N/A
HRTM 4410	HRTM 410	N/A
HRTM 4310	HRTM 412	N/A
HRTM 4320	HRTM 413	N/A
HRTM 4330	HRTM 414	N/A
HRTM 4230	HRTM 416	N/A
HRTM 4235	HRTM 420	N/A
HRTM 4135	HRTM 430	N/A
HRTM 4130	HRTM 431	N/A
HRTM 4140	HRTM 432	N/A
HRTM 4999	HRTM 434	N/A
HRTM 4145	HRTM 435	N/A
HRTM 4240V	HRTM 436V	N/A
HRTM 4110	HRTM 443	N/A
HRTM 4115	HRTM 444	N/A
HRTM 4120	HRTM 445	N/A
HRTM 4996	HRTM 450	N/A
HRTM 4991	HRTM 492	N/A
HRTM 5210	HRTM 501	N/A
HRTM 5120	HRTM 502	N/A
HRTM 5420	HRTM 505	N/A
HRTM 5220	HRTM 506	N/A
HRTM 5998	HRTM 507	N/A
HRTM 5410	HRTM 510	N/A
HRTM 5310	HRTM 512	N/A
HRTM 5992	HRTM 515	N/A
HRTM 5230	HRTM 516	N/A
HRTM 5130	HRTM 531	N/A
HRTM 5140	HRTM 532	N/A
HRTM 5145	HRTM 535	N/A
HRTM 5240	HRTM 536	N/A
HRTM 5510	HRTM 550	N/A
HRTM 5996	HRTM 590	N/A
HRTM 5991	HRTM 598	N/A
HRTM 5999	HRTM 599	N/A
HVAC-HEATING, VENTILATION AND AIR CONDITIONING		
HVAC 1111	HVAC 100	Common
HVAC 1105	HVAC 101	Common
HVAC 1110	HVAC 102	Common
HVAC 1125	HVAC 103	Common
HVAC 1233	HVAC 110	Common
HVAC 2098	HVAC 113	Unique
HVAC 1410	HVAC 205	Common
HVAC 1243	HVAC 207	Common
HVAC 1245	HVAC 209	Common
HVAC 2210	HVAC 210	Unique
HVAC 1250	HVAC 211	Common
HVAC 2990	HVAC 213	Common
HVAC 1238	HVAC 220	Common
HVAC 1338	HVAC 225	Common
HVAC 1996	HVAC 255	Common

HVAC 2996	HVAC 290	Common
JAPN-JAPANESE		
JAPN 1110	JPNS 111	Common
JAPN 1120	JPNS 112	Common
JAPN 2110	JPNS 211	Common
JAPN 2120	JPNS 212	Common
JAPN 320	JPNS 320	N/A
JAPN 453	JPNS 453	N/A
LIBR-LIBRARY SCIENCE		
LIBR 1110	LIB 101	Unique
LIBR 1111	LIB 111	Unique
LIBR 311V	LIB 311V	N/A
LING-LINGUISTICS		
LING 2110G	LING 200G	Common
MAST-MEDICAL ASSISTANT		
MAST 1112	NA 110	Common
MAST 1190	AHS 190	Common
MAST 1540	AHS 280	Common
MAST 2160	AHS 290	Unique
MAST 2990	NA 214	Common
MAST 2999	NA 212	Common
MATH-MATHEMATICS		
MATH 1130G	MATH 210G	Common
MATH 1134	MATH 111	Unique
MATH 1215	MATH 120	Common
MATH 1217	MATH 101	Unique
MATH 1220G	MATH 121G	Common
MATH 1221	MATH 102	Unique
MATH 1250G	MATH 190G	Common
MATH 1350G	A ST 251G	Common
MATH 1350G	STAT 251G	Common
MATH 1430G	MATH 142G	Common
MATH 1435	MATH 235	Common
MATH 1440	MATH 236	Common
MATH 1511G	MATH 191G	Unique
MATH 1521G	MATH 192G	Unique
MATH 1521H	MATH 192GH	Unique
MATH 1531	MATH 279	Unique
MATH 1996	MATH 107	Unique
MATH 2134G	MATH 112G	Unique
MATH 2234	MATH 215	Unique
MATH 2350G	STAT 271G	Common
MATH 2415	MATH 280	Unique
MATH 2530G	MATH 291G	Common
MATH 2992	MATH 200	Unique
MGMT-MANAGEMENT		
MGMT 2110	MGT 201	Common
MGMT 309	MGT 309	N/A
MGMT 310V	MGT 310V	N/A
MGMT 315V	MGT 315V	N/A
MGMT 332	MGT 332	N/A
MGMT 333	MGT 333	N/A

MGMT 335V	MGT 335V	N/A
MGMT 344	MGT 344	N/A
MGMT 347	MGT 347	N/A
MGMT 351	MGT 351	N/A
MGMT 361	MGT 361	N/A
MGMT 375V	MGT 375V	N/A
MGMT 388V	MGT 388V	N/A
MGMT 391	MGT 391	N/A
MGMT 448	MGT 448	N/A
MGMT 449	MGT 449	N/A
MGMT 451	MGT 451	N/A
MGMT 453	MGT 453	N/A
MGMT 454	MGT 454	N/A
MGMT 458	MGT 458	N/A
MGMT 460	MGT 460	N/A
MGMT 461	MGT 461	N/A
MGMT 465	MGT 465	N/A
MGMT 470	MGT 470	N/A
MGMT 490	MGT 490	N/A
MGMT 491	MGT 491	N/A
MGMT 498	MGT 498	N/A
MGMT 502	MGT 502	N/A
MGMT 503	MGT 503	N/A
MGMT 512	MGT 512	N/A
MGMT 527	MGT 527	N/A
MGMT 548	MGT 548	N/A
MGMT 590	MGT 590	N/A
MGMT 591	MGT 591	N/A
MGMT 598	MGT 598	N/A
MGMT 600	MGT 600	N/A
MGMT 601	MGT 601	N/A
MGMT 640	MGT 640	N/A
MGMT 645	MGT 645	N/A
MGMT 650	MGT 650	N/A
MGMT 655	MGT 655	N/A
MGMT 660	MGT 660	N/A
MGMT 661	MGT 661	N/A
MGMT 670	MGT 670	N/A
MGMT 675	MGT 675	N/A
MGMT 685	MGT 685	N/A
MGMT 690	MGT 690	N/A
MGMT 698	MGT 698	N/A
MGMT 700	MGT 700	N/A
MKTG-MARKETING		
MKTG 2110	BMGT 210	Common
MKTG 2110	MKTG 203	Common
MUSC-MUSIC		
MUSC 351	MUS 351	N/A
MUSC 1110G	MUS 201G	Common
MUSC 1130G	MUS 101G	Common
MUSC 1210	MUS 102	Common
MUSC 1310	MUS 121	Common

MUSC 1410	MUS 250	Common
MUSC 1440	MUS 141	Unique
MUSC 1450	MUS 103	Unique
MUSC 1451	MUS 104	Unique
MUSC 1460	MUS 105	Unique
MUSC 1461	MUS 106	Unique
MUSC 1470	MUS 145	Unique
MUSC 1471	MUS 146	Unique
MUSC 1472	MUS 147	Unique
MUSC 1992	MUS 130	Common
MUSC 2110	MUS 164	Common
MUSC 2110	MUS 171	Common
MUSC 2120	MUS 151	Common
MUSC 2120	MUS 160	Common
MUSC 2120	MUS 161	Common
MUSC 2120	MUS 162	Common
MUSC 2120	MUS 170	Common
MUSC 2120	MUS 172	Common
MUSC 2120	MUS 180	Common
MUSC 2120	MUS 181	Common
MUSC 2130	MUS 163	Common
MUSC 2132	MUS 174	Unique
MUSC 2151	MUS 202	Unique
MUSC 2210	MUS 262	Common
MUSC 2220	MUS 263	Common
MUSC 2240	MUS 207	Unique
MUSC 2310	MUS 273	Common
MUSC 2451	MUS 203	Unique
MUSC 2452	MUS 204	Unique
MUSC 2460	MUS 205	Unique
MUSC 2461	MUS 206	Unique
MUSC 2470	MUS 261	Unique
MUSC 2510	MUS 230	Unique
MUSC 2993	MUS 251	Unique
MUSC 2996	MUS 260	Unique
MUSC 301	MUS 301	N/A
MUSC 302	MUS 302	N/A
MUSC 303	MUS 303	N/A
MUSC 315	MUS 315	N/A
MUSC 316	MUS 316	N/A
MUSC 317	MUS 317	N/A
MUSC 318	MUS 318	N/A
MUSC 319	MUS 319	N/A
MUSC 320	MUS 320	N/A
MUSC 321	MUS 321	N/A
MUSC 322	MUS 322	N/A
MUSC 323	MUS 323	N/A
MUSC 324	MUS 324	N/A
MUSC 325	MUS 325	N/A
MUSC 326	MUS 326	N/A
MUSC 327	MUS 327	N/A
MUSC 330	MUS 330	N/A

MUSC 339	MUS 339	N/A
MUSC 340	MUS 340	N/A
MUSC 341	MUS 341	N/A
MUSC 346	MUS 346	N/A
MUSC 349	MUS 349	N/A
MUSC 350	MUS 350	N/A
MUSC 360	MUS 360	N/A
MUSC 361	MUS 361	N/A
MUSC 362	MUS 362	N/A
MUSC 363	MUS 363	N/A
MUSC 365	MUS 365	N/A
MUSC 368	MUS 368	N/A
MUSC 370	MUS 370	N/A
MUSC 372	MUS 372	N/A
MUSC 374	MUS 374	N/A
MUSC 380	MUS 380	N/A
MUSC 381	MUS 381	N/A
MUSC 386	MUS 386	N/A
MUSC 390	MUS 390	N/A
MUSC 391	MUS 391	N/A
MUSC 392	MUS 392	N/A
MUSC 413	MUS 413	N/A
MUSC 415	MUS 415	N/A
MUSC 417	MUS 417	N/A
MUSC 421	MUS 421	N/A
MUSC 422	MUS 422	N/A
MUSC 424	MUS 424	N/A
MUSC 429	MUS 429	N/A
MUSC 430	MUS 430	N/A
MUSC 440	MUS 440	N/A
MUSC 441	MUS 441	N/A
MUSC 450	MUS 450	N/A
MUSC 455	MUS 455	N/A
MUSC 470	MUS 470	N/A
MUSC 471	MUS 471	N/A
MUSC 475	MUS 475	N/A
MUSC 477	MUS 477	N/A
MUSC 486	MUS 486	N/A
MUSC 498	MUS 498	N/A
MUSC 511	MUS 511	N/A
MUSC 513	MUS 513	N/A
MUSC 518	MUS 518	N/A
MUSC 519	MUS 519	N/A
MUSC 521	MUS 521	N/A
MUSC 522	MUS 522	N/A
MUSC 523	MUS 523	N/A
MUSC 527	MUS 527	N/A
MUSC 529	MUS 529	N/A
MUSC 530	MUS 530	N/A
MUSC 531	MUS 531	N/A
MUSC 535	MUS 535	N/A
MUSC 540	MUS 540	N/A

MUSC 574	MUS 574	N/A
MUSC 575	MUS 575	N/A
MUSC 576	MUS 576	N/A
MUSC 577	MUS 577	N/A
MUSC 578	MUS 578	N/A
MUSC 579	MUS 579	N/A
MUSC 580	MUS 580	N/A
MUSC 582	MUS 582	N/A
MUSC 586	MUS 586	N/A
MUSC 598	MUS 598	N/A
MUSC 599	MUS 599	N/A
NATV-NATV-NATIVE AMERICAN STUDIES		
NATV 3110V	ANTH 305V	N/A
NATV 3120	ANTH 454	N/A
NATV 4110	ANTH 453	N/A
NATV 4120V	ANTH 444	N/A
NATV 4130	ANTH 443	N/A
NATV 4210	ANTH 407	N/A
NATV 4220	ANTH 455	N/A
NATV 4310	ANTH 441	N/A
NATV 5120	ANTH 551	N/A
NATV 5210	ANTH 528	N/A
NMNEC-NURSING EDUC CONSORTIUM		
NMNC 3110	NURS 293	Common
NMNC 3120	NURS 362	Common
NMNC 3135	NURS 294	Common
NMNC 3210	NURS 377	Common
NMNC 3220	NURS 378	Common
NMNC 3230	NURS 379	Common
NMNC 3235	NURS 380	Common
NMNC 4310	NURS 395	Common
NMNC 4320	NURS 396	Common
NMNC 4335	NURS 398	Common
NMNC 4410	NURS 466	Common
NMNC 4435	NURS 467	Common
NMNC 4445	NURS 468	Common
NMNC 4510	NURS 486	Common
NMNC 4520	NURS 487	Common
NMNC 4535	NURS 488	Common
NMNC 4545	NURS 489	Common
NUAS-NURSING ASSISTANT		
NUAS 1110	NA 101	Common
NUAS 1115	NA 105	Common
NUAS 2110	NA 201	Unique
NURS-NURSING		
NURS 1110	NURS 110	Unique
NURS 1120	NURS 156	Common
NURS 1121	NURS 136	Unique
NURS 1121L	NURS 136L	Unique
NURS 1125	NURS 147	Common
NURS 1125L	NURS 147L	Common
NURS 1131	NURS 130	Unique

NURS 1134	NURS 134	Unique
NURS 1134L	NURS 134L	Unique
NURS 1150	NURS 150/OATS 150	Common
NURS 1153	NURS 127	Common
NURS 1154	NURS 154	Common
NURS 1157	NURS 224	Common
NURS 1157L	NURS 224L	Common
NURS 2210	NURS 210	Common
NURS 2214	NURS 149	Common
NURS 2214L	NURS 149L	Common
NURS 2225	NURS 226	Common
NURS 2225L	NURS 226L	Common
NURS 2235	NURS 236	Common
NURS 2235L	NURS 236L	Common
NURS 2996	NURS 201	Unique
NURS 3110	NURS 328	N/A
NURS 3996	NURS 397	N/A
NURS 4110	NURS 460	N/A
NURS 4997	NURS 490	N/A
NURS 5110	NURS 507	N/A
NURS 5115	NURS 509	N/A
NURS 5120	NURS 567	N/A
NURS 5125	NURS 506	N/A
NURS 5130	NURS 530	N/A
NURS 5210	NURS 565	N/A
NURS 5220	NURS 549	N/A
NURS 5230	NURS 566	N/A
NURS 5240	NURS 595	N/A
NURS 5996	NURS 597	N/A
NURS 5997	NURS 590	N/A
NURS 6110	NURS 603	N/A
NURS 6120	NURS 651	N/A
NURS 6125	NURS 653	N/A
NURS 6130	NURS 685	N/A
NURS 6135	NURS 648	N/A
NURS 6210	NURS 697	N/A
NURS 6220	NURS 511	N/A
NURS 6230	NURS 512	N/A
NURS 6250	NURS 612	N/A
NURS 6255	NURS 649	N/A
NURS 6260	NURS 657	N/A
NURS 6265	NURS 642	N/A
NURS 6270	NURS 622	N/A
NURS 6305	NURS 679	N/A
NURS 6307	NURS 689	N/A
NURS 6310	NURS 686	N/A
NURS 6320	NURS 687	N/A
NURS 6330	NURS 688	N/A
NURS 6340	NURS 699	N/A
NURS 6350	NURS 678	N/A
NURS 6405	NURS 514	N/A
NURS 6410	NURS 660	N/A

NURS 6420	NURS 662	N/A
NURS 6430	NURS 664	N/A
NURS 6450	NURS 665	N/A
NURS 6505	NURS 676	N/A
NURS 6510	NURS 671	N/A
NURS 6520	NURS 672	N/A
NURS 6530	NURS 673	N/A
NURS 6990	NURS 698	N/A
NURS 6993	NURS 690	N/A
NURS 6997	NURS 691	N/A
NURS 7000	NURS 700	N/A
NUTR-NUTRITION		
NUTR 1120	AHS 115	Unique
NUTR 2110	HNDS 251	Common
NUTR 2120	HNDS 201	Unique
NUTR 3110	HNDS 350	N/A
NUTR 3120	HNDS 360	N/A
NUTR 3750	HNDS 440	N/A
NUTR 3996	HNDS 450	N/A
NUTR 4110	HNDS 448	N/A
NUTR 4210	HNDS 403	N/A
NUTR 4220	HNDS 430	N/A
NUTR 4230	HNDS 446	N/A
NUTR 4230L	HNDS 446 L	N/A
NUTR 4233	HNDS 420	N/A
NUTR 4235	HNDS 405	N/A
NUTR 4240	HNDS 449	N/A
NUTR 4240L	HNDS 449 L	N/A
NUTR 4550	HNDS 455	N/A
NUTR 4560	HNDS 401	N/A
NUTR 4565	HNDS 407	N/A
NUTR 4991	HNDS 492	N/A
NUTR 5110	HNDS 548	N/A
NUTR 5150	HNDS 500	N/A
NUTR 5210	HNDS 551	N/A
NUTR 5220	HNDS 530	N/A
NUTR 5230	HNDS 546	N/A
NUTR 5233	HNDS 520	N/A
NUTR 5240	HNDS 549	N/A
NUTR 5610	HNDS 560	N/A
NUTR 5620	HNDS 562	N/A
NUTR 5630	HNDS 563	N/A
NUTR 5640	HNDS 564	N/A
NUTR 5650	HNDS 565	N/A
NUTR 5660	HNDS 566	N/A
NUTR 5670	HNDS 567	N/A
NUTR 5680	HNDS 568	N/A
NUTR 5991	HNDS 598	N/A
NUTR 5996	HNDS 590	N/A
OTEC-OFFICE TECHNOLOGY		
OTEC 1101	OATS 101	Common
OTEC 1102	OATS 102	Common

OTEC 1103	OATS 202	Common
OTEC 1125	OATS 207	Common
OTEC 2260	OATS 203	Unique
OTEC 2270	OATS 223	Unique
OTEC 2998	OATS 221	Unique
OTEC 2999	OATS 270	Unique
PHED-PHYSICAL EDUCATION		
PHED 1110	P E 128	Common
PHED 1230	P E 147	Common
PHED 1230	P E 148	Common
PHED 1230	P E 150	Common
PHED 1290	P E 112	Common
PHED 1290	P E 113	Common
PHED 1290	P E 114	Common
PHED 1290	P E 115	Common
PHED 1290	P E 117	Common
PHED 1290	P E 166	Common
PHED 1310	P E 130	Common
PHED 1320	P E 131	Common
PHED 1410	P E 199	Common
PHED 1430	P E 109	Common
PHED 1510	P E 102	Common
PHED 1510	P E 103	Common
PHED 1510	P E 127	Common
PHED 1620	P E 205	Common
PHED 1630	P E 104	Common
PHED 1670	P E 129	Common
PHED 1710	P E 154	Common
PHED 1710	P E 159	Common
PHED 1830	P E 173	Common
PHED 1910	P E 263	Common
PHED 2996	P E 270	Common
PHIL-PHILOSOPHY		
PHIL 1115G	PHIL 101G	Common
PHIL 1120G	PHIL 211G	Common
PHIL 1140G	PHIL 136G	Unique
PHIL 1145G	PHIL 100G	Unique
PHIL 1155G	PHIL 124G	Unique
PHIL 2110G	PHIL 223G	Common
PHIL 2230G	PHIL 201G	Common
PHLB-PHLEBOTOMY		
PHLB 1110	NA 115	Common
PHLB 1190	NA 109	Unique
PHLS-PUBLIC HEALTH SCIENCES		
PHLS 1110G	PHLS 150G	Common
PHLS 2110	PHLS 275	Common
PHLS 2120	PHLS 295	Common
PHLS 3110V	PHLS 301V	N/A
PHLS 3120V	PHLS 380V	N/A
PHLS 3130V	PHLS 305V	N/A
PHLS 3210	PHLS 375	N/A
PHLS 3220	PHLS 395	N/A

PHLS 4130	PHLS 452	N/A
PHLS 4210	PHLS 475	N/A
PHLS 4310	PHLS 451	N/A
PHLS 4320	PHLS 450	N/A
PHLS 4410	PHLS 457	N/A
PHLS 4420	PHLS 473	N/A
PHLS 4430	PHLS 476	N/A
PHLS 4440	PHLS 478	N/A
PHLS 4510	PHLS 497	N/A
PHLS 4515	PHLS 499	N/A
PHLS 4610	PHLS 461	N/A
PHLS 4620V	PHLS 464V	N/A
PHLS 4630	PHLS 465	N/A
PHLS 4640	PHLS 467	N/A
PHLS 4650	PHLS 468	N/A
PHLS 4660	PHLS 469	N/A
PHLS 4710	GERO 415	N/A
PHLS 4720	GERO 450	N/A
PHLS 4730	GERO 493	N/A
PHLS 4740	GERO 451	N/A
PHLS 4810	PHLS 459	N/A
PHLS 4820	PHLS 471	N/A
PHLS 4996	PHLS 486	N/A
PHLS 4997	PHLS 490	N/A
PHLS 4998	PHLS 496	N/A
PHLS 5110	MPH 510	N/A
PHLS 5120	MPH 520	N/A
PHLS 5130	MPH 530	N/A
PHLS 5140	MPH 540	N/A
PHLS 5150	MPH 550	N/A
PHLS 5210	MPH 570	N/A
PHLS 5220	MPH 572	N/A
PHLS 5230	MPH 573	N/A
PHLS 5240	MPH 574	N/A
PHLS 5250	MPH 578	N/A
PHLS 5260	MPH 579	N/A
PHLS 5310	MPH 541	N/A
PHLS 5320	MPH 545	N/A
PHLS 5330	MPH 546	N/A
PHLS 5340	MPH 547	N/A
PHLS 5160	PHLS 5350	N/A
PHLS 5610	MPH 561	N/A
PHLS 5620	MPH 564	N/A
PHLS 5630	MPH 565	N/A
PHLS 5635	MPH 566	N/A
PHLS 5640	MPH 567	N/A
PHLS 5650	MPH 568	N/A
PHLS 5660	MPH 569	N/A
PHLS 5670	MPH 560	N/A
PHLS 5710	MPH 515	N/A
PHLS 5720	MPH 557	N/A
PHLS 5730	MPH 593	N/A

PHLS 5810	MPH 559	N/A
PHLS 5820	MPH 571	N/A
PHLS 5830	MPH 581	N/A
PHLS 5996	MPH 586	N/A
PHLS 5997	MPH 590	N/A
PHLS 5998	MPH 596	N/A
PHLS 5999	MPH 599	N/A
PHYS-PHYSICS		
PHYS 1111	PHYS 150	Unique
PHYS 1112	PHYS 210	Unique
PHYS 1115G	PHYS 110G	Common
PHYS 1125G	PHYS 120G	Common
PHYS 1230G	PHYS 211G	Common
PHYS 1230L	PHYS 211GL	Common
PHYS 1240G	PHYS 212G	Common
PHYS 1240L	PHYS 212GL	Common
PHYS 1310G	PHYS 215G	Common
PHYS 1310L	PHYS 215GL	Common
PHYS 1311	PHYS 205	Common
PHYS 1320G	PHYS 216G	Common
PHYS 1320L	PHYS 216GL	Common
PHYS 1321	PHYS 206	Common
PHYS 2110	PHYS 213	Unique
PHYS 2110L	PHYS 213 L	Unique
PHYS 2111	PHYS 203	Unique
PHYS 2120	PHYS 217	Unique
PHYS 2120L	PHYS 217 L	Unique
PHYS 2121	PHYS 218	Unique
PHYS 2140	PHYS 214	Unique
PHYS 2140L	PHYS 214 L	Unique
PHYS 2141	PHYS 204	Unique
PHYS 2230G	PHYS 221G	Unique
PHYS 2230L	PHYS 221GL	Unique
PHYS 2231	PHYS 223	Common
PHYS 2240G	PHYS 222G	Unique
PHYS 2240L	PHYS 222GL	Unique
PHYS 2241	PHYS 224	Common
PHYS 2996	PHYS 290	Unique
PHYS 2997	PHYS 280	Unique
PLEN-PLANT & ENVIRONMENTAL SCIENCES		
PLEN 6110	ENVS 605	N/A
PLEN 6120	AGRO 620	N/A
PLEN 6120	HORT 620	N/A
PLEN 6210	AGRO 625	N/A
PLEN 6210	HORT 625	N/A
PLEN 6210	SOIL 625	N/A
PLEN 6210	EPWS 625	N/A
PLEN 6320	SOIL 652	N/A
PLEN 6410	SOIL 655	N/A
PLEN 6415	AGRO 609	N/A
PLEN 6415	HORT 609	N/A
PLEN 6420	AGRO 610	N/A

PLEN 6420	HORT 610	N/A
PLEN 6425	AGRO 670	N/A
PLEN 6425	HORT 670	N/A
PLEN 6810	AGRO 697	N/A
PLEN 6810	HORT 697	N/A
PLEN 6810	SOIL 697	N/A
PLEN 6910	AGRO 694	N/A
PLEN 6910	SOIL 694	N/A
PLEN 6920	AGRO 696	N/A
PLEN 6920	SOIL 696	N/A
PLEN 6920	ENVS 696	N/A
PLEN 6991	AGRO 600	N/A
PLEN 6991	SOIL 600	N/A
PLEN 6996	AGRO 698	N/A
PLEN 6996	SOIL 698	N/A
PLEN 7000	AGRO 700	N/A
PLEN 7000	SOIL 700	N/A
POLS-POLITICAL SCIENCE		
POLS 1110G	GOVT 110G	Common
POLS 1111	GOVT 101	Unique
POLS 1120G	GOVT 100G	Common
POLS 1130G	GOVT 150G	Common
POLS 2120G	GOVT 160G	Common
POLS 2996	GOVT 201	Unique
POLS 300	GOVT 300	N/A
POLS 308	GOVT 308	N/A
POLS 313	GOVT 313	N/A
POLS 314	GOVT 314	N/A
POLS 315	GOVT 315	N/A
POLS 320	GOVT 320	N/A
POLS 321	GOVT 321	N/A
POLS 324	GOVT 324	N/A
POLS 330	GOVT 330	N/A
POLS 331	GOVT 331	N/A
POLS 335	GOVT 335	N/A
POLS 343	GOVT 343	N/A
POLS 344	GOVT 344	N/A
POLS 345	GOVT 345	N/A
POLS 348	GOVT 348	N/A
POLS 350	GOVT 350	N/A
POLS 353	GOVT 353	N/A
POLS 354	GOVT 354	N/A
POLS 360	GOVT 360	N/A
POLS 361	GOVT 361	N/A
POLS 362	GOVT 362	N/A
POLS 366	GOVT 366	N/A
POLS 367	GOVT 367	N/A
POLS 370	GOVT 370	N/A
POLS 371	GOVT 371	N/A
POLS 372	GOVT 372	N/A
POLS 373	GOVT 373	N/A
POLS 378	GOVT 378	N/A

POLS 379	GOVT 379	N/A
POLS 380V	GOVT 380V	N/A
POLS 382	GOVT 382	N/A
POLS 383	GOVT 383	N/A
POLS 385	GOVT 385	N/A
POLS 386	GOVT 386	N/A
POLS 387	GOVT 387	N/A
POLS 390	GOVT 390	N/A
POLS 391	GOVT 391	N/A
POLS 392	GOVT 392	N/A
POLS 394	GOVT 394	N/A
POLS 395	GOVT 395	N/A
POLS 396	GOVT 396	N/A
POLS 399	GOVT 399	N/A
POLS 405	GOVT 405	N/A
POLS 406	GOVT 406	N/A
POLS 407	GOVT 407	N/A
POLS 410	GOVT 410	N/A
POLS 411	GOVT 411	N/A
POLS 412	GOVT 412	N/A
POLS 415	GOVT 415	N/A
POLS 468	GOVT 468	N/A
POLS 469	GOVT 469	N/A
POLS 493	GOVT 493	N/A
POLS 502	GOVT 502	N/A
POLS 503	GOVT 503	N/A
POLS 505	GOVT 505	N/A
POLS 510	GOVT 510	N/A
POLS 517	GOVT 517	N/A
POLS 519	GOVT 519	N/A
POLS 522	GOVT 522	N/A
POLS 527	GOVT 527	N/A
POLS 530	GOVT 530	N/A
POLS 536	GOVT 536	N/A
POLS 537	GOVT 537	N/A
POLS 540	GOVT 540	N/A
POLS 541	GOVT 541	N/A
POLS 542	GOVT 542	N/A
POLS 543	GOVT 543	N/A
POLS 544	GOVT 544	N/A
POLS 547	GOVT 547	N/A
POLS 548	GOVT 548	N/A
POLS 549	GOVT 549	N/A
POLS 550	GOVT 550	N/A
POLS 560	GOVT 560	N/A
POLS 561	GOVT 561	N/A
POLS 563	GOVT 563	N/A
POLS 564	GOVT 564	N/A
POLS 569	GOVT 569	N/A
POLS 570	GOVT 570	N/A
POLS 574	GOVT 574	N/A
POLS 578	GOVT 578	N/A

POLS 579	GOVT 579	N/A
POLS 580	GOVT 580	N/A
POLS 587	GOVT 587	N/A
POLS 590	GOVT 590	N/A
POLS 591	GOVT 591	N/A
POLS 593	GOVT 593	N/A
POLS 596	GOVT 596	N/A
POLS 598	GOVT 598	N/A
POLS 599	GOVT 599	N/A
PORT-PORTUGUESE		
PORT 1110	PORT 213	Common
PORT 1120	PORT 214	Common
PSYC-PSYCHOLOGY		
PSYC 1110G	PSY 201G	Common
PSYC 2221	PSY 266	Unique
PSYC 2230	PSY 290	Common
PSYC 2311	PSY 274	Unique
PSYC 301	PSY 301	N/A
PSYC 302	PSY 302	N/A
PSYC 310	PSY 310	N/A
PSYC 311	PSY 311	N/A
PSYC 315	PSY 315	N/A
PSYC 317	PSY 317	N/A
PSYC 320	PSY 320	N/A
PSYC 321	PSY 321	N/A
PSYC 324	PSY 324	N/A
PSYC 325	PSY 325	N/A
PSYC 330	PSY 330	N/A
PSYC 340	PSY 340	N/A
PSYC 350	PSY 350	N/A
PSYC 351	PSY 351	N/A
PSYC 359	PSY 359	N/A
PSYC 370	PSY 370	N/A
PSYC 375	PSY 375	N/A
PSYC 376	PSY 376	N/A
PSYC 380	PSY 380	N/A
PSYC 383	PSY 383	N/A
PSYC 400	PSY 400	N/A
PSYC 401	PSY 401	N/A
PSYC 402	PSY 402	N/A
PSYC 430	PSY 430	N/A
PSYC 442	PSY 442	N/A
PSYC 450	PSY 450	N/A
PSYC 470	PSY 470	N/A
PSYC 507	PSY 507	N/A
PSYC 508	PSY 508	N/A
PSYC 509	PSY 509	N/A
PSYC 510	PSY 510	N/A
PSYC 520	PSY 520	N/A
PSYC 522	PSY 522	N/A
PSYC 523	PSY 523	N/A
PSYC 524	PSY 524	N/A

PSYC 527	PSY 527	N/A
PSYC 529	PSY 529	N/A
PSYC 540	PSY 540	N/A
PSYC 547	PSY 547	N/A
PSYC 550	PSY 550	N/A
PSYC 570	PSY 570	N/A
PSYC 590	PSY 590	N/A
PSYC 598	PSY 598	N/A
PSYC 599	PSY 599	N/A
PSYC 600	PSY 600	N/A
PSYC 698	PSY 698	N/A
PSYC 700	PSY 700	N/A
RADT-RADIOLOGIC TECHNOLOGY		
RADT 1115	RADT 103	Common
RADT 1130L	RADT 103L	Unique
RADT 1140	RADT 101	Common
RADT 1140L	RADT 101L	Common
RADT 1150	RADT 102	Common
RADT 1150L	RADT 102L	Common
RADT 1175	RADT 100	Common
RADT 1190	RADT 190	Unique
RADT 1191	RADT 191	Unique
RADT 1520	RADT 200	Common
RADT 1811	RADT 111	Unique
RADT 1812	RADT 112	Unique
RADT 1997	RADT 156	Unique
RADT 2250	RADT 205	Common
RADT 2404	RADT 104	Common
RADT 2408	RADT 110	Common
RADT 2410	RADT 105	Common
RADT 2811	RADT 201	Unique
RADT 2812	RADT 202	Unique
RADT 2813	RADT 203	Unique
RADT 2814	RADT 204	Unique
RADT 2817	RADT 207	Unique
RADT 2818	RADT 208	Unique
RADT 2819	RADT 209	Unique
RADT 2820	RADT 210	Unique
RADT 2999	RADT 206	Common
READ-READING		
READ 3110	RDG 371	N/A
READ 3996	RDG 395	N/A
READ 4310	RDG 360	N/A
READ 4320	RDG 361	N/A
READ 4330	RDG 414	N/A
READ 5210	RDG 522	N/A
READ 5220	RDG 530	N/A
READ 5310	RDG 560	N/A
READ 5320	RDG 561	N/A
READ 5330	RDG 514	N/A
READ 5340	RDG 511	N/A
READ 5350	RDG 510	N/A

READ 5360	RDG 518	N/A
READ 5410	RDG 525	N/A
READ 5420	RDG 590	N/A
READ 5990	RDG 585	N/A
READ 5992	RDG 536	N/A
READ 5996	RDG 598	N/A
READ 6110	RDG 608	N/A
READ 6120	RDG 617	N/A
READ 6130	RDG 639	N/A
READ 6210	RDG 630	N/A
READ 6320	RDG 633	N/A
READ 6991	RDG 600	N/A
READ 6992	RDG 636	N/A
READ 6996	RDG 698	N/A
READ 6997	RDG 605	N/A
READ 6999	RDG 699	N/A
RESP-RESPIRATORY THERAPY		
RESP 1140	RESP 115	Common
RESP 1150	RESP 110	Common
RESP 1150L	RESP 110L	Common
RESP 1250	RESP 120	Common
RESP 1250L	RESP 120L	Common
RESP 1330	RESP 124	Common
RESP 2110	RESP 233	Common
RESP 2120	RESP 210	Common
RESP 2120L	RESP 210L	Common
RESP 2150	RESP 240	Common
RESP 2150L	RESP 240L	Common
RESP 2230	RESP 230	Unique
RESP 2230L	RESP 230L	Unique
RESP 2242	RESP 242	Unique
RESP 2243	RESP 243	Unique
RESP 2330	RESP 224	Unique
RESP 2332	RESP 234	Unique
RESP 2334	RESP 244	Unique
RGSC-RANGE SCIENCE		
RGSC 1110	RGSC 150	Unique
RGSC 2110	RGSC 294	Common
RGSC 2996	RGSC 250	Unique
RXPP-PRESCIPTION PRIVATE PRACTICE PSYCHOLOGY		
RXPP 6110	RXPP 601	N/A
RXPP 6120	RXPP 602	N/A
RXPP 6210	RXPP 603	N/A
RXPP 6220	RXPP 604	N/A
RXPP 6230	RXPP 605	N/A
RXPP 6310	RXPP 606	N/A
RXPP 6320	RXPP 607	N/A
RXPP 6330	RXPP 608	N/A
RXPP 6410	RXPP 609	N/A
RXPP 6420	RXPP 610	N/A
RXPP 6510	RXPP 611	N/A
RXPP 6520	RXPP 612	N/A

RXPP 6996	RXPP 698	N/A
SIGN-SIGN LANGUAGE		
SIGN 1110	C D 374	Common
SIGN 1120	C D 375	Common
SIGN 2110	C D 476	Common
SIGN 574	C D 574	N/A
SOCI-SOCIOLOGY		
SOCI 1110G	SOC 101G	Common
SOCI 2230	SOC 263	Common
SOCI 2230	SOC 269	Common
SOCI 2240	SOC 258	Common
SOCI 2261	SOC 262	Unique
SOCI 2310G	SOC 201G	Common
SOCI 3110V	SOCI 330V	N/A
SOCI 3120V	SOCI 360V	N/A
SOCI 3150	SOCI 352	N/A
SOCI 3160	SOCI 353	N/A
SOCI 3165	SOCI 351	N/A
SOCI 3240	SOCI 359	N/A
SOCI 3245V	SOCI 374V	N/A
SOCI 3250	SOCI 390	N/A
SOCI 3255	SOCI 393	N/A
SOCI 3270	SOCI 357	N/A
SOCI 3310V	SOCI 361V	N/A
SOCI 3315	SOCI 362	N/A
SOCI 3330	SOCI 365	N/A
SOCI 3340V	SOCI 376V	N/A
SOCI 3410	SOCI 371	N/A
SOCI 3415	SOCI 375	N/A
SOCI 3510	SOCI 391	N/A
SOCI 3520	SOCI 392	N/A
SOCI 3610V	SOCI 336V	N/A
SOCI 3620V	SOCI 394V	N/A
SOCI 4150	SOCI 444	N/A
SOCI 4155	SOCI 445	N/A
SOCI 4160	SOCI 446	N/A
SOCI 4240V	SOCI 458V	N/A
SOCI 4310	SOCI 409	N/A
SOCI 4320	SOCI 430	N/A
SOCI 4335V	SOCI 465V	N/A
SOCI 4337	SOCI 464	N/A
SOCI 4410	SOCI 480	N/A
SOCI 4420	SOCI 470	N/A
SOCI 4430	SOCI 473	N/A
SOCI 4450	SOCI 486	N/A
SOCI 4460	SOCI 489	N/A
SOCI 4510	SOCI 481	N/A
SOCI 4555	SOCI 477	N/A
SOCI 4992	SOCI 449	N/A
SOCI 4996	SOCI 448	N/A
SOCI 4998	SOCI 496	N/A
SOCI 4999	SOCI 401	N/A

SOCI 5110	SOCI 501	N/A
SOCI 5150	SOCI 544	N/A
SOCI 5153	SOCI 553	N/A
SOCI 5155	SOCI 545	N/A
SOCI 5157	SOCI 561	N/A
SOCI 5160	SOCI 546	N/A
SOCI 5163	SOCI 551	N/A
SOCI 5165	SOCI 552	N/A
SOCI 5170	SOCI 582	N/A
SOCI 5175	SOCI 583	N/A
SOCI 5270	SOCI 559	N/A
SOCI 5310	SOCI 509	N/A
SOCI 5320	SOCI 530	N/A
SOCI 5335	SOCI 565	N/A
SOCI 5337	SOCI 564	N/A
SOCI 5410	SOCI 571	N/A
SOCI 5415	SOCI 575	N/A
SOCI 5420	SOCI 570	N/A
SOCI 5430	SOCI 587	N/A
SOCI 5440	SOCI 579	N/A
SOCI 5450	SOCI 586	N/A
SOCI 5460	SOCI 589	N/A
SOCI 5510	SOCI 581	N/A
SOCI 5515	SOCI 574	N/A
SOCI 5555	SOCI 577	N/A
SOCI 5991	SOCI 549	N/A
SOCI 5996	SOCI 548	N/A
SOCI 5998	SOCI 596	N/A
SOCI 5999	SOCI 599	N/A
SOIL-SOIL		
SOIL 2110	SOIL 252	Common
SOIL 2110L	SOIL 252 L	Common
SOIL 2996	SOIL 200	Unique
SOWK-SOCIAL WORK		
SOWK 2110G	S WK 221G	Common
SOWK 2111	S WK 251	Unique
SOWK 3110	SOWK 309	N/A
SOWK 3120	SOWK 311	N/A
SOWK 3130	SOWK 312	N/A
SOWK 3140V	SOWK 331V	N/A
SOWK 3150	SOWK 316	N/A
SOWK 3210	SOWK 300	N/A
SOWK 3220	SOWK 313	N/A
SOWK 3230	SOWK 315	N/A
SOWK 4110	SOWK 417	N/A
SOWK 4210	SOWK 415	N/A
SOWK 4220	SOWK 416	N/A
SOWK 4230	SOWK 443	N/A
SOWK 4240	SOWK 418	N/A
SOWK 4310	SOWK 401	N/A
SOWK 4311	SOWK 412	N/A
SOWK 4320	SOWK 403	N/A

SOWK 4321	SOWK 419	N/A
SOWK 4510	SOWK 490	N/A
SOWK 4996	SOWK 497	N/A
SOWK 4997	SOWK 449	N/A
SOWK 5110	MSW 509	N/A
SOWK 5120	MSW 560	N/A
SOWK 5130	MSW 510	N/A
SOWK 5140	MSW 514	N/A
SOWK 5150	MSW 500	N/A
SOWK 5160	MSW 520	N/A
SOWK 5170	MSW 521	N/A
SOWK 5180	MSW 551	N/A
SOWK 5190	MSW 552	N/A
SOWK 5220	MSW 562	N/A
SOWK 5250	MSW 503	N/A
SOWK 5280	MSW 554	N/A
SOWK 5290	MSW 555	N/A
SOWK 5310	MSW 547	N/A
SOWK 5320	MSW 524	N/A
SOWK 5330	MSW 525	N/A
SOWK 5340	MSW 526	N/A
SOWK 5350	MSW 527	N/A
SOWK 5510	MSW 590	N/A
SOWK 5996	MSW 597	N/A
SOWK 5997	MSW 595	N/A
SOWK 5999	MSW 599	N/A
SPAN-SPANISH		
SPAN 1110	SPAN 111	Common
SPAN 1120	SPAN 112	Common
SPAN 1210	SPAN 113	Common
SPAN 1220	SPAN 213	Common
SPAN 1410	OATS 171	Common
SPAN 1511	OATS 170	Unique
SPAN 2110	SPAN 211	Common
SPAN 2120	SPAN 212	Common
SPAN 2210	SPAN 214	Common
SPED-SPECIAL EDUCATION		
SPED 2996	SPED 201	Unique
SPED 3105	SPED 350	N/A
SPED 3110	SPED 355	N/A
SPED 3120	SPED 360	N/A
SPED 4110	SPED 407	N/A
SPED 4120	SPED 406	N/A
SPED 4130	SPED 409	N/A
SPED 4140	SPED 411	N/A
SPED 4150	SPED 480	N/A
SPED 4210	SPED 463	N/A
SPED 4220	SPED 459	N/A
SPED 4310	SPED 485	N/A
SPED 4320	SPED 486	N/A
SPED 4330	SPED 487	N/A
SPED 4340	SPED 488	N/A

SPED 4810	SPED 483	N/A
SPED 4811	SPED 481	N/A
SPED 4820	SPED 482	N/A
SPED 4840	SPED 492	N/A
SPED 4992	SPED 495	N/A
SPED 4996	SPED 489	N/A
SPED 5105	SPED 500	N/A
SPED 5110	SPED 507	N/A
SPED 5120	SPED 506	N/A
SPED 5130	SPED 509	N/A
SPED 5140	SPED 511	N/A
SPED 5150	SPED 580	N/A
SPED 5160	SPED 545	N/A
SPED 5210	SPED 504	N/A
SPED 5220	SPED 559	N/A
SPED 5230	SPED 523	N/A
SPED 5310	SPED 585	N/A
SPED 5320	SPED 586	N/A
SPED 5330	SPED 587	N/A
SPED 5340	SPED 588	N/A
SPED 5405	SPED 532	N/A
SPED 5410	SPED 533	N/A
SPED 5420	SPED 534	N/A
SPED 5430	SPED 536	N/A
SPED 5440	SPED 538	N/A
SPED 5450	SPED 539	N/A
SPED 5460	SPED 552	N/A
SPED 5470	SPED 553	N/A
SPED 5480	SPED 554	N/A
SPED 5490	SPED 555	N/A
SPED 5810	SPED 582	N/A
SPED 5811	SPED 548	N/A
SPED 5820	SPED 590	N/A
SPED 5850	SPED 513	N/A
SPED 5860	SPED 510	N/A
SPED 5870	SPED 583	N/A
SPED 5990	SPED 522	N/A
SPED 5991	SPED 598	N/A
SPED 5996	SPED 501	N/A
SPED 5999	SPED 599	N/A
SPED 6110	SPED 607	N/A
SPED 6120	SPED 606	N/A
SPED 6160	SPED 645	N/A
SPED 6170	SPED 619	N/A
SPED 6310	SPED 685	N/A
SPED 6330	SPED 687	N/A
SPED 6340	SPED 688	N/A
SPED 6810	SPED 690	N/A
SPED 6830	SPED 613	N/A
SPED 6840	SPED 610	N/A
SPED 6991	SPED 600	N/A
SPED 6996	SPED 698	N/A

SPED 6997	SPED 605	N/A
SPED 6998	SPED 640	N/A
SPED 7000	SPED 700	N/A
SPHS-SPEECH & HEARING SCIENCE		
SPHS 2110	C D 221	Common
SPHS 4510	SPHS 323	N/A
SPHS 4520	SPHS 422	N/A
SPHS 4610	SPHS 301	N/A
SPHS 4620	SPHS 324	N/A
SPHS 4710	SPHS 421	N/A
SPHS 4720	SPHS 322	N/A
SPHS 4810	SPHS 326	N/A
SPHS 4820	SPHS 423	N/A
SPHS 4830	SPHS 424	N/A
SPHS 5110	SPHS 505	N/A
SPHS 5120	SPHS 523	N/A
SPHS 5130	SPHS 525	N/A
SPHS 5140	SPHS 542	N/A
SPHS 5210	SPHS 530	N/A
SPHS 5220	SPHS 535	N/A
SPHS 5230	SPHS 584	N/A
SPHS 5310	SPHS 545	N/A
SPHS 5320	SPHS 547	N/A
SPHS 5330	SPHS 583	N/A
SPHS 5340	SPHS 585	N/A
SPHS 5350	SPHS 586	N/A
SPHS 5410	SPHS 521	N/A
SPHS 5510	SPHS 541	N/A
SPHS 5520	SPHS 548	N/A
SPHS 5988	SPHS 590	N/A
SPHS 5989	SPHS 640	N/A
SPHS 5990	SPHS 589	N/A
SPHS 5996	SPHS 591	N/A
SPHS 5999	SPHS 599	N/A
SPMD-SPORTS MEDICINE		
SPMD 1110	SP M 190	Unique
SPMD 1120	SP M 191	Unique
SPMD 1190	SP M 272	Unique
SPMD 1195	SP M 273	Unique
SPMD 1310	SP M 175	Unique
SPMD 1350	PE P 185	Unique
SPMD 2130	SP M 250	Unique
SPMD 2210	SP M 271	Unique
SPMD 2210L	SP M 271 L	Unique
SPMD 2250	PE P 208	Unique
SPMD 2310	SP M 200	Unique
SPMD 3010	SP M 310	N/A
SPMD 3050	SP M 375	N/A
SPMD 3090	SP M 372	N/A
SPMD 3093	SP M 373	N/A
SPMD 3110	PE P 323	N/A
SPMD 3120	PE P 363	N/A

SPMD 3130	PE P 392	N/A
SPMD 3140	PE P 394	N/A
SPMD 3150	PE P 393	N/A
SPMD 3160	PE P 315	N/A
SPMD 3210	SP M 371	N/A
SPMD 3210L	SP M 371 L	N/A
SPMD 3250	SP M 324	N/A
SPMD 3310	PE P 319	N/A
SPMD 3350	SP M 412	N/A
SPMD 3410	SP M 308	N/A
SPMD 3450	SP M 305	N/A
SPMD 3450L	SP M 305 L	N/A
SPMD 3550	SP M 304	N/A
SPMD 3610	SP M 303	N/A
SPMD 3650	SP M 341	N/A
SPMD 3710	SP M 342	N/A
SPMD 4010	SP M 410	N/A
SPMD 4015	SP M 415	N/A
SPMD 4020	SP M 420	N/A
SPMD 4025	SP M 411	N/A
SPMD 4030	SP M 425	N/A
SPMD 4090	SP M 422	N/A
SPMD 4093	SP M 423	N/A
SPMD 4095	SP M 424	N/A
SPMD 4098	SP M 498	N/A
SPMD 4110	PE P 455	N/A
SPMD 4130	PE P 466	N/A
SPMD 4210	SP M 451	N/A
SPMD 4250	SP M 460	N/A
SPMD 4250L	SP M 460 L	N/A
SPMD 4350	SP M 330	N/A
SPMD 4410	SP M 456	N/A
SPMD 4450	SP M 307	N/A
SPMD 4510	SP M 309	N/A
SPMD 4550	SP M 223	N/A
SPMD 4610	PE P 465	N/A
SPMD 4997	SP M 499	N/A
SPMD 4998	SP M 445	N/A
SPMD 5010	SP M 510	N/A
SPMD 5015	SP M 513	N/A
SPMD 5020	SP M 514	N/A
SPMD 5025	SP M 511	N/A
SPMD 5030	SP M 515	N/A
SPMD 5310	SP M 512	N/A
SPMD 5350	SP M 560	N/A
SPMD 5410	SP M 509	N/A
SPMD 5450	SP M 556	N/A
SPMD 5510	SP M 504	N/A
SPMD 5550	SP M 545	N/A
SPMD 6310	PE P 624	N/A
SPMD 6350	SP M 551	N/A
SPMD 6410	SP M 608	N/A

SPMD 6450	SP M 665	N/A
SPMD 6510	SP M 660	N/A
SPMD 6710	SP M 597	N/A
SPMD 6750	SP M 600	N/A
SPMD 6996	PE P 501	N/A
SPMD 7000	SP M 700	N/A
STAT-STATISTICS		
STAT 371	STAT 3110	N/A
STAT 470	STAT 4210	N/A
STAT 480	STAT 4220	N/A
STAT 515	STAT 5210	N/A
STAT 525	STAT 5220	N/A
STAT 535	STAT 5230	N/A
STAT 562	STAT 5310	N/A
STAT 563	STAT 5320	N/A
STAT 571	STAT 5330	N/A
STAT 572	STAT 5335	N/A
STAT 581	STAT 5340	N/A
STAT 582	STAT 5345	N/A
THEA-THEATRE		
THEA 1110G	THTR 101G	Common
THEA 1210G	THTR 105	Common
THEA 1221	THTR 110	Unique
THEA 1222	THTR 120	Unique
THEA 1223	THTR 130	Unique
THEA 1310	THTR 142	Common
THEA 1310L	THTR 142 L	Unique
THEA 1415	THTR 149	Unique
THEA 2221	THTR 210	Unique
THEA 2222	THTR 206	Unique
THEA 2310	THTR 141	Common
THEA 2310L	THTR 141 L	Unique
THEA 2340	THTR 250	Unique
THEA 2415	THTR 249	Unique
THEA 2421	THTR 220	Unique
THEA 2993	THTR 200	Unique
THEA 2996	THTR 222	Unique
THEA 300	THTR 300	N/A
THEA 303	THTR 303	N/A
THEA 304	THTR 304	N/A
THEA 305	THTR 305	N/A
THEA 307V	THTR 307V	N/A
THEA 308	THTR 308	N/A
THEA 310	THTR 310	N/A
THEA 311	THTR 311	N/A
THEA 312	THTR 312	N/A
THEA 313	THTR 313	N/A
THEA 317	THTR 317	N/A
THEA 321V	THTR 321V	N/A
THEA 322	THTR 322	N/A
THEA 323	THTR 323	N/A
THEA 329	THTR 329	N/A

THEA 330	THTR 330	N/A
THEA 334	THTR 334	N/A
THEA 337	THTR 337	N/A
THEA 341	THTR 341	N/A
THEA 343	THTR 343	N/A
THEA 345	THTR 345	N/A
THEA 346	THTR 346	N/A
THEA 347	THTR 347	N/A
THEA 348	THTR 348	N/A
THEA 349	THTR 349	N/A
THEA 352	THTR 352	N/A
THEA 353	THTR 353	N/A
THEA 354	THTR 354	N/A
THEA 355	THTR 355	N/A
THEA 356	THTR 356	N/A
THEA 357	THTR 357	N/A
THEA 360	THTR 360	N/A
THEA 366	THTR 366	N/A
THEA 384	THTR 384	N/A
THEA 395	THTR 395	N/A
THEA 396	THTR 396	N/A
THEA 408	THTR 408	N/A
THEA 409	THTR 409	N/A
THEA 410	THTR 410	N/A
THEA 414	THTR 414	N/A
THEA 417	THTR 417	N/A
THEA 430	THTR 430	N/A
THEA 435	THTR 435	N/A
THEA 439	THTR 439	N/A
THEA 440	THTR 440	N/A
THEA 450	THTR 450	N/A
THEA 535	THTR 535	N/A
WELD-WELDING		
WELD 100	WELD 1130	Common
WELD 102	WELD 1110	Common
WELD 110	WELD 1120	Common
WELD 115	WELD 2130	Common
WELD 120	WELD 1310	Common
WELD 125	WELD 1220	Common
WELD 130	WELD 1140	Common
WELD 140	WELD 1155	Common
WELD 150	WELD 2220	Common
WELD 160	WELD 1210	Common
WELD 170	WELD 1171	Common
WELD 180	WELD 2155	Common
WELD 190	WELD 1191	Common
WELD 211	WELD 2290	Common
WELD 221	WELD 2995	Unique
WELD 255	WELD 2996	Common
WELD 295	WELD 2997	Unique

Academic and Career Programs

Programs offered at New Mexico State University - Doña Ana Community College

Programs are titled in the following styles:

- **Business Management (Finance & Banking Services) - Associate of Applied Science**
  - Major Title (Business Management), will appear on diplomas and transcripts
  - Concentration Title (Finance & Banking Services), will appear on diplomas and transcripts
  - Degree Title (Associate of Applied Science), will appear on diplomas and transcripts

All DACC associate's degrees require a minimum grade of C- or better in ENGL 1110G Composition I and the designated mathematics requirement.

Information about each career or academic program and its various degrees and certificates may be accessed from either the navigation menu at the left or through the information below.

DACC to NMSU Aggie Pathway roadmaps are available to view within the Arts and Sciences degrees.

A

- Adult Education (p. 433)
- Advanced Automotive Technician - Certificate of Completion (p. 167)
- Advertising Representative - Certificate of Achievement (p. 186)
- Aerospace Technology - Associate of Applied Science (p. 123)
- Aerospace Technology - Certificate of Completion (p. 124)
- Applied Business Retail and Merchandising Services - Certificate of Completion (p. 186)
- Architectural Technology - Associate of Applied Science (p. 281)
- Architectural Technology - Certificate of Completion (p. 287)
- Artificial Intelligence Technician - Certificate of Completion (p. 209)
- Automation and Manufacturing - Certificate of Completion (p. 156)
- Automation and Manufacturing Technology - Associate of Applied Science (p. 155)
- Automotive Technology - Associate of Applied Science (p. 165)

B

- Banking - Certificate of Completion (p. 187)
- Basic Automotive Technician - Certificate of Completion (p. 166)
- Basic Drone - UAS - Technology - Certificate of Completion (p. 125)
- Basic Firefighter - Certificate of Completion (p. 350)
- Basic Manufacturing and Bridge - Certificate of Completion (p. 157)
- Basic Residential Wiring - Certificate of Completion (p. 174)
- Basic Solar - Certificate of Completion (p. 174)
- Biomedical Electronics - Certificate of Completion (p. 325)
- Bookkeeping - Certificate of Completion (p. 399)
- Building Construction Technology - Associate of Applied Science (p. 172)
- Building Construction Technology - Certificate of Completion (p. 173)
- Business Fundamentals - Certificate of Completion (p. 187)
- Business Leadership - Certificate of Completion (p. 188)
- Business Management (Finance & Banking Services) - Associate of Applied Science (p. 182)
- Business Management (General Management) - Associate of Applied Science (p. 183)
- Business Management (Retail Marketing & Sales) - Associate of Applied Science (p. 184)
- Business Management - Associate of Applied Science (p. 180)

C

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- CDL Programs (p. 435)
- Cisco Networking - Certificate of Completion (p. 210)
- Civil/Survey Technology - Associate of Applied Science (p. 282)
- Civil/Survey Technology - Certificate of Completion (p. 287)
- Commercial Photography - Certificate of Completion (p. 226)
- Community Health Worker - Certificate of Completion (p. 408)
- Computed Tomography - Certificate of Completion (p. 415)
- Computer and Information Technology - Certificate of Completion (p. 210)
- Computer Information Systems (Artificial Intelligence) - Associate of Applied Science (p. 198)
- Computer Information Systems - Associate of Applied Science (p. 199)
- Computer Information Systems - Certificate of Completion (p. 210)
- Computer Technology (Artificial Intelligence) - Associate of Applied Science (p. 200)
- Computer Technology (IT Specialist) - Associate of Applied Science (p. 202)
- Computer Technology (Networking) - Associate of Applied Science (p. 204)
- Computer Technology (Programming) - Associate of Applied Science (p. 206)
- Computer Technology - Data Analytics - Certificate of Completion (p. 211)
- Corrections - Associate of Applied Science (p. 237)
- Creative Media - Certificate of Achievement (p. 226)
- Criminal Justice - Associate in Criminal Justice (p. 238)
- Culinary Arts - Associate of Applied Science (p. 247)
- Culinary Arts - Baking & Pastry - Certificate of Completion (p. 248)
- Culinary Arts - Savory - Certificate of Completion (p. 249)
- Cybersecurity - Associate of Applied Science (p. 208)
- Cybersecurity - Certificate of Completion (p. 211)

D

- Dental Assistant - Certificate of Completion (p. 252)
- Dental Hygiene - Associate of Applied Science (p. 259)
- Diagnostic Medical Sonography - Associate of Applied Science (p. 267)
- Diagnostic Medical Sonography - Certificate of Completion (p. 270)
- Digital Audio - Certificate of Completion (p. 227)
- Digital Film - Associate of Applied Science (p. 222)
- Digital Graphics - Certificate of Completion (p. 227)

- Digital Graphics Technology - Associate of Applied Science (p. 224)
- Digital Video - Certificate of Completion (p. 228)
- Drafting and Graphics Technology - Certificate of Completion (p. 288)

E

- Early Childhood Administrator - Certificate of Completion (p. 299)
- Early Childhood Development - Certificate of Completion (p. 299)
- Early Childhood Education - Associate in Early Childhood Education (p. 296)
- Education (Elementary Education) - Associate in Education (p. 302)
- Education (Elementary Education-Special Education) - Associate in Education (p. 304)
- Education (Secondary Language Arts) - Associate in Education (p. 306)
- Education (Secondary Math) - Associate in Education (p. 309)
- Education (Secondary Science) - Associate in Education (p. 310)
- Education (Secondary Social Studies) - Associate in Education (p. 312)
- Electrical Lineworker - Certificate of Completion (p. 317)
- Electrocardiogram Technician - Certificate of Achievement (p. 131)
- Electronics Technology (Biomedical Electronics) - Associate of Applied Science (p. 322)
- Electronics Technology (General Electronics) - Associate of Applied Science (p. 323)
- Electronics Technology - Certificate of Completion (p. 326)
- Emergency Medical Services - Associate of Applied Science (p. 334)
- EMT - Basic - Certificate of Achievement (p. 335)
- EMT - Intermediate - Certificate of Achievement (p. 336)
- EMT Paramedic - Certificate of Completion (p. 337)
- Energy Auditing - Certificate of Completion (p. 175)
- Environmental and Energy Technologies - Associate of Applied Science (p. 341)

F

- Film Crew Training - Certificate of Completion (p. 228)
- Fire Science Technology - Associate of Applied Science (p. 349)
- First Responder Prehospital - Certificate of Achievement (p. 338)

G

- Game Design - Certificate of Completion (p. 229)
- Game Development - Associate of Applied Science (p. 225)
- General Business Management - Certificate of Completion (p. 188)
- General Engineering - Associate of Science (p. 353)
- Geographical Information Systems - Certificate of Completion (p. 288)
- Graphics and Animation - Certificate of Completion (p. 230)

H

- Health Information Technology - Associate of Applied Science (p. 358)
- Health Information Technology - Certificate of Completion (p. 359)
- Heating, Ventilation, Air Conditioning and Refrigeration - Associate of Applied Science (p. 363)
- Hospitality and Tourism (Food & Beverage) - Associate of Applied Science (p. 372)
- Hospitality and Tourism (Lodging & Tourism) - Associate of Applied Science (p. 373)
- Hospitality and Tourism - Associate of Applied Science (p. 371)
- Hospitality Services Management (Hospitality Supervision) - Associate of Applied Science (p. 380)
- Hospitality Services Management - Associate of Applied Science (p. 379)
- HVAC/R - Certificate of Completion (p. 364)

I

- Intermediate Automotive Technician - Certificate of Completion (p. 166)

L

- Law Enforcement - Associate of Applied Science (p. 239)
- Licensed Practical Nurse - Certificate of Completion (p. 389)

M

- Mechanical Drafting and Solid Modeling - Associate of Applied Science (p. 283)
- Mechanical Drafting and Solid Modeling - Certificate of Completion (p. 289)
- Medical Assisting - Associate of Applied Science (p. 130)
- Medical Assisting - Certificate of Completion (p. 129)

N

- Nursing - Associate in Nursing (p. 387)

O

- Office Administration Technology (Administrative Assistant) - Associate of Applied Science (p. 394)
- Office Administration Technology (Bookkeeping Assistant) - Associate of Applied Science (p. 396)
- Office Administration Technology (Medical Office Assistant) - Associate of Applied Science (p. 397)
- Office Administration Technology - Certificate of Completion (p. 399)
- Office Administration Technology - Medical Billing - Certificate of Completion (p. 401)
- Office Administration Technology - Medical Transcription - Certificate of Completion (p. 401)

P

- Phlebotomist - Certificate of Achievement (p. 131)
- Plumbing - Certificate of Completion (p. 175)
- Pre-Architecture - Associate of Applied Science (p. 284)
- Pre-Architecture - Certificate of Completion (p. 289)
- Pre-Surgical Technician Program (p. 132)
- Prebusiness - Associate in Prebusiness (p. 402)
- Programming - Certificate of Completion (p. 212)
- Public Health - Associate of Public Health (p. 405)

- Public Safety First Line Supervisor - Certificate of Achievement (p. 240)

R

- Radiologic Technology - Associate of Applied Science (p. 414)
- Residential HVAC - Certificate of Completion (p. 365)
- Respiratory Therapy - Associate of Applied Science (p. 420)

S

- Science (Biology) - Associate of Science (p. 148)
- Science (Chemistry) - Associate of Science (p. 149)
- Science (Computer Science) - Associate of Science (p. 150)
- Science (Mathematics) - Associate of Science (p. 152)
- Science - Associate of Science (p. 138)
- Small Business Development Center (p. 435)
- Solar Energy Technology - Certificate of Completion (p. 343)
- Surveying Technology - Associate of Applied Science (p. 286)
- System Administration - Certificate of Completion (p. 212)

V

- Vascular Sonography - Certificate of Completion (p. 272)

W

- Water Technology - Associate of Applied Science (p. 426)
- Water Technology - Certificate of Completion (p. 427)
- Web Design - Certificate of Completion (p. 230)
- Welding Technology - Associate of Applied Science (p. 431)
- Welding Technology - Certificate of Completion (p. 432)
- Workforce Training (p. 436)

Aerospace Technology

Aerospace Technology - Associate of Applied Science Degree

Aerospace Technology - Certificate of Completion

Basic Drone - UAS - Technology - Certificate of Completion

Aerospace Technology refers to the construction, testing, and maintenance of aircraft and space vehicles. Technicians may be involved in the assembly, service, testing, operation, and repair of systems associated with dependable and reusable space launch vehicles and related ground support equipment. The successful candidate in this new field will possess a very broad range of technology-based skills.

The curriculum includes the core skills used in spaceflight technology, as well as instruction in commercial spaceflight requirements. It also prepares graduates for employment opportunities in emerging local aerospace-related industries in southern New Mexico. The broad skills and knowledge students acquire in this program also are applicable to jobs in electronics and manufacturing.

Students may complete the Aerospace Technology program on a part-time basis by taking classes during the evening or during the day.

Click HERE (https://dacc.nmsu.edu/academics/programs/aerospace-technology/) to visit the Aerospace Technology website.

Aerospace Technology - Associate of Applied Science (https://nmsu-curr.courseleaf.com/dona-ana/academic-career-programs/aerospace-technology/aerospace-engineering-associate-applied-science/)

Aerospace Technology - Certificate of Completion (https://nmsu-curr.courseleaf.com/dona-ana/academic-career-programs/aerospace-technology/aerospace-engineering-certificate-completion/)

Basic Drone - UAS (p. 125) **- Technology -** Certificate of Completion

AERT 105. Aerospace Engineering PLTW
4 Credits (2+4P)
Introduce the student to Aerospace Engineering (AE) concepts and history. Studied topics include History of Flight, Aerodynamics, Rocket Science, Orbital Physics, Systems Engineering and Life Support/ Environmental Systems. Restricted to: Community Colleges only.

AERT 111. Basic Electricity and Electronics
3 Credits (2+2P)
Fundamentals of electricity and electronics, basic circuit devices, meters, transistors, integrated fiber optics, and industrial application topics. Minimum math proficiency of CCDM 103 or CCDM 104 required or math placement into CCDM 114 or higher. Restricted to: Community Colleges only. Crosslisted with: ELT 105

AERT 121. Introduction to the Aerospace Workplace
4 Credits (2+4P)
The course covers space history, regulations, controls, aerospace industry terminology and acronyms as well as hands-on activities related to tools, procedures, and standard practices. Restricted to: Community Colleges only. May be repeated up to 4 credits.
Learning Outcomes
1. Identify problems and advantages of living and working in space.
2. Describe what career opportunities exist for future aerospace technicians.
3. Using industrial equipment, demonstrate various fabrication techniques relative to the aerospace industry.
4. Construct electrical control circuits using various techniques.
5. Identify notable people and their accomplishments in the aerospace industry.

AERT 122. Aerospace Safety and Quality
3 Credits (2+2P)
Covers identification of hazards, personal protective equipment, safe practices, and protection of personnel, property, and equipment in the aerospace environment. Basic principles of quality assurance engineering and quality control relating to work processes will be discussed. Restricted to: Community Colleges only.

AERT 145. Introduction to Drone-UAS Technology
3 Credits (3)
Introduction to drone or Unmanned Aircraft System (UAS) technology and its applications in architecture, engineering, construction, film, media, and other related industries. Best practices, training, permissions, licensing, and documentation requirements will be explored. Obtaining, working with, and managing data obtained by drones will be emphasized. Emerging technologies and future applications will be introduced. Restricted to Dona Ana Campus only.
Learning Outcomes
1. Describe applications of drone technology by industry.
2. Recognize types of drone data.
3. Provide examples of how drone data can be used in project visualization.

4. Identify standard drone features.
5. Utilize related applications, software, and hardware successfully.
6. Demonstrate professional practices.
7. Describe training, permissions, licensing, and documentation requirements.
8. Identify best practices of UAV use.
9. Process and produce imagery and videos from drone data. 1
10. Perform basic data processing. 1
11. Manage point cloud data. 1
12. Create 3D meshes from drone data. 1
13. Explore emerging technologies and future applications.

AERT 195. Introduction to Drone - UAS Equipment Operation and Maintenance
4 Credits (4)
Introduction to drone or Unmanned Aircraft System (UAS) equipment operation and maintenance. Flying and maneuvering drones will be practiced. Pre-flight, in-flight, and post-flight procedures will be emphasized. Drone maintenance will be introduced. Restricted to Dona Ana campus only.
Prerequisite: A grade of C- or better in AERT 145.
Learning Outcomes
1. Describe related safety practices and procedures.
2. Discuss related communications requirements.
3. Demonstrate launch preparation steps.
4. Create a basic flight plan.
5. Demonstrate proper preflight, inflight, and post-flight procedures.
6. Describe standard flight operations.
7. Perform basic drone flight and maneuvers.
8. Identify elements of maintenance and inspection programs.
9. Describe related FAA requirements. 1
10. Demonstrate proper equipment and battery maintenance. 1
11. Describe proper parts and material control.

AERT 211. Electromechanical Devices
4 Credits (2+4P)
Theory and application of electromechanical devices and digital control circuits. Includes AD and DA converters, pneumatics, hydraulics, programmable logic controllers, DC, AC and stepper motors, and servomechanisms. Crosslisted with: MAT 240. May be repeated up to 4 credits.
Prerequisite: ELT 160.
Learning Outcomes
1. Apply the appropriate techniques to connect a multimeter correctly to a circuit or component for measuring voltage, current, microfarads, and resistance.
2. Demonstrate the process of troubleshooting basic electrical circuits.
3. Apply the theories and concepts learned to solve practical problems related to electromechanical devices and digital control circuits.
4. Evaluate the advantages and disadvantages of different control methods, such as pneumatic, hydraulic, or electronic control, for specific scenarios.
5. Classify and compare different types of electromechanical devices and digital control circuits, such as pneumatics, hydraulics, DC/AC motors, and stepper motors.

AERT 212. Materials and Processes (Basic Metallurgy)
3 Credits (2+2P)
Basic Metallurgy of aluminum alloys, magnesium, titanium, copper, stainless steel, surgical steel, superalloys, noble and rare earth will be discussed. Metallurgical Processes of casting, forging, hardening, tempering, annealing and anodizing along with corrosion control will be emphasized. May be repeated up to 3 credits.
Learning Outcomes
1. Explain the Theoretical Theory for hardness testing.
2. Select the proper type of steel for a given application.
3. Describe the failures and deformation of metal.
4. Apply the theoretical principles to interpret hardness testing results.
5. Summarize the various quenching methods of ferrous metals.
6. Put into practice corrosion control applications.
7. Explain the principles of heat treating materials.
8. Explain the difference between ferrous and nonferrous metals.

AERT 213. Aerospace Fluid Systems
3 Credits (2+2P)
This course includes a familiarization of fluid system components, characteristics, and applications. Cryogenic and hypergolic materials and high pressure systems are also covered. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Recall the basic knowledge and terminology related to hypergol and cryogenic systems in aerospace programs.
2. Identify the potential hazards associated with hypergol and cryogenic systems and the necessary safety measures, including first aid and personal protective equipment.
3. Apply the foundational knowledge to identify and describe the different hardware components used in hypergol and cryogenic systems.
4. Analyze the interactions and interdependencies between hypergol and cryogenic systems and their impact on aerospace programs.
5. Memorize the key concepts and principles of hypergol and cryogenic subsystem design.
6. Comprehend the properties and characteristics of hypergol and cryogenic materials and soft goods.
7. Utilize the entry-level awareness to assess and address the challenges related to hypergol and cryogenic buildup, including operations and ground interactions.
8. Evaluate the potential risks and hazards associated with hypergol and cryogenic systems and propose appropriate mitigation strategies.

AERT 214. Aerospace Systems
3 Credits (2+2P)
This course provides an introduction to expendable and reusable spacecraft systems including hydraulic, pneumatic, electrical, propulsion, mechanical, HVAC, and ECLSS (Environmental Control and Life Support System). How systems interact with computer and data acquisition systems is also covered. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Recall the key contents and information covered in the Space Mission and Design Analyses text.
2. Research the role and importance of mission operations and ground interactions in the context of space missions.
3. Employ the knowledge gained from the Space Mission and Design Analyses text to analyze and evaluate spacecraft and subsystem designs.

4. Analyze the complexities and considerations involved in constellation design and the development of multi-satellite systems.
5. Evaluate strategies and techniques for reducing mission costs and designing low-cost missions.
6. Utilize the entry-level awareness to assess and propose solutions for mission operations and ground interactions.
7. Relate the significance of requirements definition, logistics, and system implementation in space systems.

AERT 221. Inspection Requirements and Planning Metrology
3 Credits (2+2P)
Course teaches the benefits of inspection, quality control, material conditions. Also covers measurements, including temperature, ultrasonic, vibration and more. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Understand the purpose and function of quality management in aerospace companies.
2. Perform visual and precision inspections from engineering drawings.
3. Acquire practical understanding of Geometric Dimensions and Tolerances, along with proficiency in using specialized measuring equipment.
4. Develop the capability to conduct inspections for FOD, corrosion, and other relevant conditions.

AERT 222. Electromechanical Systems
3 Credits (2+2P)
Principles and applications of preventive and corrective maintenance procedures on industrial production machines using systems technical and maintenance manuals to develop troubleshooting procedures using systems block and schematic diagrams. Crosslisted with: MAT 245. May be repeated up to 3 credits.
Prerequisite: ELT 160.
Prerequisite/Corequisite: A grade of C- or better in AERT 221 or MAT 240.
Learning Outcomes
1. Recall the key concepts and information presented in the Space Mission and Design Analyses book.
2. Describe the principles and theories behind mission operations and ground interactions.
3. Apply the knowledge gained from the Space Mission and Design Analyses book to analyze and evaluate spacecraft and subsystem designs.
4. Analyze the complexities and considerations involved in constellation design and the development of multi-satellite systems.
5. Memorize the foundational knowledge related to spacecraft and subsystem design.
6. Comprehend the significance of requirements definition, logistics, and the implementation of space systems.
7. Apply the knowledge gained from the Space Mission and Design Analyses book to analyze and evaluate spacecraft and subsystem designs.
8. Evaluate strategies and techniques for reducing mission costs and designing low-cost missions.
9. Comprehend the significance of requirements definition, logistics, and the implementation of space systems.

AERT 224. Aerospace Tests and Measurements
3 Credits (2+2P)
This course covers electrical and mechanical testing procedures (primarily non-destructive testing), equipment, measurements, and instrumentation involved in aerospace systems. Verification of tool and equipment calibration is also covered. Restricted to Community Colleges Only. May be repeated up to 3 credits.
Prerequisite/Corequisite: AERT 221.
Learning Outcomes
1. Identify common material defects and their causes.
2. Understand the theory of various forms of material inspections and perform basic operation on multimeters, and oscilloscopes.
3. Identify common aerospace materials.
4. Apply professional productive work habits.

AERT 225. Cooperative Experience
1-3 Credits (1-3)
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Consent of instructor required. Graded: S/U. Restricted to: Community Colleges only.

AERT 245. Remote Pilot Certificate Test Preparation
3 Credits (3)
Preparation course for the FAA Unmanned Aircraft General – Small (UAG) aeronautical knowledge exam. Overview of applicable regulations, restrictions, procedures, and operations will be provided. Process for obtaining an FAA Tracking Number (FTN), registering for the FAA Unmanned Aircraft General – Small (UAG) aeronautical knowledge exam, and certificate registration requirements will be explored. Restricted to Dona Ana campus only.
Prerequisite: AERT 195.
Learning Outcomes
1. Demonstrate increased knowledge related to topics covered in the FAA UAG exam.
2. Demonstrate increased skills related to topics covered in the FAA UAG exam.
3. Demonstrate increased abilities related to topics covered in the FAA UAG exam.
4. Describe processes related to obtaining a FAA Unmanned Aircraft General – Small (UAG) aeronautical certificate.
5. Practice certification test-taking skills.

AERT 255. Special Topics
1-4 Credits (1-4)
Specific topics to be announced in the Schedule of Classes. Restricted to: Community Colleges only.

AERT 290. Independent Study
1-3 Credits (1-3)
Individual studies in areas directly related to aerospace. Consent of instructor required. Restricted to: Community Colleges only.

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Website: https://dacc.nmsu.edu/academics/programs/aerospace-technology/index.html (https://dacc.nmsu.edu/academics/programs/aerospace-technology/)

Aerospace Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

NOTE: Students must earn a final grade of C- or better in all Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education Requirements		
Choose one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, III, IV and V; students do not need to take any additional General Education courses to meet the requirement		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area III: Laboratory Sciences - Choose one from the following:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab [3]	
Area IV: Social/Behavioral Sciences - Choose one from the following:		
PSYC 1110G	Introduction to Psychology [3]	
or SOCI 1110G	Introduction to Sociology	
Area V: Humanities - Choose one from the following:		
ENGL 2650G	World Literature I [3]	
HIST 1110G	United States History I [3]	
HIST 1120G	United States History II [3]	
HIST 1130G	World History I [3]	
HIST 1140G	World History II [3]	
HIST 1150G	Western Civilization I [3]	
HIST 1160G	Western Civilization II [3]	
PHIL 1115G	Introduction to Philosophy [3]	
General Education Elective - Area I: Communications - English Composition Level 2		
ENGL 2210G	Professional and Technical Communication [3]	3
or ENGL 2210H	Professional and Technical Communication	
Core Requirements		
MATH 1250G	Trigonometry & Pre-Calculus (transfer track) [3]	4
or ELT 120	Mathematics for Electronics	
Technical Requirements [4]		
AERT 121	Introduction to the Aerospace Workplace	4
or AERT 105	Aerospace Engineering PLTW	
AERT 212	Materials and Processes (Basic Metallurgy)	3
or WELD 1310	Metallurgy	
AERT 213	Aerospace Fluid Systems	3
AERT 214	Aerospace Systems	3
AERT 221	Inspection Requirements and Planning Metrology	3
AERT 224	Aerospace Tests and Measurements	3
ELT 110	Electronics I	4
ELT 175	Soldering Practices	3
MAT 102	Print Reading for Industry	3
MAT 105	Introduction to Manufacturing	3
MAT 110	Machine Operation and Safety	3
MAT 265	Special Topics	3
Choose one from the following:		1
AERT 225	Cooperative Experience	
AERT 255	Special Topics	
AERT 290	Independent Study	
CIST 1111	Introductions (Foundations) of Information Systems	
OETS 102	Career Readiness Certification Preparation	
Total Credits		**60**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. A final grade of *C-* or better is required in all 100-level technical courses to progress to 200-level technical courses.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may very from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FALL		
MATH 1250G or ELT 120	Trigonometry & Pre-Calculus [1] or Mathematics for Electronics	4
AERT 121 or AERT 105	Introduction to the Aerospace Workplace or Aerospace Engineering PLTW	4
ELT 175	Soldering Practices	3
MAT 105	Introduction to Manufacturing	3

MAT 110	Machine Operation and Safety	3
	Credits	**17**
Semester 2		
SPRING		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area V: Humanities - Choose one from the following:		3
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
ELT 110	Electronics I	4
MAT 102	Print Reading for Industry	3
	Credits	**14**
Semester 3		
SUMMER		
Area IV: Social/Behavioral Sciences		3
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	
	Credits	**3**
Semester 4		
FALL		
General Education Elective - Area I: Communications - English Composition Level 2		3
ENGL 2210G	Professional and Technical Communication	
AERT 213	Aerospace Fluid Systems	3
AERT 214	Aerospace Systems	3
Choose one from the following:		1
AERT 225	Cooperative Experience	
AERT 255	Special Topics	
AERT 290	Independent Study	
CIST 1111	Introductions (Foundations) of Information Systems	
OETS 102	Career Readiness Certification Preparation	
	Credits	**10**
Semester 5		
SPRING		
Area III: Laboratory Sciences - Choose one from the following:		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
AERT 212 or WELD 1310	Materials and Processes (Basic Metallurgy) or Metallurgy	3
AERT 221	Inspection Requirements and Planning Metrology	3
AERT 224	Aerospace Tests and Measurements	3
MAT 265	Special Topics	3
	Credits	**16**
	Total Credits	**60**

[1] While ELT 120 Mathematics for Electronics meets program requirements, it does not meet the NM General Education Area II: Mathematics requirements.

Aerospace Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(30 credits)

NOTE: Students must earn a final grade of C- or better in all Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements [1]		
ELT 110	Electronics I	4
MAT 105	Introduction to Manufacturing	3
MAT 102	Print Reading for Industry	3
MAT 110	Machine Operation and Safety	3
AERT 121	Introduction to the Aerospace Workplace	4
or AERT 105	Aerospace Engineering PLTW	
AERT 213	Aerospace Fluid Systems	3
AERT 214	Aerospace Systems	3
AERT 221	Inspection Requirements and Planning Metrology	3
AERT 224	Aerospace Tests and Measurements	3
Choose one from the following:		1
AERT 225	Cooperative Experience	
AERT 255	Special Topics	
OECS 101	Computer Basics	
OETS 102	Career Readiness Certification Preparation	
Total Credits		**30**

[1] A final grade of *C-* or better is required in all 100-level technical courses to progress to 200-level technical courses.

(30 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may very from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
AERT 121	Introduction to the Aerospace Workplace	4
ELT 110	Electronics I	4
MAT 105	Introduction to Manufacturing	3
	Credits	**11**
Semester 2		
AERT 221	Inspection Requirements and Planning Metrology	3
AERT 224	Aerospace Tests and Measurements	3
MAT 102	Print Reading for Industry	3
MAT 110	Machine Operation and Safety	3
Choose one from the following:		1
AERT 225	Cooperative Experience	
AERT 255	Special Topics	
OECS 101	Computer Basics	
OETS 102	Career Readiness Certification Preparation	
	Credits	**13**
Semester 3		
AERT 213	Aerospace Fluid Systems	3
AERT 214	Aerospace Systems	3
	Credits	**6**
	Total Credits	**30**

Basic Drone - UAS - Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

NOTE: Students must earn a final grade of C- or better in all Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 16 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Course Requirements		
AERT 145	Introduction to Drone-UAS Technology	3
AERT 195	Introduction to Drone - UAS Equipment Operation and Maintenance	4
AERT 245	Remote Pilot Certificate Test Preparation	3
Choose 6 elective credits from one of the following programs		6
AERT		
ARCH		
CJUS		
DRFT		
FDMA		
FIRE		
LAWE		
TCEN		
Total Credits		**16**

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may very from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

First Year		
Semester 1		**Credits**
SPRING		
AERT 145	Introduction to Drone-UAS Technology	3
AERT 195	Introduction to Drone - UAS Equipment Operation and Maintenance	4
Choose 3 elective credits from one of the following programs [1]		3
AERT		
ARCH		
CJUS		
DRFT		
FDMA		
FIRE		
LAWE		
TCEN		
	Credits	**10**
Semester 2		
SUMMER		
AERT 245	Remote Pilot Certificate Test Preparation	3
Choose 3 elective credits from one of the following programs [1]		3
AERT		
ARCH		
CJUS		
DRFT		
FDMA		
FIRE		
LAWE		
TCEN		
	Credits	**6**
	Total Credits	**16**

[1] Elective credits for this certificate must be chosen from the same program (AERT, ARCH, CJUS, DRFT, FDMA, FIRE, LAWE, ***or*** TCEN).

Allied Healthcare Assistant

The versatile Allied Healthcare Assistant program has been designed to allow graduates to take advantage of expanding health career opportunities. The program consists of courses which can be taken separately for individual certifications, or together as part of a complete college certificate or associate's degree.

Associate's Degree

- Medical Assisting - Associate of Applied Science (59-63 credits)

Certificates of Completion

- Medical Assisting Certificate (31-35 Credits)

Course-Completion Certificates

- Phlebotomist Basic

* Registration for courses requiring clinical/practicum is contingent upon completion and submission of the clinical clearance packet to Castlebranch (https://discover.castlebranch.com/), the results from the New Mexico Department of Health Caregiver Criminal History Screening Program (CCHSP) (https://nmhealth.org/about/dhi/cchsp/) and drug screen.

Categories of Essential Functions

To participate in the courses offered in the Allied Healthcare Assistant Program, the student must be capable of performing the following:

Observation.

1. Visually discriminate incremental readings on various types of medical equipment;
2. Visually discriminate between different colored objects;
3. Discriminate between various auditory stimuli.

Communication.

1. Communicate effectively in English, using verbal, nonverbal, and written formats;
2. Read and interpret the English language without assistance.

Motor.

1. Stand for at least 5 hours;
2. Lift/carry 50 pounds; a release from MD may be required
3. Perform patient-care procedures with finger and manual dexterity.

Intellectual.

1. Collect, interpret, and integrate information.

Special Pre-Registration Requirements ("The Clinical Packet")

Before registering for any courses that are a co-requisite for a clinical course or a clinical course (MAST 1190 Clinical Skills & Concepts for Medical Assisting I; PHLB 1190 Phlebotomist Basic; MAST 2210 Medical Assisting Clinical Procedures II; MAST 2210 Medical Assisting Clinical Procedures IIL; MAST 2990 Medical Assistant Practicum) students must submit documentation of the following on-line to Castlebranch (https://discover.castlebranch.com/) at https://www.castlebranch.com/online_submission/package_code.php:

- **COVID-19** - To be determined by healthcare facilities where student completes clinical assignments.
- **TETANUS, DIPTHERIA, PERTUSSIS (Tdap)**
  - A booster within last 9 years
  - Adult Tdap required once
- **MMR (Measles, Mumps, Rubella)**
  - Proof of vaccination (2 doses) **OR**
  - Proof of immunity by titers (Rubeola, Mumps, and Rubella). Must include a copy of the lab report
- **VARICELLA (Chicken Pox)**
  - Proof of vaccination (2 doses) **OR**
  - Proof of immunity by titer. Must include the copy of the lab report
  - History of Disease is ***NOT*** accepted
- **HEPATITIS B**
  - Proof of immunity by vaccination (3 doses) **OR**
  - Proof of immunity by titer. Must include a copy of the lab report
- **SEASONAL FLU**
  -
  - Influenza vaccine must be for current year
- **TUBERCULIN STATUS**
  - Annual Tuberculous (TB) status is required. Depending on your past status and testing there are different options. Some healthcare facilities will require option 3 only.
  - **Option 1: Initial Two-Step Skin Test**
    - (1) receive the test, (2) return 48-72 hours later for reading, (3) wait 1-3 weeks, (4) repeat steps 1 & 2.
    - If no history or more than 12 months since last Tb Skin Test # 2 step Tb Skin Test required
  - **Option 2: Annual Skin Test**
    - If negative TB Test within 12 months # one step Tb Skin Test (for a total of 2 within 12 months)
  - **Option 3: QuantiFeron Gold (QFT) Blood Test**
    - Annual QFT is acceptable instead of Tb Skin Test. Like Tb Test, must be within 12 months and be negative
  - **Option 4: History of Positive Tb Skin Test or QuantiFeron Gold (QFT) Blood Test**
    - If History of Positive Tb Skin Test, submit the following:
      - **Date of Positive Tb with induration (mm)**
      - **Proof of chest x-ray**
      - **Complete Symptom Check Sheet (contact Health Services for form)**
    - If new positive TB # Follow-up by a healthcare provider. Must complete treatment as recommended
    - If a history of BCG vaccine # TST Skin Testing or QFT as above. If negative # OK; If positive # follow up as above.
- **American Heart Association Healthcare Provider BLS-CPR card** (cannot expire while taking courses); ***Heartsaver is not accepted.***
- **7-10 panel Urine Drug Screen** ordered via Castlebranch and delivered directly to the program. ***A drug screen result hand-carried by a student will not be accepted***. A positive screening result may prevent the student from gaining employment, obtaining state and national certifications, and continuing in courses.

Additional information regarding specific requirements is available from the program office in DAHL Room 190 and on the program web-

page. (https://dacc.nmsu.edu/academics/programs/allied-healthcare-assistant/)

Criminal History Screening

Prospective students are required to complete digital fingerprints and receive a clearance letter from N.M. Department of Health Caregiver Criminal History Screening Program (https://nmhealth.org/about/dhi/cchsp/). Past criminal violations may prevent a student from obtaining state and national certification, or from gaining employment in the field, and enrolling in the courses.

Medical Assisting - Certificate of Completion (p. 129)

Medical Assisting - Associate of Applied Science (p. 130)

Phlebotomist Basic - Course-Completion Certificate (p. 131)

Pre-Surgical Technician Program (p. 132)

HLSC 1510. Medical Terminology
3 Credits (3)
The study and understanding of medical terminology as it relates to diseases, their causes and effects, and the terminology used in various medical specialties. This course includes word construction, spelling, comprehension, pronunciation, application and abbreviations.
Learning Outcomes
1. Apply prefixes, suffixes, and combining forms to build medical terms.
2. Identify terms for body regions, planes, cavities and membranes.
3. Select medical terminology names, locations and functions of the major organs of the body systems.
4. Identify the medical terms associated with major disease processes and procedures.
5. Demonstrate correct medical linguistic skills.

HITP 1110. Electronic Health Records
3 Credits (3)
Current electronic health record principles, methods and procedures, and computerized medical record concepts and software applications will be introduced.
Learning Outcomes
1. Define the concept of an electronic health record.
2. Describe key issues related to privacy and security of EHRs.
3. Set up new patients, edit patient information, and export patient lists.
4. Set up new insurance companies.
5. Set up, edit, and print addresses in the physician, employee, pharmacy, and testing facility categories.
6. Add patients and notes to the schedule.
7. Use the Patient Tracker to track and locate a patient with the medical setting.
8. Describe the layout of an electric chart.
9. Create office visit notes. 1
10. Describe how to order lab, imaging, and medical tests.

HITP 1120. Health Information Introduction to Pharmacology
3 Credits (3)
Introduction to the principles of pharmacology, including drug terminology; drug origins, forms, and actions; routes of administration; as well as the use of generic name drugs, trade name drugs and categories of drugs to treat multiple and specific body systems.
Learning Outcomes
1. List and define the major pharmacological drugs and common generics used in healthcare.
2. Distinguish between local, systemic, therapeutic, allergic, and side effects of the drugs.
3. Describe the pharmacological action of common drugs and drug categories used to treat each body system, including usage, dosage, adverse effects, contraindications, indications, and key client education information.
4. Identify basic laws and ethics associated with pharmacological preparation and distribution.
5. Describe the principal mechanisms of actions, usage, dosage, adverse effects, contraindications, indications, and key client education information for drug classifications affecting multiple body systems, also list several routes of drug administration and describe their advantages and disadvantages.

HITP 2208. Medical Office Procedures
3 Credits (2+2P)
Introduction of current and efficient administrative medical office procedures. The emphasis will be on practical, current strategies for maintaining accurate, organized and compliant documentation.
Prerequisite: HLSC 1510.
Learning Outcomes
1. Identify key medical terminology as it relates to administrative medical office operations.
2. Explain the roles, responsibilities, and professional ethics of an administrative medical assistant in various healthcare setting.
3. Demonstrate effective communication skills with patients, families, proxies and healthcare professionals.
4. Apply accurate updated policy to scheduling techniques, office and records management, and billing procedures in a medical office environment.
5. Apply techniques for efficient patient, office, and administrative workflows to enhance medical office management.
6. Identify medical office technology applications that promote efficient administrative duties and accurate documentation.

HITP 2248. Medical Coding I
3 Credits (2+2P)
Comprehensive overview of the fundamentals, coding conventions, and principles of ICD-10-CM/PCS diagnostic and procedure codes.
Prerequisite: HITP 2228.
Learning Outcomes
1. Identify diagnoses, procedures, services while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate diagnostic codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.
5. Demonstrate proper medical record management techniques.

HITP 2288. Medical Insurance Billing
3 Credits (2+2P)
Comprehensive overview of the insurance concepts and applications required for successfully and accurately completing and submitting insurance claims and reimbursement processes for various insurance carriers, both private and government, will be emphasized.

Prerequisite: HLSC 1510.

Learning Outcomes

1. Comprehend the ramifications of a breach of confidentiality regarding patient information.
2. Follow requirements of different insurance carriers—i.e., HMO's Independent Provider Organizations, Medicare, Medicaid, Workmen's Compensation—in processing patient claims.
3. Process insurance claim form an initial patient visit through receipt of payment from insurance carrier.
4. Match ICD-10 code to appropriate diagnosis.
5. Analyze patient records to construct the insurance claim form and apply the requirements of different insurance carriers to that claim.
6. Classify and explain the various reimbursement systems and how they impact billing.
7. Identify issues of fraud and abuse and follow ethical principles by reviewing inpatient and outpatient cases.

MAST 1190. Clinical Skills & Concepts for Medical Assisting I
6 Credits (3+6P)

A core course designed to provide an introduction to the theory, concepts, and skills needed for entry-level medical assisting positions. Content includes basic theory and concepts designed to support safe and effective practice as a medical assistant in ambulatory care settings. Includes a skills laboratory for hands-on practice and 96 hours of supervised clinical in the work environment.

Learning Outcomes

1. Apply theoretical knowledge associated with medical assisting in providing basic healthcare services.
2. Perform essential clinical skills within the medical assistant scope of practice in ambulatory clinic settings.
3. Recognize factors that affect procedures and results, and take appropriate actions with predetermined limits when indicated, including patient compromise or complications.
4. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
5. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
6. Apply basic scientific principles in learning new techniques and procedures.
7. Relate vital sign and laboratory findings to common disease processes.

MAST 2160. Clinical Skills & Concepts for Medical Assisting II
6 Credits (3+6P)

A core course designed to provide the theory, concepts, and skills needed in preparation for entry-level medical assisting positions. Content includes theory and concepts related to specialty areas of healthcare practice, as well as consideration for conditions affecting persons throughout the life span. The course includes a skills laboratory for hands-on practice and 96 hours of supervised clinical in the work environment with specialized populations and procedures in both ambulatory and acute care settings.

Learning Outcomes

1. Apply theoretical knowledge associated with medical assisting in providing basic healthcare services.
2. Perform essential clinical skills within the medical assistant scope of practice in ambulatory clinic settings where specialized care is given, as well as, acute care settings.
3. Recognize factors that affect procedures and results, and take appropriate actions within predetermined limits when indicated, including patient compromise or complications.
4. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
5. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
6. Apply basic scientific principles in learning new techniques and procedures.
7. Relate vital sign and laboratory find is to common disease processes.

MAST 2210. Medical Assisting Clinical Procedures II
4 Credits (1)

This course expands on procedures performed in outpatient settings. It includes patient preparation, assisting with physical and specialty exams, office surgeries, and medical emergencies. Students will learn techniques for administering injections, performing ECGs, diagnostic imaging, and rehabilitative modalities. The course also covers pharmacology, medication administration, and drug calculations, diseases, and treatments of major body systems ensuring they are well-equipped for both routine procedures and critical situations in a healthcare environment.

Prerequisite: C- or better HLSC 1510; MATH 1130G; BIOL 1130G or (BIOL 2210, 2210L and BIOL 2225, 2225L); MAST 1190; PHLB 1110; HITP 2208; (HITP 2228); HITP 2248.

Learning Outcomes

1. Patient Centered Care and Safety: Perform diagnostic tests, managing patient care, maintaining sterile fields, and proper documentation.
2. Evidenced Based Practice, Teamwork and Collaboration, Quality Improvement, and Informatics: Teamwork and Collaboration, Quality Improvement and Informatics: Develop critical thinking, empathy, and effective communication, ensuring they can provide comprehensive care, manage emergencies, and support diverse patient needs in ambulatory settings.
3. Patient Centered Care and Safety: Demonstrate medical and surgical asepsis, gain proficiency in medication administration, injections, assisting with exams, minor surgeries and phlebotomy.

MAST 2990. Medical Assistant Practicum
12 Credits (12+12P)

Varies. Consent of Program Director/Instructor required due to clinical compliance requirements.

Prerequisite: NUAS 1110, PHLB 1190, (NUAS 1110 & NUAS 1110L) HLSC 1510, BIOL 1130, BOT 208, HITP 2288, HITP 2248.

Prerequisite/Corequisite: MAST 2999.

Learning Outcomes

1. Varies.

PHLB 1190. Phlebotomist Basic
4 Credits (3+3P)

This course provides the latest information, techniques, skills, and equipment for blood and specimen collection based on the standards of the Clinical and Laboratory Standards Institute, Needlestick Prevention Act, Joint Commission 2008 National Patient Safety Goals, OSHA and CDC. An advanced skills Laboratory is included in the course to provide a "hands-on" practice experience and a 30 hour practicum in a supervised work environment collecting blood and specimens on actual patients for Laboratory tests. Attendance is mandatory. Prepares students for employment as a phlebotomist in health care settings. Requires a "C" or

better to pass. Upon successful completion of the course, student has the opportunity to test for National Health Career Certification.
Prerequisite/Corequisite: BIOL 1130G or BIOL 2225.
Learning Outcomes

1. Demonstrate use of available resources and equipment pertinent to the role of a phlebotomist.
2. Employ concepts of medical asepsis and infection control.

Name: Cynthia Olivas, RN, DNP, Chair for Allied Health and Nursing

Email: colivas@dacc.nmsu.edu

Office Location: DAHL 190

Phone: (575) 528-7209

Advisors

Kelly Briarton, Email: KBriarton@dacc.nmsu.edu

Email: daccnurs@nmsu.edu

Office Location: DASP 104 (Sunland Park Center) or DAHL 190 (Espina Campus)

*Please call to make appointment as some days advisors are working remote, but can meet online

Phone: (575) 528-7271 or (575-527-7735)

Clinical Coordinator (Contact for clinical compliance and clear for registration for Medical Assisting courses that require a clinical/ practicum)

Victor Medina, BSN

Email: medina23@nmsu.edu

Website: https://dacc.nmsu.edu/academics/programs/allied-healthcare-assistant/index.html (https://dacc.nmsu.edu/academics/programs/allied-healthcare-assistant/)

Medical Assisting - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

Medical assistants work alongside physicians primarily in outpatient or ambulatory care facilities, such as medical offices, clinics, and urgent care centers. Medical assistants who earn their AAS in Medical Assisting are cross trained to perform administrative and clinical duties, whereas medical assistants who earn their certificate in medical assisting will be trained for clinical duties only.

Clinical duties include but are not limited to taking medical histories; explaining treatments and procedures to patients; collecting and preparing lab specimens; preparing and administering medications; performing electrocardiograms; and assisting physicians during examinations.

Administrative duties include but are not limited to answering telephones; updating and filing patient medical records; scheduling appointments; billing and bookkeeping.

Clinical Clearance Packet

Students registering for a course that has a clinical component (MAST 1190, PHLB 1190, MAST 2210, MAST 2210L, MAST 2990) are required to complete a clinical clearance packet and submit online to Castlebranch (https://discover.castlebranch.com/) for the director's approval to register.

Mandatory Attendance

Students must attend all class meetings and lab sessions to be eligible for national certification testing. Clinical courses take place off-campus, students will need to have personal transportation.

(31-35 credits)

NOTE: Students must earn a final grade of C or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Prefix	Title	Credits
HLSC 1510	Medical Terminology	3
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	4
or BIOL 2210	Human Anatomy and Physiology I	
or BIOL 2225	Human Anatomy and Physiology II	
HITP 1110	Electronic Health Records	3
HITP 1120	Health Information Introduction to Pharmacology	3
Clinical Skills		4
MAST 1190	Clinical Skills & Concepts for Medical Assisting I	
PHLB 1190	Phlebotomist Basic	4
MAST 2210	Medical Assisting Clinical Procedures II Didactic and Lab	4
Practicum		6
MAST 2990	Medical Assistant Practicum	
Total Credits		**31**

Semester 1		Credits
HLSC 1510	Medical Terminology	3
BIOL 1130G or BIOL 2210 or BIOL 2225	Introductory Anatomy & Physiology (non-majors) or Human Anatomy and Physiology I or Human Anatomy and Physiology II	4
HITP 1110	Electronic Health Records	3
HITP 1120	Health Information Introduction to Pharmacology	3
	Credits	**13**
Semester 2		
Clinical Skills		4
MAST 1190	Clinical Skills & Concepts for Medical Assisting I	
PHLB 1190	Phlebotomist Basic	4
MAST 2210	Medical Assisting Clinical Procedures II Didactic and Lab	4
	Credits	**12**
Semester 3		
Practicum		6
MAST 2990	Medical Assistant Practicum	
	Credits	**6**
	Total Credits	**31**

Medical Assisting - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

Medical assistants work alongside physicians primarily in outpatient or ambulatory care facilities, such as medical offices, clinics, and urgent care centers. Medical assistants who earn their AAS in Medical Assisting are cross trained to perform administrative and clinical duties, whereas medical assistants who earn their certificate in medical assisting will be trained for clinical duties only.

Clinical duties include but are not limited to taking medical histories; explaining treatments and procedures to patients; collecting and preparing lab specimens; preparing and administering medications; performing electrocardiograms; and assisting physicians during examinations.

Administrative duties include but are not limited to answering telephones; updating and filing patient medical records; scheduling appointments; billing and bookkeeping.

Mandatory Attendance and Clinical Experiences

Students must attend all class meetings and lab sessions to be eligible for national certification testing. Clinical courses take place off-campus, students will need to have personal transportation, and be cleared for clinical compliance

(62 credits)

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Clinical Compliance Packet

Students registering for a course that has a clinical component (PHLB 1190 Phlebotomist Basic, MAST 2990 Medical Assistant Practicum) are required to complete a clinical compliance packet and submit online to CastleBranch (https://discover.castlebranch.com/) for the director's approval to register.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*14-18*
Area I: Communications		
ENGL 1110G	Composition I [3]	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or Higher)	
Area III: Laboratory Sciences		
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
or BIOL 2210 & BIOL 2225	Human Anatomy and Physiology I and Human Anatomy and Physiology II	
Area IV: Social/Behavioral Sciences		
CEPY 1120G	Human Growth and Behavior [3]	
Area V: Humanities		
PHIL 2110G	Introduction to Ethics	3
PSYC 1110G	Introduction to Psychology	3
or SOCI 1110G	Introduction to Sociology	
Major Requirements		
Technical Requirements		
HITP 1110	Electronic Health Records	3
HITP 1120	Health Information Introduction to Pharmacology	3
HITP 2208	Medical Office Procedures	3
HITP 2248	Medical Coding I	3
HITP 2288	Medical Insurance Billing	3
HLSC 1510	Medical Terminology	3
Clinical Skills (MAST 1190, 4 Credits)		4
MAST 2210	Medical Assisting Clinical Procedures II	4
Practicum (MAST 2990, 6 Credits)		6
PHLB 1190	Phlebotomist Basic	4
SPAN 1410	Spanish for Health Care Professions	3
Total Credits		**59-63**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. Clinical course requires clinical packet be complete and uploaded to CastleBranch and program director's permission to register for course.
5. MATH 1130G Survey of Mathematics is required for the MA degree but students may need to take prerequisites. *Note: select the course to see it's prerequisites in the course bubble.

(62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
ENGL 1110G	Composition I	4
HLSC 1510	Medical Terminology	3
PHIL 2110G	Introduction to Ethics	3

MATH 1130G	Survey of Mathematics (or Higher)	3
	Credits	**13**
Semester 2		
CEPY 1120G	Human Growth and Behavior	3
HITP 1120	Health Information Introduction to Pharmacology	3
BIOL 1130G or BIOL 2210 ***and*** BIOL 2225	Introductory Anatomy & Physiology (non-majors) or Human Anatomy and Physiology I ***and*** Human Anatomy and Physiology II	4,8
HITP 1110	Electronic Health Records	3
	Credits	**13-17**
Semester 3		
Clinical Skills (MAST 1190)		4
MAST 1190	Clinical Skills & Concepts for Medical Assisting I	
HITP 2208	Medical Office Procedures	3
PHLB 1190	Phlebotomist Basic	4
HITP 2288	Medical Insurance Billing	3
	Credits	**14**
Semester 4		
MAST 2210	Medical Assisting Clinical Procedures II	4
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	3
HITP 2248	Medical Coding I	3
SPAN 1410	Spanish for Health Care Professions	3
	Credits	**13**
Semester 5		
Practicum (MAST 2990)		6
MAST 2990	Medical Assistant Practicum	
	Credits	**6**
	Total Credits	**59-63**

Phlebotomist - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(one semester — 4 credit hours)

A phlebotomist is a Healthcare Professional that specializes in extracting blood for analysis from patients. Phlebotomists work hand in hand with other Laboratory clinicians in assisting physicians in the diagnosing of diseases and/or disorders. Students are required to complete 30 clinical hours and 50 successful venipunctures. Clinical hours are scheduled individually and separately from class time at laboratory sites. Upon successfully completing the course, the student is eligible to take the NHA national exam to become certified as a phlebotomy technician. Prerequisite or Corequisite: BIOL 1130G Introductory Anatomy & Physiology (non-majors)

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Prefix	Title	Credits
PHLB 1190	Phlebotomist Basic	4
Total Credits		**4**

(one semester — 4 credit hours)

A Suggested Plan of Study

A phlebotomist is a Healthcare Professional that specializes in extracting blood for analysis from patients. Phlebotomists work hand in hand with other Laboratory clinicians in assisting physicians in the diagnosing of diseases and/or disorders. Students are required to complete 30 clinical hours and 50 successful venipunctures. Clinical hours are scheduled individually and separately from class time at laboratory sites. Upon successfully completing the course, the student is eligible to take the NHA national exam to become certified as a phlebotomy technician. Prerequisite or Corequisite: BIOL 1130G Introductory Anatomy & Physiology (non-majors)

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 4 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
PHLB 1190	Phlebotomist Basic	4
	Credits	**4**
	Total Credits	**4**

Electrocardiogram Technician - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(one semester — 4 credit hours)

ECG technician students are trained with 12 lead ECGs, which are tracings of the electrical impulses transmitted by the heart. The technician attaches electrodes to the patient in the correct anatomical location and then operates the ECG machine to obtain a clear and accurate reading. A qualified medical physician then interprets the ECG reading. Graduates can also find employment observing and checking the quality of ECG rhythms on a continuous monitor in hospitals. Graduates may also work in clinics or hospitals preparing, observing, and providing post-care for patients having various cardiac test including stress testing and Holter monitoring. Upon successfully completing this course, students are eligible to take the NHA national exam to become certified electrocardiogram technicians. Pre-requisite: BIOL 1130G Introductory Anatomy & Physiology (non-majors)

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Prefix	Title	Credits
MAST 1112	Electrocardiogram Technician Basic	4
Total Credits		**4**

(one semester — 4 credit hours)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 4 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

ECG technician students are trained with 12 lead ECGs, which are tracings of the electrical impulses transmitted by the heart. The technician attaches electrodes to the patient in the correct anatomical location and then operates the ECG machine to obtain a clear and accurate reading. A qualified medical physician then interprets the ECG reading. Graduates can also find employment observing and checking the quality of ECG rhythms on a continuous monitor in hospitals. Graduates may also work in clinics or hospitals preparing, observing, and providing post-care for patients having various cardiac test including stress testing and Holter monitoring. Upon successfully completing this course, students are eligible to take the NHA national exam to become certified electrocardiogram technicians. Pre-requisite: BIOL 1130G Introductory Anatomy & Physiology (non-majors)

Semester 1		Credits
MAST 1112	Electrocardiogram Technician Basic	4
	Credits	**4**
	Total Credits	**4**

Pre-Surgical Technician Program

Doña Ana Community College 2026-2027 Catalog

(35 credits)

The Surgical Technology program is a collaborative effort between San Juan College (SJC) and Doña Ana Community College (DACC) to offer the Surgical Technologist program of study to students in Southern New Mexico. Prerequisite coursework will first be completed at DACC. Once all prerequisite work is completed, students will apply for admission to the SJC Surgical Technology program. Admitted students will complete courses online through San Juan College. Hands-on lab sections and clinical requirements will take place in the student's hometown area with employer partners with SJC who have agreed to provide their healthcare organizations as a clinical site.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 35 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area I: Communications - English Composition Level 2		3
ENGL 2210G	Professional and Technical Communication	
or ENGL 2210H	Professional and Technical Communication	
Area I: Communications - Oral Communications		3
COMM 1130G	Public Speaking	
Area III: Laboratory Sciences		4
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G	Introduction to Psychology	
Technical Requirements		
HLSC 1510	Medical Terminology	3
BIOL 2310 & 2310L	Microbiology and Microbiology Lab	4
BIOL 2210	Human Anatomy and Physiology I	4
BIOL 2225	Human Anatomy and Physiology II	4
MATH 1220G	College Algebra (or higher EXCLUDING MATH 2134G*) If Math is taken at San Juan, MATH 2110 is excluded	3
Total Credits		**35**

(35 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 35 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area I: Communications - Oral Communications		3
COMM 1130G	Public Speaking	
Area III: Laboratory Sciences		4
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	

HLSC 1510	Medical Terminology	3
	Credits	**14**
Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2210G	Professional and Technical Communication	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G	Introduction to Psychology	
BIOL 2210	Human Anatomy and Physiology I	4
BIOL 2310 & 2310L	Microbiology and Microbiology Lab	4
	Credits	**14**
Semester 3		
BIOL 2225	Human Anatomy and Physiology II	4
MATH 1220G	College Algebra (or higher EXCLUDING MATH 2134G) If Math is taken at San Juan, MATH 2210 is excluded	3
	Credits	**7**
	Total Credits	**35**

Academic Advisor

Karen Sanchez (575) 874-7787 or Academic Advising Centers

Pre-Surgical Technician program advisors

Cynthia Olivas, RN, DNP, (575) 528-7209

San Juan College Contact Information

Surgical Technology Home Page (https://www.sanjuancollege.edu/surgicaltechnology/)

TEAS Testing Information (https://www.sanjuancollege.edu/support/testing/)

Surgical Technology program application (https://www.sanjuancollege.edu/surgicaltechnology/) after completion of all pre-requisites, and TEAS testing. Application due in April classes begin in August

Maxine Chapman, San Juan College Surgical Technology Director, 505-566-3492 or chapmanm@sanjuancollege.edu.

Associate of Arts

Overview

The Associate of Arts degree allows students to complete many of the general education requirements for a bachelor's degree while still at Doña Ana Community College. Students should take electives that apply toward the requirements of their chosen bachelor's degree.

Degrees

Arts (Psychology) - Associate of Arts (p. 133)

Arts - Associate of Arts (p. 135)

Name: DACC Academic Advising

Office Location: DASR 103

Phone: (575) 528-7272

Website: DACC Advising Website (https://dacc.nmsu.edu/advising/)

Arts (Psychology) - Associate of Arts

Doña Ana Community College 2026-2027 Catalog

Associate of Arts (Psychology)

(60-64 credits)

Students must complete 60 credits with a minimum GPA of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements (p. 56) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Area I: Communications - Select one course from each sub group. [1]		**10**
English Composition Level 1 [2]		
ENGL 1110G	Composition I	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
English Composition Level 2 - Choose one from the following:		
ENGL 2210G	Professional and Technical Communication	
or ENGL 2221G	Writing in the Humanities and Social Science	
Oral Communication		
COMM 1115G	Introduction to Communication	
or COMM 1130G	Public Speaking	
Area II: Mathematics (May need to complete prerequisites) [2, 3]		**3**
MATH 1350G	Introduction to Statistics	
or MATH 2350G	Statistical Methods	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		**10-11**
For Area III: Laboratory Sciences and Area IV: Social/Behavioral Sciences, students must take one course from each area for a total of 7 credits. Students will then take an additional course in either Area III or Area IV for 3-4 credits depending on the students selection (i.e. Area III is 4 credits, Area IV is 3 credits).		
Area III: Laboratory Sciences (4 credits) Select one course from the following (students may need to complete prerequisites): [2]		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Area IV: Social/Behavioral Sciences (3 credits)		
ANTH 1115G	Introduction to Anthropology	
ANTH 1140G	Introduction to Cultural Anthropology	
CEPY 1120G	Human Growth and Behavior	
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
POLS 1110G	Introduction to Political Science	

POLS 1120G	American National Government	
JOUR 105G	Media and Society	
LING 2110G	Introduction to the Study of Language and Linguistics	
PHLS 1110G	Personal Health & Wellness	
PSYC 1110G	Introduction to Psychology	
SOWK 2110G	Introduction to Human Services & Social Work	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
or other approved New Mexico General Education Area IV course listed in the current DACC/NMSU Catalog		
Either an Area III/IV: Laboratory Sciences or Social/Behavioral Sciences Course (4 or 3 credits)		
Area V: Humanities - Any Area V course but the following courses are recommended:		**3**
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
or other approved New Mexico General Education Area V course listed in the current DACC/NMSU Catalog		
Area VI: Creative and Fine Arts - Choose one from the following:		**3**
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTH 2120G	History of Art II	
ARTS 1145G	Visual Concepts	
ENGL 2310G	Introduction to Creative Writing	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
or other approved New Mexico General Education Area VI course listed in the current DACC/NMSU Catalog		
Concentration Requirements		**13**
PSYC 1110G	Introduction to Psychology [2]	
PSYC 1115	Introduction to the Psychology Major [2]	
Select three of the four following classes:		
PSYC 2110	Social Psychology [2, 4]	
PSYC 2120	Developmental Psychology [2, 4]	
PSYC 2250	Brain and Behavior [2, 4]	
PSYC 2220	Cognitive Psychology [2, 4]	
General Education Elective [5]		**3-4**
Electives, to bring the total credits to 60 [6, 7]		**15-17**
Total Credits		**60-64**

1 Students with Area I transfer credits may sometimes complete this requirement with 9 credits.

2 Must complete with a C- or better.

3 Can also take A ST 311 Statistical Applications; however if A ST 311 Statistical Applications is taken, an Area II course is still needed as A ST is not a New Mexico General Education course.

4 The following PSYC 2000 level courses have prerequisites of PSYC 1110G Introduction to Psychology, MATH 1215 Intermediate Algebra, and ENGL 1110G Composition I.
PSYC 2110 Social Psychology
PSYC 2120 Developmental Psychology
PSYC 2220 Cognitive Psychology
PSYC 2250 Brain and Behavior

5 In order to complete the General Education Requirements, students must take an elective course for 3-4 credits. This course can be any course in any area, excluding Area I: Communications and any crosslisted courses that exceeds the minimum requirement. The elective course must have the "G" distinction. See the General Education (p. 56) section of the catalog for a full list of courses.

6 Credits may vary based on prerequisites, dual credit, or AP credit. The amount indicated in the requirements list is the amount needed to bring the total to 60 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis. *Electives should be selected in consultation with an academic advisor, the NMSU Catalog and the bachelor's degree requirements to ensure course transfer. Second language courses are recommended if they are required by the intended bachelor's degree.*

7 Can use electives to meet the second language requirement for NMSU-Las Cruces language requirement. See requirement in the catalog for details

(60-64 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum GPA of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements (p. 56) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I [1]	
Or other approved NM General Education Area I course listed in Level 1 in the NMSU/DACC Catalog		
Area II: Mathematics - Choose one from the following: [1, 3]		3
MATH 1350G or MATH 2350G	Introduction to Statistics or Statistical Methods	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G	Introduction to Psychology [1]	
Area V: Humanities - (one of the following PHIL courses recommended)		3
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2230G	Philosophical Thought	
Concentration Requirement		1
PSYC 1115	Introduction to the Psychology Major [1]	
	Credits	**14**

Semester 2		
Concentration Requirement		3
PSYC 2000 Level Course [1, 2]		
Area I Communications - Oral Communication		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area VI: Creative and Fine Arts [4]		3
Area III: Laboratory Science [1]		4
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Elective (Recommend using elective to meet second language requirement)		3-4
	Credits	**16-17**
Semester 3		
Concentration Requirement		3
PSYC 2000 Level Course [1, 2]		
Area I: Communications - English Composition Level 2		3
ENGL 2210G	Professional and Technical Communication	
ENGL 2221G	Writing in the Humanities and Social Science	
Or other approved NM General Education Area I course listed in Oral Communication in the NMSU/DACC Catalog.		
General Education Elective (Any "G" course excluding Area I) [4]		3
Elective (Recommend using elective to meet second language requirement)		3-4
Elective		3
	Credits	**15-16**
Semester 4		
PSYC 2000 Level Course [1, 2]		3
Area IV: Social/Behav. Science or Area III: Lab Science [4]		3-4
Elective		3-4
Elective		3
Elective		3
	Credits	**15-17**
	Total Credits	**60-64**

1 Must complete with a C - or better
2 Options for this requirement are
PSYC 2110 Social Psychology
PSYC 2120 Developmental Psychology
PSYC 2250 Brain and Behavior
PSYC 2220 Cognitive Psychology
3 May need to take prerequisites as determined by placement
4 See the General Education section of the catalog for full list of courses.

Arts - Associate of Arts

Doña Ana Community College 2026-2027 Catalog

Associate of Arts

(60 credits)

Students must complete 60 credits with a minimum GPA of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements (p. 56) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Area I: Communications - Select one course from each sub group. [1]		*10*
English Composition Level 1		
ENGL 1110G	Composition I [2]	
or other approved New Mexico General Education Area I course listed in Level 1 in the current DACC/NMSU Catalog		
English Composition Level 2 - Choose one from the following:		
ENGL 2210G	Professional and Technical Communication	
ENGL 2221G	Writing in the Humanities and Social Science	
or other approved New Mexico General Education Area I course listed in Level 2 in the current DACC/NMSU Catalog		
Oral Communication		
COMM 1130G	Public Speaking	
or COMM 1115G	Introduction to Communication	
or other approved New Mexico General Education Area I course listed in Oral Communication in the current DACC/NMSU Catalog		
Area II: Mathematics - Choose one from the following:		*3*
MATH 1130G	Survey of Mathematics [3]	
MATH 1220G	College Algebra	
MATH 1350G	Introduction to Statistics	
or other approved New Mexico General Education Area II course listed in the current DACC/NMSU Catalog		
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*10-11*
For Area III: Laboratory Sciences and Area IV: Social/Behavioral Sciences, students must take one course from each area for a total of 7 credits. Students will then take an additional course in either Area III or Area IV for 3-4 credits depending on the students selection (i.e. Area III is 4 credits, Area IV is 3 credits).		
Area III: Laboratory Sciences (4 credits)		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
CSCI 1115G	Modern Computing in Practice	

CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors
GEOG 1110G	Physical Geography
GEOL 1110G	Physical Geology
PHYS 1115G	Survey of Physics with Lab
PHYS 1125G	Physics of Music
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab
or other Approved New Mexico General Education Area III course listed in the current NMSU Catalog	
Area IV: Social/Behavioral Sciences (3 credits)	
ANTH 1115G	Introduction to Anthropology
ANTH 1140G	Introduction to Cultural Anthropology
ANTH 1160G	World Archaeology
CEPY 1120G	Human Growth and Behavior
CJUS 1110G	Introduction to Criminal Justice
ECON 1110G	Survey of Economics
ECON 2110G	Macroeconomic Principles
ECON 2120G	Principles of Microeconomics Honors
GEOG 1130G	Human Geography
POLS 1110G	Introduction to Political Science
POLS 1120G	American National Government
JOUR 105G	Media and Society
LING 2110G	Introduction to the Study of Language and Linguistics
PHLS 1110G	Personal Health & Wellness
PSYC 1110G	Introduction to Psychology
SOWK 2110G	Introduction to Human Services & Social Work
SOCI 1110G	Introduction to Sociology
SOCI 2310G	Contemporary Social Problems
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies
GNDR 2120G	Representing Women Across Cultures
or other approved New Mexico General Education Area IV course listed in the current DACC/NMSU Catalog	
Either an Area III/IV: Laboratory Sciences or Social/Behavioral Sciences Course (4 or 3 credits)	
Area V: Humanities - Choose one from the following:	*3*
ENGL 2520G	Film as Literature
ENGL 2650G	World Literature I
HIST 1110G	United States History I
HIST 1120G	United States History II
HIST 1130G	World History I
HIST 1140G	World History II
HIST 1150G	Western Civilization I
HIST 1160G	Western Civilization II
PHIL 1115G	Introduction to Philosophy
PHIL 1120G	Logic, Reasoning, & Critical Thinking
PHIL 1140G	Philosophy and World Religions
PHIL 1145G	Philosophy, Law, and Ethics
PHIL 2110G	Introduction to Ethics
PHIL 2230G	Philosophical Thought
or other approved New Mexico General Education Area V course listed in the current DACC/NMSU Catalog	
Area VI: Creative and Fine Arts - Choose one from the following:	*3*
ARTH 1115G	Orientation in Art
ARTH 2110G	History of Art I
ARTH 2120G	History of Art II
ARTS 1145G	Visual Concepts
ENGL 2310G	Introduction to Creative Writing
MUSC 1110G	Music Appreciation: Jazz
MUSC 1130G	Music Appreciation: Western Music
THEA 1110G	Introduction to Theatre
or other approved New Mexico General Education Area VI course listed in the current DACC/NMSU Catalog	
General Education Elective [4]	*3*
Electives, to bring the total credits to 60 [5, 6]	*28*
Total Credits	**60-61**

1 Students with Area I transfer credits may sometimes complete this requirement with 9 credits.

2 Must complete with a C- or better.

3 May not apply to all NMSU B.A. degree programs.

4 In order to complete the General Education Requirements, students must take an elective course for 3-4 credits. This course can be any course in any area, excluding Area I: Communications and any crosslisted courses that exceeds the minimum requirement. The elective course must have the "G" distinction. See the General Education (p. 56) section of the catalog for a full list of courses.

5 Credits may vary based on prerequisites, dual credit, or AP credit. The amount indicated in the requirements list is the amount needed to bring the total to 60 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis. *Electives should be selected in consultation with an academic advisor, the NMSU Catalog and the bachelor's degree requirements to ensure course transfer. Second language courses are recommended if they are required by the intended bachelor's degree.*

6 Nine or more credits, all under one prefix, may be substituted for a single general education (G) course with the same prefix. For example, ARTS 1610 Drawing I, ARTS 1240 Design I, ARTS 1250 Design II (totaling 9 credits) could be used in place of the general education course, ARTH 1115G in the NMSU system.

(60-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum GPA of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements (p. 56) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Or other approved NM General Education Area I course listed in Level 1 in the NMSU/DACC Catalog		
Area II: Mathematics - Choose one from the following:		3
MATH 1130G	Survey of Mathematics	
NOTE: MATH 1130G may not apply to all NMSU BA programs.		
MATH 1220G	College Algebra	
MATH 1350G	Introduction to Statistics	
Or other approved NM General Education Area II course listed in the NMSU/DACC Catalog.		
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
ANTH 1115G	Introduction to Anthropology	
ANTH 1140G	Introduction to Cultural Anthropology	
ANTH 1160G	World Archaeology	
CEPY 1120G	Human Growth and Behavior	
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GEOG 1130G	Human Geography	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
JOUR 105G	Media and Society	
LING 2110G	Introduction to the Study of Language and Linguistics	
PHLS 1110G	Personal Health & Wellness	
POLS 1120G	American National Government	
POLS 1110G	Introduction to Political Science	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
SOWK 2110G	Introduction to Human Services & Social Work	
Or other approved NM General Education Area IV course listed in the NMSU/DACC Catalog.		
Area V: Humanities - Choose one from the following:		3
ENGL 2520G	Film as Literature	
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
Or other approved NM General Education Area V course listed in the NMSU/DACC Catalog.		
Elective		3
	Credits	**16**

Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	
Or other approved NM General Education Area I course listed in Level 2 in the NMSU/DACC Catalog.		
Area III: Laboratory Sciences - Choose one from the following:		4
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
CSCI 1115G	Modern Computing in Practice	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
PHYS 1115G	Survey of Physics with Lab	
PHYS 1125G	Physics of Music	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Or other approved NM General Education Area III course listed in the NMSU/DACC Catalog.		
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
ARTS 1145G	Visual Concepts	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
ENGL 2310G	Introduction to Creative Writing	
Elective		3
Elective		3
	Credits	**16**

Semester 3		
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	

Or other approved NM General Education Area I course listed in Oral Communication in the NMSU/DACC Catalog.	
Area III: Laboratory Sciences (4 cr.) OR Area IV: Social/Behavioral Sciences (3 cr.)	3-4
Elective	3
Elective	3
Elective	1
Credits	**13-14**
Semester 4	
General Education Elective	3-4
Elective	3
Elective	3
Elective	3
Elective	3
Credits	**15-16**
Total Credits	**60-62**

Associate of Science

Overview

Associate of Science Degree

Associate of Science (Biology) Degree

Associate of Science (Chemistry) Degree

Associate of Science (Computer Science) Degree

Associate of Science (Mathematics) Degree

The Associate of Science degree allows students to complete many of the general education requirements for a bachelor's degree while still at the community college. Students should take electives that apply toward the requirements of their chosen bachelor's degree. The science electives may be taken at DACC or at NMSU. *Students who wish to transfer to NMSU and major in Biology, Chemistry, Computer Science, or Mathematics, should consider selecting the appropriate Concentration and follow the related Roadmap, in consultation with their advisor.*

Degrees

Science - Associate of Science (p. 138)

Science - Associate of Science (Biology) (p. 148)

Science - Associate of Science (Chemistry) (p. 149)

Science - Associate of Science (Computer Science) (p. 150)

Science - Associate of Science (Mathematics) (p. 152)

Name: DACC Academic Advising

Office Location: DASR 103

Phone: (575) 528-7272

Website: https://dacc.nmsu.edu/academics/programs/associate-of-science/index.html (https://dacc.nmsu.edu/academics/programs/associate-of-science/)

Science - Associate of Science

The Associate of Science degree allows students to complete many of the general education requirements for a bachelor's degree while still at the community college. Students should take electives that apply toward the requirements of their chosen bachelor's degree. The science electives may be taken at DACC or at NMSU. *Students who wish to transfer to NMSU and major in Biology, Chemistry, Computer Science, or Mathematics, should consider selecting the appropriate Concentration and follow the related Roadmap, in consultation with their advisor.*

Doña Ana Community College 2026-2027 Catalog

Associate of Science

(60 credits)

Students must complete 60 credits with a minimum cumulative grade-point average of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I [1]	4
English Composition - Level 2		
Select one from the following:		3
ENGL 2210G	Professional and Technical Communication	
ENGL 2221G	Writing in the Humanities and Social Science	
Oral Communication		
COMM 1130G	Public Speaking	3
or COMM 1115G	Introduction to Communication	
Area I requirements may also be met by other approved General Education Area I courses listed in the current NMSU Catalog.		
Area II: Mathematics		
Select one course from the following: [1]		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
MATH 2350G	Statistical Methods	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		
Area III: Laboratory Sciences [2]		8
Area IV: Social/Behavioral Sciences [2]		3
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective [2]		*3-4*
Science, Technology, Engineering, Mathematics and Health (STEM-H) Electives		
Select any course from within the following STEM-H prefixes: [3]		21

STEM-H electives should be selected in consultation with an academic advisor, the NMSU Catalog and the bachelor's degree requirements to ensure course transfer. [4]	
Electives, to bring the total credits to 60 [5]	**6-4**
Additional College Electives (should be chosen in consultation with an academic advisor and the bachelor's degree requirements.) Take the appropriate number of electives to reach 60 credits.	
Total Credits	**60**

1 A minimum grade of *C-* is required.

2 See the General Education (p. 56) Section of the catalog for a full list of courses

3 Not all prefixes are offered at DACC.

4 The STEM-H Elective course can be the following:

Courses

- ANTH 1135G Introduction to Biological Anthropology/ ANTH 1135L Introduction to Biological Anthropology Lab; ANTH 1160G World Archaeology
- SPHS 2110 Introduction to Communication Disorders
- E E 200 Linear Algebra, Probability and Statistics Applications; E E 212 Introduction to Computer Organization; E E 240 Multivariate and Vector Calculus Applications
- ENVS 1110G Environmental Science I; ENVS 2111 Environmental Engineering and Science; ENVS 2111L Environmental Science Laboratory
- EPWS 2996 Special Topics
- FSTE 2996 Special Topics; FSTE 2130G Survey of Food and Agricultural Issues; FSTE 2110G Food Science I
- FWCE 1120 Contemporary Issues in Wildlife and Natural Resources Management; FWCE 1110G Introduction to Natural Resources Management; FWCE 2110 Principles of Fish and Wildlife Management
- GENE 1110 Experimental Systems in Genetics
- NUTR 2110 Human Nutrition; NUTR 2120 Seminar I - Becoming a Nutrition Professional
- NURS 1121 Foundations of Nursing Practice; NURS 1150 Medical Terminology; NURS 1153 Medication & Dosage Calculation;
- SUR 222 Introduction to Geomatics; SUR 285 Precise Digital Mapping

Prefixes

- A E
- AERT
- AGRO
- AHS
- ANSC (excluding ANSC 1120H, ANSC 1180, ANSC 1140)
- ARCH
- ASTR
- AUTO
- AXED (excluding AXED 2130))
- BCHE
- BCIS
- BCT
- BIOL
- C E
- CSCI
- CHEM
- CHME
- DAS
- DHYG
- DMS
- DRFT
- E T
- ELT
- ENGR
- FDMA
- FIRE
- GEOG
- GEOL
- HIT
- HORT
- HVAC
- I E
- ICT
- INMT
- MAT
- MATH
- M E
- NA
- NSC
- OEBM
- OECS
- OEEM
- OEET
- OEGR
- OEGS
- OETS
- OSEC
- OTEC
- PHLS
- PHYS
- RADT
- RESP
- RGSC
- CTEC
- SMET
- SOIL
- SURG
- TCEN
- WATR
- WELD

5 Elective credit may vary based on prerequisites, dual credit, or AP credit. The amount indicated in the requirements list is the amount needed to bring the total to 60 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum cumulative grade-point average of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

(60-62 credits)

Associate of Science Pathway

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum cumulative grade-point average of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
or other Approved New Mexico General Education Area I course listed in Level 1 in the current DACC/NMSU Catalog		
Area II: Mathematics/Algebra - Choose one from the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
MATH 2350G	Statistical Methods	
MATH 2530G	Calculus III	
or other Approved New Mexico General Education Area II course listed in the current DACC/NMSU Catalog		
Area IV: Social/Behavioral Sciences [1]		3
Area V: Humanities [1]		3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.		3
	Credits	**16-17**
Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	
Area III: Laboratory Sciences [1]		4
Area VI: Creative and Fine Arts [1]		3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.)		3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.)		3
	Credits	**16**
Semester 3		
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area III: Laboratory Sciences [1]		4
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.)		3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.)		3
	Credits	**13**
Semester 4		
General Education Elective (To complete this requirement, take a GE Elective course for 3-4 crits. See the NMGE Section of the DACC/NMSU Catalog for a full list of courses.		3-4
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.)		3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.)		3
College Elective (Selected in consultation with an academic advisor and the intended bachelor's degree requirements.)		3
College Elective (Selected in consultation with an academic advisor and the intended bachelor's degree requirements.)		3
	Credits	**15-16**
	Total Credits	**60-62**

[1] See the General Education (p. 56)Section of the catalog for a full list of courses

Associate of Science to Bachelor of Science in Agricultural Biology Pathway

First Year

Semester 1		Credits
ENGL 1110G	Composition I	4
MATH 1220G	College Algebra	3
COMM 1115G	Introduction to Communication	3
EPWS 1110	Applied Biology	3

EPWS 1110L	Applied Biology Lab	1
ACES 1120	Freshman Orientation	1
	Credits	**15**
Semester 2		
ENGL 2210G	Professional and Technical Communication	3
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
Area VI Creative and Fine Arts		3
Area V Humanities		3
General Education		3
	Credits	**16**
Second Year		
Semester 3		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
MATH 1430G	Applications of Calculus I	3
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	4
Area IV Social Behavioral		3
Elective		1
	Credits	**15**
Semester 4		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
CHEM 2115	Survey of Organic Chemistry and Laboratory	4
General Education		3
	Credits	**15**
Third Year		
Semester 5		
A ST 311	Statistical Applications	3
EPWS 302	General Entomology	4
BIOL 311	General Microbiology	3
Viewing a Wider World		3
BIOL 312	Plant Taxonomy	3
	Credits	**16**
Semester 6		
BIOL 313	Structure and Function of Plants	3
EPWS 301	Agricultural Biotechnology	3
TOX 361	Basic Toxicology	3
EPWS 462	Parasitology	3
Viewing a Wider World		3
	Credits	**15**
Fourth Year		
Semester 7		
EPWS 310	Plant Pathology	4
EPWS 311	Introduction to Weed Science	4
EPWS 492	Diagnosing Plant Disorders	3
AGRO 305	Principles of Genetics	3
EPWS 447	Seminar	1
	Credits	**15**
Semester 8		
EPWS 314	Plant Physiology	3
AGRO 471	Plant Mineral Nutrition	3
EPWS 455	Advanced Integrated Pest Management	3
SOIL 312	Soil Management and Fertility	3
Elective		3
	Credits	**15**
	Total Credits	**122**

Associate of Science to Bachelor of Science with a Major in Biology Pathway

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1220G	College Algebra	3
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
Area IV: Social and Behavioral Sciences		3
Elective		3
	Credits	**17**
Semester 2		
MATH 1250G	Trigonometry & Pre-Calculus	4
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
COMM 1115G	Introduction to Communication	3
	Credits	**15**
Second Year		
Semester 3		
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
MATH 1511G	Calculus and Analytic Geometry I	4
ENGL 2210G	Professional and Technical Communication	3
BIOL 305	Principles of Genetics	3
	Credits	**14**
Semester 4		
BIOL 301	Principles of Ecology	3
Upper Division Biology Elective		4
Area V: Humanities		3
Area VI: Creative and Fine Arts		3
SPAN 1110	Spanish I	4
	Credits	**17**
Third Year		
Semester 5		
CHEM 313	Organic Chemistry I	3
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I	4
SPAN 1120	Spanish II	4
Viewing a Wider World		3
	Credits	**14**

Semester 6		
PHYS 2240G & PHYS 2240L	General Physics for Life Science II and Laboratory to General Physics for Life Science II	4
CHEM 314 & CHEM 315	Organic Chemistry II and Organic Chemistry Laboratory	5
BIOL 455	Biometry	3
Upper Division Biology Elective		4
	Credits	**16**
Fourth Year		
Semester 7		
BIOL 314	Plant Physiology	3
BIOL 322	Zoology	3
BIOL 377	Cell Biology	3
Viewing a Wider World		3
BCHE 395	Biochemistry I	3
	Credits	**15**
Semester 8		
BIOL 381	Animal Physiology	3
BIOL 462	Conservation Biology	3
BIOL 469	Biology of Emerging Infectious Diseases	3
BIOL 467	Evolution	3
	Credits	**12**
	Total Credits	**120**

Associate of Science to Bachelor of Arts with a Major in Biology Pathway

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1220G	College Algebra	3
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	3
Area IV: Social and Behavioral Sciences		3
Elective Course		3
	Credits	**16**
Semester 2		
MATH 1430G	Applications of Calculus I	3
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
COMM 1115G	Introduction to Communication	3
Elective		1
	Credits	**15**
Second Year		
Semester 3		
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
Elective Courses		5
ENGL 2210G	Professional and Technical Communication	3
BIOL 305	Principles of Genetics	3
	Credits	**15**
Semester 4		
BIOL 301	Principles of Ecology	3
Upper Division Biology Elective		3
Area V: Humanities		3
Area VI: Creative and Fine Arts		3
SPAN 1110	Spanish I	4
	Credits	**16**
Third Year		
Semester 5		
CHEM 313	Organic Chemistry I	3
Upper Division Biology Elective		3
SPAN 1120	Spanish II	4
Viewing a Wider World		3
Elective		1
	Credits	**14**
Semester 6		
Science Elective Prefix (ASTR, CSCI, GEOL or PHYS)		4
CHEM 314 & CHEM 315	Organic Chemistry II and Organic Chemistry Laboratory	5
Upper Division Biology Elective		3
Elective		3
	Credits	**15**
Fourth Year		
Semester 7		
BIOL 377	Cell Biology	3
Upper Division Biology Elective		3
Upper Division Elective		3
Upper Division Elective		3
Viewing a Wider World		3
	Credits	**15**
Semester 8		
BIOL 467	Evolution	3
Upper Division Elective		4
Elective		4
Elective		3
	Credits	**14**
	Total Credits	**120**

Associate of Science to Bachelor of Science with a Major in Biochemistry Pathway

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1511G	Calculus and Analytic Geometry I	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
Area IV: Social and Behavioral Science		3
BCHE 140	Explorations in Chemistry and Biochemistry	1
	Credits	**16**
Semester 2		
MATH 1521G	Calculus and Analytic Geometry II	4
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4

CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
Area V: Humanities		3
	Credits	**15**
Second Year		
Semester 3		
BIOL 305	Principles of Genetics	3
CHEM 313	Organic Chemistry I	3
CHEM 371	Analytical Chemistry	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
Area VI: Creative and Fine Arts		3
	Credits	**17**
Semester 4		
COMM 1115G	Introduction to Communication	3
ENGL 2210G	Professional and Technical Communication	3
CHEM 314	Organic Chemistry II	3
CHEM 315	Organic Chemistry Laboratory	2
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	4
	Credits	**15**
Third Year		
Semester 5		
A ST 311	Statistical Applications	3
BIOL 377	Cell Biology	3
BCHE 395	Biochemistry I	3
CHEM 430	Physical Chemistry: Thermodynamics, Kinetics, Quantum Chemistry, and Spectroscopy	3
Elective		3
	Credits	**15**
Semester 6		
BCHE 396	Biochemistry II, Lecture and Laboratory	4
BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory	5
Viewing a Wider World		3
Elective		3
	Credits	**15**
Fourth Year		
Semester 7		
BCHE 440	Biochemistry Seminar	1
CHEM 471	Advanced Integrated Inorganic and Physical Chemistry Laboratory	3
Electives		11
	Credits	**15**
Semester 8		
CHEM 472	Advanced Integrated Instrumental Analysis and Protein Biochemistry Laboratory	3
BCHE 432	Physical Biochemistry	3
CHEM 456	Inorganic Structure and Bonding	3
Viewing a Wider World		3
	Credits	**12**
	Total Credits	**120**

Associate of Science to Bachelor of Arts with a Major in Chemistry Pathway

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1511G	Calculus and Analytic Geometry I	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
Area IV: Social and Behavioral Science		3
	Credits	**15**
Semester 2		
ENGL 2210G	Professional and Technical Communication	3
MATH 1521G	Calculus and Analytic Geometry II	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
Area V: Humanities		3
Elective		1
	Credits	**15**
Second Year		
Semester 3		
COMM 1115G	Introduction to Communication	3
CHEM 313	Organic Chemistry I	3
CHEM 371	Analytical Chemistry	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
Elective		3
	Credits	**17**
Semester 4		
CHEM 314	Organic Chemistry II	3
CHEM 315	Organic Chemistry Laboratory	2
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	4
CHEM Emphasis Area		3
Area VI: Creative and Fine Arts		3
	Credits	**15**
Third Year		
Semester 5		
CHEM 430	Physical Chemistry: Thermodynamics, Kinetics, Quantum Chemistry, and Spectroscopy	3
Viewing a Wider World		3
Elective		9
	Credits	**15**
Semester 6		
CHEM Emphasis Area		9
CHEM 456	Inorganic Structure and Bonding	3
Elective Course		3
	Credits	**15**
Fourth Year		
Semester 7		
Viewing a Wider World		3
CHEM Emphasis Area Upper-Division		3
CHEM Upper-Division Elective		3
Upper-Division Elective		3
Elective		3
	Credits	**15**
Semester 8		
CHEM 443	Senior Seminar	1

CHEM Emphasis Area		6
Upper-Division Elective		3
Elective		3
	Credits	**13**
	Total Credits	**120**

Associate of Science to Bachelor of Science in Computer Science Pathway

First Year

Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1511G	Calculus and Analytic Geometry I	4
CSCI 1720	Computer Science I	4
SOCIAL/BEHV SCIENCES		3
	Credits	**15**
Semester 2		
MATH 1521G	Calculus and Analytic Geometry II	4
CSCI 2230	Assembly Language and Machine Organization	4
CSCI 2210	Object-Oriented Programming	4
HUMANITIES		3
	Credits	**15**
Second Year		
Semester 3		
CSCI 2310	Discrete Mathematics for Computer Science	4
CSCI 2220	Introduction to Data Structures and Algorithms	4
COMM 1115G	Introduction to Communication	3
STAT 3110	Statistics for Engineers and Scientists	3
Creative and Fine Arts		3
	Credits	**17**
Semester 4		
ENGL 2210G	Professional and Technical Communication	3
CSCI 3730	Compilers and Automata Theory	4
CSCI 3710	Software Development	4
Lab Science		4
	Credits	**15**
Third Year		
Semester 5		
CSCI 3720	Data Structures and Algorithms	4
MATH 2415	Introduction to Linear Algebra	3
Viewing a Wider World		3
Lab Science		4
Elective		1
	Credits	**15**
Semester 6		
CSCI 4105	Programming Language Structure I	3
CSCI 4140	Database Management Systems I	3
CSCI 4265	Modern Web Technologies	3
Viewing a Wider World		3
Elective		3
	Credits	**15**
Fourth Year		
Semester 7		
CSCI 4405	Artificial Intelligence I	3
CSCI 4230	Architectural Concepts I	3
MATH 3160	Introduction to Ordinary Differential Equations	3
CSCI 4120	Operating Systems I	3
Elective		4
	Credits	**16**
Semester 8		
CSCI 4980	Senior Project	4
CSCI 4110	Computing Ethics and Social Implications of Computing	1
CSCI 4410	Computer Graphics I	3
Elective		4
	Credits	**12**
	Total Credits	**120**

Associate of Science to Bachelor of Science in Environmental Science Pathway

First Year

Semester 1		**Credits**
ENGL 1110G	Composition I	4
ENVS 1110G	Environmental Science I	4
MATH 1220G	College Algebra	3
MATH 1221	General Supplemental Instruction II	1
Area IV: Social and Behavioral Science		3
	Credits	**15**
Semester 2		
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution	3
Area VI: Creative and Fine Arts		3
MATH 1250G	Trigonometry & Pre-Calculus	4
GEOL 1110G	Physical Geology	4
COMM 1115G	Introduction to Communication	3
	Credits	**17**
Second Year		
Semester 3		
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
MATH 1511G	Calculus and Analytic Geometry I	4
ENVS 457	Water Measurement	3
	Credits	**14**
Semester 4		
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
MATH 1521G	Calculus and Analytic Geometry II	4
Area V: Humanities		3
CHEM 2120	Integrated Organic Chemistry and Biochemistry	3
	Credits	**14**
Third Year		
Semester 5		
A ST 311	Statistical Applications	3
Viewing a Wider World		3
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	4
GEOG 481	Fundamentals of GIS	4
Elective		1
	Credits	**15**

Semester 6		
PHYS 1310G	Calculus -Based Physics I	3
ENVS 312	Emergency Response to Hazardous Material Incidents	2
ENGL 2210G	Professional and Technical Communication	3
ENVS 2111 & 2111L	Environmental Engineering and Science and Environmental Science Laboratory	4
ENVS 370	Environmental Soil Science	3
	Credits	**15**
Fourth Year		
Semester 7		
ENVS 462	Sampling and Analysis of Environmental Contaminants	3
ENVS 452	Geohydrology	4
ENVS 422	Environmental Chemistry	3
ENVS 460	Introduction to Air Pollution	3
ENVS 361	Basic Toxicology	3
	Credits	**16**
Semester 8		
ENVS 301	Principles of Ecology	3
ENVS 470	Environmental Impacts of Land Use and Contaminant Remediation	3
ENVS 391	Internship	3
BIOL 311	General Microbiology	3
ENVS 447	Seminar	1
Viewing a Wider World		3
	Credits	**16**
	Total Credits	**122**

Associate of Science to Bachelor of Science in Electrical Engineering Pathway

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
ENGR 130	Digital Logic	4
ENGR 140	Introduction to Programming and Embedded Systems	4
	Credits	**16**
Semester 2		
HUMANITIES		3
MATH 1511G	Calculus and Analytic Geometry I	4
ENGR 190	Introduction to Engineering Mathematics	4
ELT 110	Electronics I	4
	Credits	**15**
Second Year		
Semester 3		
MATH 1521G	Calculus and Analytic Geometry II	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
E E 200	Linear Algebra, Probability and Statistics Applications	4
ENGR 230	AC Circuit Analysis	4
	Credits	**16**
Semester 4		
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	4
COMM 1115G	Introduction to Communication	3
CSCI 1720	Computer Science I	4
MATH 3160	Introduction to Ordinary Differential Equations	3
E E 240	Multivariate and Vector Calculus Applications	3
	Credits	**17**
Third Year		
Semester 5		
E E 300	Cornerstone Design	2
E E 320	Signals and Systems I	3
E E 340	Fields and Waves	4
Viewing a Wider World		3
Area IV: Social/Behavioral Sciences		3
	Credits	**15**
Semester 6		
E E 317	Semiconductor Devices and Electronics I	4
E E 325	Signals and Systems II	4
E E 362	Introduction to Computer Organization	4
ENGL 2210G	Professional and Technical Communication	3
	Credits	**15**
Fourth Year		
Semester 7		
ENGR 401	Engineering Capstone I	3
E E 395	Introduction to Digital Signal Processing	3
E E 462	Computer Systems Architecture	3
E E 407	Introduction to Control Systems	3
Area VI: Creative and Fine Arts		3
	Credits	**15**
Semester 8		
ENGR 402	Engineering Capstone II	3
E E 473	Introduction to Optics	3
E E 475	Control Systems Synthesis	3
Upper Division STEM Elective		3
Viewing a Wider World		3
	Credits	**15**
	Total Credits	**124**

Associate of Science to Bachelor of Science in Animal Science

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1220G	College Algebra	3
ANSC 1120	Introduction to Animal Science	3
ANSC 1120L	Introduction to Animal Science Lab	1
ACES 1120	Freshman Orientation	1
RGSC 2110	Introduction to Rangeland Management	3
	Credits	**15**
Semester 2		
COMM 1115G	Introduction to Communication	3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
Area VI: Creative and Fine Arts		3
Area V: Humanities Course		3

ANSC 1110	Animal Science Careers	1
Elective		1
	Credits	**15**
Second Year		
Semester 3		
ENGL 2210G	Professional and Technical Communication	3
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
ANSC 304	Feeds and Feeding	3
Elective		1
	Credits	**15**
Semester 4		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
ECON 1110G	Survey of Economics	3
A ST 311	Statistical Applications	3
ANSC 2310	Introduction to Meat Science	3
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
	Credits	**17**
Third Year		
Semester 5		
ANSC 370	System Physiology of Farm Animals	4
ANSC 303	Livestock, Meat and Wool Evaluation	4
CHEM 313	Organic Chemistry I	3
ANSC 305	Principles of Genetics	3
	Credits	**14**
Semester 6		
ANSC 421	Physiology of Reproduction	4
CHEM 314	Organic Chemistry II	3
CHEM 315	Organic Chemistry Laboratory	2
Viewing a Wider World		3
Elective		2
	Credits	**14**
Fourth Year		
Semester 7		
ANSC 422	Animal Nutrition	3
ANSC 423	Animal Breeding	3
ANSC 402	Animal Science Seminar	1
ANSC 462	Parasitology	3
Elective		5
	Credits	**15**
Semester 8		
BCHE 395	Biochemistry I	3
ANSC 424	Swine Production	3
ANSC 425	Horse Science and Management	3
Viewing a Wider World		3
Elective		2
	Credits	**14**
	Total Credits	**119**

Associate of Science to Bachelor of Science in Agriculture (Range Science)

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1220G	College Algebra	3
RGSC 1110	The Range Science Profession	1
RGSC 2110	Introduction to Rangeland Management	3
ACES 1120	Freshman Orientation	1
Area VI: Creative and Fine Arts		3
	Credits	**15**
Semester 2		
COMM 1115G	Introduction to Communication	3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
ENGL 2210G	Professional and Technical Communication	3
PHIL 2110G	Introduction to Ethics	3
Elective		2
	Credits	**15**
Second Year		
Semester 3		
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
ECON 1110G	Survey of Economics	3
Elective		4
	Credits	**15**
Semester 4		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
CHEM 2115	Survey of Organic Chemistry and Laboratory	4
A ST 311	Statistical Applications	3
RGSC 317	Rangeland Communities	3
Elective		1
	Credits	**15**
Third Year		
Semester 5		
RGSC 452	Vegetation Measurements for Rangeland Assessment	4
RGSC 316	Rangeland Plants	3
RGSC 325	Rangeland Restoration Ecology	3
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	4
Elective		2
	Credits	**16**
Semester 6		
RGSC 357	Grass Taxonomy and Identification	3
RGSC 318	Watershed Management	3
GEOG 381	Cartography and GIS	4
ANSC 304	Feeds and Feeding	3
Elective		3
	Credits	**16**

Fourth Year		
Semester 7		
RGSC 402	Seminar	1
RGSC 440 & 440 L	Rangeland Resource Ecology and Rangeland Resource Ecology Lab	4
SOIL 472	Soil Morphology and Classification	4
FWCE 1110G	Introduction to Natural Resources Management	4
Viewing a Wider World		3
	Credits	**16**
Semester 8		
RGSC 460	Rangeland and Natural Resource Planning and Management	4
EPWS 314	Plant Physiology	3
FWCE 2110	Principles of Fish and Wildlife Management	3
Viewing a Wider World		3
	Credits	**13**
	Total Credits	**121**

Associate of Science to Bachelor of Science in Artificial Intelligence

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
MATH 1511G	Calculus and Analytic Geometry I	4
CSCI 1720	Computer Science I	4
SOCIAL/BEHV SCIENCES		3
	Credits	**15**
Semester 2		
MATH 1521G	Calculus and Analytic Geometry II	4
CSCI 2230	Assembly Language and Machine Organization	4
CSCI 2210	Object-Oriented Programming	4
HUMANITIES		3
	Credits	**15**
Second Year		
Semester 3		
CSCI 2310	Discrete Mathematics for Computer Science	4
CSCI 2220	Introduction to Data Structures and Algorithms	4
COMM 1115G	Introduction to Communication	3
A ST 311	Statistical Applications	3
STEM-H ELECTIVE		3
	Credits	**17**
Semester 4		
ENGL 2210G	Professional and Technical Communication	3
CSCI 3730	Compilers and Automata Theory	4
Creative and Fine Arts		3
Lab Science		4
MATH 2415	Introduction to Linear Algebra	3
	Credits	**17**
Third Year		
Semester 5		
CSCI 3720	Data Structures and Algorithms	4
CSCI 3710	Software Development	4
Viewing a Wider World		3
Lab Science		4
	Credits	**15**
Semester 6		
CSCI 4105	Programming Language Structure I	3
CSCI 4140	Database Management Systems I	3
CSCI 4265	Modern Web Technologies	3
Viewing a Wider World		3
CSCI 4420	Applied Machine Learning I	3
	Credits	**15**
Fourth Year		
Semester 7		
CSCI 4405	Artificial Intelligence I	3
CSCI 4230	Architectural Concepts I	3
MATH 3160	Introduction to Ordinary Differential Equations	3
CSCI 4120	Operating Systems I	3
CSCI 4415	Introduction to Data Mining	3
	Credits	**15**
Semester 8		
CSCI 4980	Senior Project	4
CSCI 4110	Computing Ethics and Social Implications of Computing	1
CSCI 4410	Computer Graphics I	3
Elective		3
	Credits	**11**
	Total Credits	**120**

Associate of Science to Bachelor of Science in Food Science and Technology

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
Area V: Humanities		3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
FSTE 2110G	Food Science I	4
	Credits	**15**
Semester 2		
COMM 1115G	Introduction to Communication	3
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
FSTE 1120	ACES in the Hole Foods I	4
Elective		1
Area VI: Creative and Fine Arts		3
	Credits	**15**
Second Year		
Semester 3		
ENGL 2210G	Professional and Technical Communication	3
BCIS 1110	Introduction to Information Systems	3
CHEM 2120	Integrated Organic Chemistry and Biochemistry	3
MATH 1430G	Applications of Calculus I	3
Elective		2
	Credits	**14**
Semester 4		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4

NUTR 2110	Human Nutrition	3
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory	5
	Credits	**16**
Third Year		
Semester 5		
MATH 1350G	Introduction to Statistics	3
FSTE 2120	ACES in the Hole Foods II	4
FSTE 4110	Food Microbiology	4
BCHE 395	Biochemistry I	3
Choose one of the following:		3
FSTE 4996	Special Topics	
Elective		
	Credits	**17**
Semester 6		
FSTE 3110	Professional Development in Food Science	1
FSTE 4120	Food Chemistry	3
FSTE 4140	Food Analysis	3
Viewing a Wider World		3
Choose one of the following:		4
FSTE 4996	Special Topics	
Elective		
	Credits	**14**
Fourth Year		
Semester 7		
FSTE 4230	Food Processing Technologies	4
FSTE 2130G	Survey of Food and Agricultural Issues	3
FSTE 4150	Food Safety	3
FSTE 4250	Sensory Evaluation of Foods and Product Development	3
ANSC 2310	Introduction to Meat Science	3
	Credits	**16**
Semester 8		
FSTE 4130	Food Preservation	3
Viewing a Wider World		3
FSTE 4998	ACES Foods at NMSU-Experiential Learning	1
Choose 7 credits from the following:		7
FSTE 4996	Special Topics	
FSTE 4997	Special Problems	
	Credits	**14**
	Total Credits	**121**

Science (Biology) - Associate of Science

Overview

The Associate of Science degree allows students to complete many of the general education requirements for a bachelor's degree while still at the community college. Students should take electives that apply toward the requirements of their chosen bachelor's degree. The science electives may be taken at DACC or at NMSU. *Students who wish to transfer to NMSU and major in Biology should consider selecting the Biology Concentration and follow the related Roadmap, in consultation with their advisor.*

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(60 Credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits with a minimum cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework. A minimum of 15 of the total degree credits for the Associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

Prefix	Title	Credits
General Education		
Area I: Communications		
ENGL 1110G	Composition I	4
or ENGL 1110H	Composition I Honors	
ENGL 2210G	Professional and Technical Communication	3
or ENGL 2221G	Writing in the Humanities and Social Science	
or ENGL 2210H	Professional and Technical Communication	
COMM 1130G	Public Speaking	3
or COMM 1115G	Introduction to Communication	
Area II: Mathematics		
MATH 1220G	College Algebra	3
or MATH 1250G	Trigonometry & Pre-Calculus	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences [1]		
Area III: Laboratory Sciences		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
Area IV: Social/Behavioral Sciences [1]		*3*
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective [1]		*3-4*
Concentration Requirements		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
or BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
Recommended STEM-H Electives		**16**
CHEM 2115	Survey of Organic Chemistry and Laboratory	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1511G	Calculus and Analytic Geometry I	
or MATH 1511H	Calculus and Analytic Geometry I Honors	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
Total Credits		**61-62**

[1] See the General Education (p. 56)Section of the catalog for a full list of courses

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum cumulative grade-point average of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

First Year		
Semester 1		**Credits**
ENGL 1110G or ENGL 1110H	Composition I or Composition I Honors	4
MATH 1220G or MATH 1250G	College Algebra or Trigonometry & Pre-Calculus	3
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
	Credits	**15**
Semester 2		
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	3
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
CHEM 1225G or BIOL 1130G	General Chemistry II Lecture and Laboratory for STEM Majors or Introductory Anatomy & Physiology (non-majors)	4
Recommended STEM-H Electives & Electives [2]		4
	Credits	**15**
Second Year		
Semester 1		
COMM 1130G or COMM 1115G or HNRS 2175G	Public Speaking or Introduction to Communication or Introduction to Communication Honors	3
PHYS 1230G	Algebra-Based Physics I	3
Humanities [1]		3
Recommended STEM-H Electives and Electives [2]		7-8
	Credits	**16-17**
Semester 2		
Social/Behavioral Science [1]		3
Recommended STEM-H Electives and Electives [2]		4
Creative & Fine Arts [1]		3
General Education Elective [1]		4
	Credits	**14**
	Total Credits	**60-61**

[1] See the General Education (p. 56)Section of the catalog for a full list of courses

[2] Recommended STEM-H Electives and Electives:
CHEM 2115 Survey of Organic Chemistry and Laboratory
MATH 1250G Trigonometry & Pre-Calculus
MATH 1511G Calculus and Analytic Geometry I
PHYS 1240G Algebra-Based Physics II
& PHYS 1240L Algebra-Based Physics II Lab

Science (Chemistry) - Associate of Science

Overview

The Associate of Science degree allows students to complete many of the general education requirements for a bachelor's degree while still at the community college. Students should take electives that apply toward the requirements of their chosen bachelor's degree. The science electives may be taken at DACC or NMSU. *Students who wish to transfer to NMSU and major in Chemistry should consider selecting the Chemistry Concentration and follow the related Roadmap, in consultation with their advisor.*

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(60 Credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits with a minimum cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework. A minimum of 15 of the total degree credits for the Associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

Prefix	Title	Credits
General Education		
Area I: Communications		
ENGL 1110G or ENGL 1110H	Composition I Composition I Honors	4
ENGL 2210G or ENGL 2221G or ENGL 2210H	Professional and Technical Communication Writing in the Humanities and Social Science Professional and Technical Communication	3
COMM 1130G or COMM 1115G or HNRS 2175G	Public Speaking Introduction to Communication Introduction to Communication Honors	3
Area II: Mathematics		
MATH 1220G	College Algebra	3
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences [1]		

Area III: Laboratory Sciences		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
Area IV: Social/Behavioral Sciences [1]		*3*
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective [1]		*3-4*
Concentration Requirements		
MATH 1250G	Trigonometry & Pre-Calculus	4
MATH 1511G	Calculus and Analytic Geometry I	4
or MATH 1511H	Calculus and Analytic Geometry I Honors	
MATH 1521G	Calculus and Analytic Geometry II	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Recommended STEM-H Electives		**15**
Select courses from the following for a total of 15 credits based on BS or BA program in consultation with advisor		
CHEM 2115	Survey of Organic Chemistry and Laboratory [3]	
MATH 2530G	Calculus III	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [2]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [2]	
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics	
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory	
Total Credits		**60-61**

1 See the General Education (p. 56)Section of the catalog for a full list of courses
2 Not Applicable to the BS in Chemistry at NMSU-MA
3 Not Applicable to BS or BA in Chemistry at NMSU-MA

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum cumulative grade-point average of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
or ENGL 1110H	or Composition I Honors	
MATH 1220G	College Algebra	3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
Social/Behavioral Sciences [1]		3
Humanities [1]		3
	Credits	**17**
Semester 2		
ENGL 2210G	Professional and Technical Communication	3
or ENGL 2210H	or Professional and Technical Communication	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
MATH 1250G	Trigonometry & Pre-Calculus	4
Recommended STEM-H Electives & Electives [2]		4
	Credits	**15**
Second Year		
Semester 1		
MATH 1511G	Calculus and Analytic Geometry I	4
or MATH 1511H	or Calculus and Analytic Geometry I Honors	
COMM 1130G	Public Speaking	3
or COMM 1115G	or Introduction to Communication	
or HNRS 2175G	or Introduction to Communication Honors	
Recommended STEM-H Electives & Electives [2]		4
Creative & Fine Arts [1]		3
	Credits	**14**
Semester 2		
CHEM 2115	Survey of Organic Chemistry and Laboratory [3]	4
Recommended STEM-H Electives and Electives [2]		7
General Education Elective [1]		3-4
	Credits	**14-15**
	Total Credits	**60-61**

1 See the General Education (p. 56)Section of the catalog for a full list of courses
2 Recommended STEM-H Electives and Electives:
MATH 1521G Calculus and Analytic Geometry II
MATH 2530G Calculus III
PHYS 1230G Algebra-Based Physics I
& PHYS 1230L Algebra-Based Physics I Lab
PHYS 1240G Algebra-Based Physics II
& PHYS 1240L Algebra-Based Physics II Lab
PHYS 2110 Mechanics
& PHYS 2110L Experimental Mechanics
PHYS 2140 Electricity and Magnetism
& PHYS 2140L Electricity and Magnetism Lab
3 Not applicable to BA or BS in Chemistry at NMSU-MA

Science (Computer Science) - Associate of Science

The Associate of Science degree allows students to complete many of the general education requirements for a bachelor's degree while still at the community college. Students should take electives that apply toward the requirements of their chosen bachelor's degree. The science electives

may be taken at DACC or NMSU. *Students who wish to transfer to NMSU and major in Computer Science should consider selecting the Computer Science Concentration and follow the related Roadmap, in consultation with their advisor.*

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(60 Credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits with a minimum cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework. A minimum of 15 of the total degree credits for the Associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

Prefix	Title	Credits
General Education		
Area I: Communications		
ENGL 1110G	Composition I	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
ENGL 2210G	Professional and Technical Communication	3
or ENGL 2210H	Professional and Technical Communication	
COMM 1130G	Public Speaking	3
or COMM 1115G	Introduction to Communication	
Area II: Mathematics		
MATH 1250G	Trigonometry & Pre-Calculus	4
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences [1]		
Area III: Laboratory Sciences [1]		*8*
Area IV: Social/Behavioral Sciences [1]		*3*
Area V: Humanities [1]		3
Area VI: Creative and Fine Arts [1]		3
General Education Elective [1]		3-4
Concentration Requirements		
CSCI 1720	Computer Science I	4
CSCI 2210	Object-Oriented Programming	4
CSCI 2220	Introduction to Data Structures and Algorithms	4
Recommended STEM-H Electives		
CSCI 1240	C++ Programming I [2]	0-3
or CSCI 1220	Computer Programming Fundamentals: Python	
MATH 1511G	Calculus and Analytic Geometry I	4
or MATH 1511H	Calculus and Analytic Geometry I Honors	
MATH 1521G	Calculus and Analytic Geometry II	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
MATH 2415	Introduction to Linear Algebra	3
Total Credits		**57-61**

[1] See the General Education (p. 56)Section of the catalog for a full list of courses

[2] Not Applicable to BS or BA in Computer Science at NMSU-MA

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete at least 60 credits with a minimum cumulative grade-point average of 2.0. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus. The New Mexico General Education Requirements can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

First Year		
Semester 1		**Credits**
CSCI 1720	Computer Science I	4
ENGL 1110G or ENGL 1110M or ENGL 1110H	Composition I or Composition I or Composition I Honors	4
MATH 1250G	Trigonometry & Pre-Calculus	4
Laboratory Sciences [1]		4
	Credits	**16**
Semester 2		
CSCI 2210	Object-Oriented Programming	4
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	3
Humanities [1]		3
Social/Behavioral Sciences [1]		3
Creative and Fine Arts [1]		3
	Credits	**16**
Second Year		
Semester 1		
CSCI 2220	Introduction to Data Structures and Algorithms	4
COMM 1130G or COMM 1115G or HNRS 2175G	Public Speaking or Introduction to Communication or Introduction to Communication Honors	3
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I or Calculus and Analytic Geometry I Honors	4
Laboratory Sciences [1]		4
	Credits	**15**
Semester 2		
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II or Calculus and Analytic Geometry II Honors	4
MATH 2415	Introduction to Linear Algebra	3
CSCI 1240	C++ Programming I	3
General Education Elective [1]		3-4
	Credits	**13-14**
	Total Credits	**60-61**

[1] See the General Education (p. 56)Section of the catalog for a full list of courses

Science (Mathematics) - Associate of Science

The Associate of Science degree allows students to complete many of the general education requirements for a bachelor's degree while still at the community college. Students should take electives that apply toward the requirements of their chosen bachelor's degree. The science electives may be taken at DACC or NMSU. *Students who wish to transfer to NMSU and major in Mathematics, should consider selecting the Mathematics Concentration and follow the related Roadmap, in consultation with their advisor.*

Doña Ana Community College 2026-2027 Catalog

(60 - 61 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits, with a minimum G.P.A. of 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework. A minimum of 15 of the total degree credits for the Associate degree must be completed at DACC, or any other NMSU Campus. the New Mexico General Education Requirements can be found in the section entitled, "Transfer Among Institutions of Higher Education."

Prefix	Title	Credits
General Education: Area I: Communications		
ENGL 1110G	Composition I (Level 1) [1]	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
ENGL 2210G	Professional and Technical Communication (Level 2)	3
or ENGL 2210H	Professional and Technical Communication	
COMM 1130G	Public Speaking (Oral Communication I)	3
or COMM 1115G	Introduction to Communication	
or HNRS 2175G	Introduction to Communication Honors	
General Education: Area II: Mathematics		
MATH 1250G	Trigonometry & Pre-Calculus [1]	4
General Education: Area III/IV: Laboratory Sciences and Social Behavorial Sciences (8 credits from Area III and 3 credits from Area IV) [2]		**11**
General Education: Area V: Humanities [2]		**3**
General Education: Area VI: Creative and Fine Arts [2]		**3**
General Education Elective [2]		**3-4**
Concentration Requirements (Complete at least 12 credits from the following)		**12**
CSCI 1720	Computer Science I	
MATH 1511G	Calculus and Analytic Geometry I	
or MATH 1511H	Calculus and Analytic Geometry I Honors	
MATH 1521G	Calculus and Analytic Geometry II	
or MATH 1521H	Calculus and Analytic Geometry II Honors	
MATH 2530G	Calculus III	
MATH 1531	Introduction to Higher Mathematics	
MATH 2415	Introduction to Linear Algebra	
Science, Technology, Engineering, Mathematics and Health (STEM-H) Electives		
Select any course from within the following STEM-H prefixes (minimum of 9 credits): [3]		9
STEM-H electives should be selected in consultation with an academic advisor, the NMSU Catalog and the bachelor's degree requirements to ensure course transfer. [4]		
Electives, to bring the total credits to 60 [5]		**5**
Total Credits		**60-61**

1. A minimum grade of *C-* is required.
2. See the General Education (p. 56)Section of the catalog for a full list of courses
3. Not all prefixes are offered at DACC.
4. The STEM-H Elective course can be the following:

Courses

- ANTH 1135G Introduction to Biological Anthropology/ ANTH 1135L Introduction to Biological Anthropology Lab; ANTH 1160G World Archaeology
- SPHS 2110 Introduction to Communication Disorders
- E E 200 Linear Algebra, Probability and Statistics Applications; E E 212 Introduction to Computer Organization; E E 240 Multivariate and Vector Calculus Applications
- ENVS 1110G Environmental Science I; ENVS 2111 Environmental Engineering and Science; ENVS 2111L Environmental Science Laboratory
- EPWS 2996 Special Topics
- FSTE 2996 Special Topics; FSTE 2130G Survey of Food and Agricultural Issues; FSTE 2110G Food Science I
- FWCE 1120 Contemporary Issues in Wildlife and Natural Resources Management; FWCE 1110G Introduction to Natural Resources Management; FWCE 2110 Principles of Fish and Wildlife Management
- GENE 1110 Experimental Systems in Genetics
- NUTR 2110 Human Nutrition; NUTR 2120 Seminar I - Becoming a Nutrition Professional
- NURS 1121 Foundations of Nursing Practice; NURS 1150 Medical Terminology; NURS 1153 Medication & Dosage Calculation
- SUR 222 Introduction to Geomatics; SUR 285 Precise Digital Mapping

Prefixes

- A E
- AERT
- AGRO
- AHS
- ANSC (excluding ANSC 1120H, ANSC 1180, ANSC 1140)
- ARCH
- ASTR
- AUTO
- AXED (excluding AXED 2130))
- BCHE
- BCIS
- BCT
- BIOL
- C E
- CSCI
- CHEM
- CHME
- CSEC
- CTEC

- DAS
- DHYG
- DMS
- DRFT
- E T
- ELT
- ENGR
- FDMA
- FIRE
- GEOG
- GEOL
- HIT
- HORT
- HVAC
- I E
- ICT
- INMT
- MAT
- MATH
- M E
- NA
- NSC
- OEBM
- OECS
- OEEM
- OEET
- OEGR
- OEGS
- OETS
- OSEC
- OTEC
- PHLS
- PHYS
- RADT
- RESP
- RGSC
- CTEC
- SMET
- SOIL
- SURG
- TCEN
- WATR
- WELD

[5] Elective credit may vary based on prerequisites, dual credit, or AP credit. The amount indicated in the requirements list is the amount needed to bring the total to 60 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

(60-61 credits)

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NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

First Year		
Semester 1		**Credits**
ENGL 1110G or ENGL 1110H	Composition I or Composition I Honors	4
MATH 1250G	Trigonometry & Pre-Calculus	4
Social and Behavorial Sciences [1]		3
Laboratory Sciences [1]		4
	Credits	**15**
Semester 2		
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	3
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I or Calculus and Analytic Geometry I Honors	4
Laboratory Sciences [1]		4
Humanities [1]		3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.		3
	Credits	**17**
Second Year		
Semester 1		
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II or Calculus and Analytic Geometry II Honors	4
Creative and Fine Arts [1]		3
COMM 1130G or COMM 1115G or HNRS 2175G	Public Speaking or Introduction to Communication or Introduction to Communication Honors	3
General Education Elective [1]		3-4
Elective		2
	Credits	**15-16**
Semester 2		
CSCI 1720	Computer Science I	4
MATH 2530G	Calculus III	3
STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.		3

STEM-H Elective (Selected in consultation with an academic advisor, the DACC/NMSU Catalog, and the bachelor's degree requirements to ensure course transfer.	3
Credits	**13**
Total Credits	**60-61**

[1] See the General Education (p. 56)Section of the catalog for a full list of courses

Automation and Manufacturing Technology

Associate of Applied Science Degree

Certificates of Completion

- Automation and Manufacturing Technology
- Basic Manufacturing and Bridge

Automation and manufacturing is an evolving, high-tech field, with applications in areas as aerospace, production, and various manufacturing industries. It offers competitive salaries along with opportunities for rapid advancement. Automation and manufacturing technicians are often responsible for production operation, as well as equipment monitoring, adjustment, maintenance, and repair in both routine and emergency situations.

Using modern industrial production equipment, DACC's Automation and Manufacturing Technology program provides training for desirable entry-level positions as well as skills upgrading for those already working in the field. The program encourages the development of problem-solving skills, enabling students to adapt quickly to rapidly changing conditions brought on by new technologies.

Students learn about manufacturing production systems, including additive manufacturing and CNC machining. Hands-on preventive and corrective maintenance procedures are taught in modern laboratory facilities using the same state-of-the-art, production equipment found in the manufacturing industry.

Whether taking classes or working on a job site, students enrolled in this program will be required to perform the same job duties and be able to meet the same physical requirements that they will as a graduate in the field. Depending where they find employment, graduates may be required to lift and carry 50 pounds safely, to work safely using hand and power tools, to work safely on electrical equipment, to ascend and descend ladders, and to stand, squat, stoop, or kneel for long periods of time.

Automation and Manufacturing Technology - Associate of Applied Science (p. 155)

Automation and Manufacturing - Certificate of Completion (p. 156)

Basic Manufacturing and Bridge - Certificate of Completion (p. 157)

MAT 101. General Industry Safety
1 Credit (1)
Overview of general industry safety for entry-level individuals. Students will have the opportunity to earn a 10-hour general industry OSHA card. Restricted to Community Colleges campuses only.

Learning Outcomes
1. Discuss the general history of OSHA.
2. Discuss the general history of the U.S. safety movement.
3. Utilize the OSHA web site as a basic safety resource.
4. Recognize industry-related hazards.
5. Identify industry-related hazards.
6. Avoid industry-related hazards.
7. Follow proper basic first aid procedures in an emergency.
8. Avoid exposure to blood-borne pathogens in an emergency situation.
9. Interpret hazard communication. 1
10. Recognize proper lifting techniques. 1
11. Recognize personal protective equipment.

MAT 102. Print Reading for Industry
3 Credits (2+2P)
Reading, interpretation, and revisions of industrial technical drawings common to manufacturing, Aerospace, machine parts, electrical, hydraulic, and pneumatic drawings. Interpretation of engineering drawings and related shop calculations.
Learning Outcomes
1. Recognize fundamentals of shape descriptions.
2. Recognize fundamentals of size description and annotations.
3. Recognize industrial drawing types.
4. Recognize Industrial drawing types.
5. Understand basic geometric dimensioning and tolerances practices that applied to working drawings.
6. Identify standard threads and fasteners callouts and specifications.

MAT 105. Introduction to Manufacturing
3 Credits (2+2P)
Introduction to manufacturing evolution from basic assembly process to modern automated processes. Covers history, employability, soft skills, quality measurements, teamwork concept, production requirements, and considerations in plan layout and design. Minimum math proficiency of CCDM 114 required or math placement into MATH 1215 or higher. Restricted to: Community Colleges only.
Learning Outcomes
1. Classify Hazardous Materials.
2. Perform an Electrical Lockout/Tagout.
3. Locate and Interpret a Safety Data Sheet.
4. Interpret a Hazardous Material Identification Label.

MAT 106. Applied 3D Manufacturing Practices
3 Credits (2+2P)
Introduction to part production and manufacturing utilizing 3D printing processes. Introduction to creating 3D solid models utilizing CAD software and the creation of 3d printed parts utilizing filament or resin style 3D printers. Students will learn how to make selected parts starting from drawings/prints to completed projects. Basic elements of quality control will be introduced.
Learning Outcomes
1. Produce 3D solid models in CAD Software.
2. Read basic 2D technical drawings.
3. Manage Electronic files.
4. Utilize slicing software to prepare 3D solid models for 3d printing.
5. Apply industry standard design practices to produce desired 3D printed parts.

6. Produce 3D printed parts.
7. Apply elements of quality control in the 3D printing process.

MAT 110. Machine Operation and Safety
3 Credits (2+2P)
Introduction to the operation and safety aspects of various types of machinery and equipment, including both mechanical and electrical machines, Rigid Tubing, and Flexible Lines. Maintenance and safety operation of industrial equipment will also be covered. Restricted to: Community Colleges only. Crosslisted with: AERT 115
Learning Outcomes
1. Identify and analyze potential hazards associated with the operation of machinery and equipment, and apply appropriate safety measures to mitigate risks.
2. Demonstrate proficiency in implementing safety protocols and procedures when operating machinery and equipment, adhering to industry standards and regulations.
3. Apply critical thinking and problem-solving skills to troubleshoot issues related to the operation and safety of machinery and equipment, fostering a proactive approach to maintenance and risk management.
4. Gain practical skills in the maintenance and upkeep of industrial equipment, ensuring optimal performance, reliability, and safety.
5. Foster a safety-oriented mindset by recognizing the importance of personal protective equipment (PPE), safe work practices, and the responsibility to create a secure working environment for oneself and others.
6. Gain a deep understanding of file management principles, including folder structures, naming conventions, and version control, to ensure easy accessibility and retrieval of files.

MAT 130. Applied Industrial Electricity I
4 Credits (3+2P)
Electrical safety, AC and DC circuits, use and care of common measuring instrumentation, schematic and wiring diagrams, electromagnetism, National Electric Code branch circuits. Restricted to: Community Colleges only.
Prerequisite(s): MAT 1215 or ELT 120 or OETS 118.

MAT 135. Applied Industrial Electricity II
4 Credits (3+2P)
Relationship between motor power, speed, and torque, basic application of relay circuits, motor control circuits, inductance and capacitance factors, transformers, solid state devices circuits and applications. Restricted to: Community Colleges only.
Prerequisite(s): MAT 130.

MAT 221. Cooperative Experience I
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and rated by employer and instructor. Student meets in a weekly class. Graded S/U.
Prerequisite: consent of instructor.

MAT 234. Industrial Electricity Maintenance
3 Credits (2+2P)
Introduction into electrical systems, theory and uses for the different types of motors used in the industry and related industrial safety practices. DC, AC stepper and servo motors, motor speed and torque, motor performance, and efficiency, motor control fundamentals using variable frequency drives, vector controls, servo and stepper drives. Restricted to: Community Colleges only.

MAT 265. Special Topics
1-6 Credits
Course subtitled in the Schedule of Classes. May be repeated up to 12 credits.
Learning Outcomes
1. Learning goals will vary with the special topic selected for the course.

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Website: https://dacc.nmsu.edu/academics/programs/automation-and-manufacturing-technology/index.html (https://dacc.nmsu.edu/academics/programs/automation-and-manufacturing-technology/)

Automation and Manufacturing Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61 credits)

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Choose one course from four of the following six content areas for a total of 12-14 credits [1,2]		*12-14*
This degree requires courses from Areas I, II, III and IV; students do not need to take any additional General Education courses to meet the requirement		
Area I: Communications - English Compostion Level 1		
ENGL 1110G	Composition I [3]	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area II: Mathematics		
MATH 1250G	Trigonometry & Pre-Calculus [3]	
Area III: Laboratory Sciences - Choose one from the following:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab [3]	
Area IV: Social/Behavioral Sciences - Choose one from the following:		
PSYC 1110G	Introduction to Psychology [3]	
SOCI 1110G	Introduction to Sociology [3]	
General Education Elective - Area I: Communications - English Composition Level 2		
ENGL 2210G	Professional and Technical Communication	3

or ENGL 2210H	Professional and Technical Communication	
Core Requirement		
Technical Requirements		
DRFT 114	Introduction to Solid Modeling	3
ELT 110	Electronics I	4
ELT 135	Electronics II	4
ELT 160	Digital Electronics I	4
ELT 205	Semiconductor Devices	4
ELT 225	Computer Applications for Technicians	3
ELT 235	Digital Electronics II	3
MAT 102	Print Reading for Industry	3
MAT 105	Introduction to Manufacturing	3
MAT 110	Machine Operation and Safety	3
MAT 265	Special Topics	4
AERT 211	Electromechanical Devices	4
or AERT 121	Introduction to the Aerospace Workplace	
Choose one from the following:		1
MAT 221	Cooperative Experience I	
OECS 101	Computer Basics	
OETS 102	Career Readiness Certification Preparation	
Total Credits		**61**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus. Students planning to continue their studies at NMSU should choose these courses whenever possible.

(61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level I		4
ENGL 1110G	Composition I	
Area II: Mathematics		4
MATH 1250G	Trigonometry & Pre-Calculus	
ELT 110	Electronics I	4
ELT 225	Computer Applications for Technicians	3
	Credits	**15**
Semester 2		
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
General Education Elective - Area I: Communications - English Compostion Level 2		3
ENGL 2210G	Professional and Technical Communication	
DRFT 114	Introduction to Solid Modeling	3
ELT 135	Electronics II	4
ELT 160	Digital Electronics I	4
	Credits	**17**
Semester 3		
ELT 205	Semiconductor Devices	4
ELT 235	Digital Electronics II	3
MAT 105	Introduction to Manufacturing	3
MAT 110	Machine Operation and Safety	3
Choose one from the following:		1
MAT 221	Cooperative Experience I	
OECS 101	Computer Basics	
OETS 102	Career Readiness Certification Preparation	
	Credits	**14**
Semester 4		
Area III: Laboratory Sciences - Choose one from the following:		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
MAT 102	Print Reading for Industry	3
MAT 265	Special Topics	4
AERT 211 or AERT 121	Electromechanical Devices or Introduction to the Aerospace Workplace	4
	Credits	**15**
	Total Credits	**61**

Automation and Manufacturing - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(31 credits)

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
Technical Requirements		
ELT 110	Electronics I	4
MATH 1250G	Trigonometry & Pre-Calculus [1, 2]	4
or ELT 120	Mathematics for Electronics	
ELT 135	Electronics II	4
ELT 160	Digital Electronics I	4

MAT 102	Print Reading for Industry	3
MAT 105	Introduction to Manufacturing	3
MAT 110	Machine Operation and Safety	3
MAT 265	Special Topics	6
or Advisor Approved Electives (DRFT or ELT or MAT)		
Total Credits		**31**

1 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus. Students planning to continue their studies at NMSU should choose these courses whenever possible.

2 While ELT 120 meets program requirements, it does not meet the NM General Education Area II: Mathematics requirements.

(31 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
MATH 1250G or ELT 120	Trigonometry & Pre-Calculus [1] or Mathematics for Electronics	4
ELT 110	Electronics I	4
MAT 105	Introduction to Manufacturing	3
	Credits	**11**
Semester 2		
ELT 135	Electronics II	4
MAT 102	Print Reading for Industry	3
	Credits	**7**
Semester 3		
ELT 160	Digital Electronics I	4
MAT 110	Machine Operation and Safety	3
MAT 265	Special Topics	3
or Advisor Approved Electives (DRFT or ELT or MAT)		
	Credits	**10**
Semester 4		
MAT 265	Special Topics	3
or Advisor Approved Electives (DRFT or ELT or MAT)		
	Credits	**3**
	Total Credits	**31**

1 While ELT 120 meets program requirements, it does not meet the NM General Education Area II: Mathematics requirements.

Basic Manufacturing and Bridge - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
Technical Requirements		
ELT 105	Basic Electricity and Electronics	3
MAT 102	Print Reading for Industry	3
MAT 105	Introduction to Manufacturing	3
MAT 106	Applied 3D Manufacturing Practices	3
DRFT 114	Introduction to Solid Modeling	3
MAT 110	Machine Operation and Safety	3
Total Credits		**18**

(18 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ELT 105	Basic Electricity and Electronics	3
MAT 105	Introduction to Manufacturing	3
MAT 106	Applied 3D Manufacturing Practices	3
	Credits	**9**
Semester 2		
MAT 102	Print Reading for Industry	3
DRFT 114	Introduction to Solid Modeling	3
MAT 110	Machine Operation and Safety	3
	Credits	**9**
	Total Credits	**18**

Automotive Technology

Automotive Technology - Associate of Applied Science

Basic Automotive Technology - Certificate of Completion

Intermediate Automotive Technician - Certificate of Completion

Advanced Automotive Technician - Certificate of Completion

The automobile has always created a steady demand for automotive technicians. Today, automotive service is one of the fastest-growing industries in the nation, and career opportunities are expanding rapidly.

The Automotive Technology program at Doña Ana Community College is certificated by ASE (Automotive Service Excellence) and is designed to prepare the student for an entry-level position as a line technician, shop foreman, service writer, service manager, or business owner. Completing courses, certificates, and/or degrees from an ASE certified school will enhance students' ability to gain employment as well as better prepare them to become ASE certified.

Students are trained using state-of-the-art equipment. In the laboratories, they practice the same service and repair techniques required of any professional service technician working in the real world. Each class includes a number of carefully selected competencies that must be mastered in order to successfully complete the program. Students are trained in:

- Engine Repair
- Suspension and steering
- Manual drive train and axles
- Electrical systems
- Brakes
- Heating and air conditioning
- Engine performance
- Automatic transmission
- Manual Drive Train and Axles

Classes are offered in the daytime and also at night to accommodate work schedules.

Full-time Automotive Technology students are required to purchase a personal set of automotive technician's tools at an approximate cost of approximately $1,500, an iPad at the approximate cost of $400, and to provide their own safety glasses. In addition, they are strongly encouraged to purchase medical/accident insurance. The tool set includes the basic tools that most employers require for an entry-level position. Part-time students are required to purchase only those tools required by the specific course(s) in which they are enrolled.

All Automotive Technology students are encouraged to join SkillsUSA, membership in which provides students an opportunity to develop their leadership skills and to become proficient in public speaking and parliamentary procedure. SkillsUSA also offers students an opportunity to demonstrate their occupational skills through competitions that are held annually on both the state and national level.

Whether taking classes or working on a job site, students enrolled in this program will be required to perform the same job duties and be able to meet the same physical requirements that they will as a graduate in the field. Graduates may be required to lift and carry 50 pounds safely, work safely using hand and power tools and electrical equipment, and stand, squat, stoop, or kneel for long periods of time on concrete floors.

NOTE: Students must achieve a cumulative grade-point average of 2.0 with a final grade of C- or better in ENGL 1110G Composition I and a final grade of C- or better in all required AUTO courses/Technical Requirements.

Automotive Technology - Associate of Applied Science (p. 165)

Basic Automotive Technology - Certificate of Completion (p. 166)

Intermediate Automotive Technician - Certificate of Completion (p. 166)

Advanced Automotive Technician - Certificate of Completion (p. 167)

AUTO 111. Automotive Mechanics Basics
4 Credits (4)
Basic maintenance procedures of the major components of the automobile using service repair manuals, hand and power tools, precision measurement equipment, fasteners and chemicals. Restricted to: Community Colleges only.

AUTO 112. Basic Gasoline Engines
5 Credits (2+6P)
Principles of gasoline engine operation. Identification, design, function of engine components; engine disassembly and reassembly; trouble shooting, and rebuilding heads. May be repeated up to 5 credits.
Learning Outcomes

1. Recall vehicle service information, including fluid types, engine operation, service history, technical bulletins, and recalls for xEVs and ADAS-equipped vehicles.
2. Analyze and interpret on-board diagnostics (OBD) data, including DTCs, monitor status, and freeze frame data, and clear codes when necessary.
3. Inspect engine assembly for leaks and other issues, and determine required actions for maintenance or repair.
4. Verify the proper operation of engine components, including mechanical timing, covers, and warning indicators.
5. Apply appropriate service precautions for internal combustion engine repairs, particularly for xEVs.
6. Inspect and evaluate cylinder head and valve train components for wear, damage, and proper functionality, making necessary adjustments or replacements.
7. Analyze and assess engine block components, including vibration dampers and crankshaft assembly, for wear or damage.
8. Perform engine oil and filter changes and coolant system maintenance, ensuring correct fluid types and system integrity.
9. Test and troubleshoot cooling system components, including radiators, pumps, and thermostats, to identify and resolve overheating or leakage issues. 1
10. Examine and replace drive belts, tensioners, and pulleys, ensuring proper alignment and operation. 1
11. Inspect and replace oil temperature and pressure sensors, as well as auxiliary coolers, based on diagnostic results. 1
12. Evaluate and adjust engine cooling and lubrication system components for optimal performance and repair as needed.

AUTO 113. Automotive Electricity and Electronics PT I
4 Credits (2+4P)

Topics include mastery of DC electricity, use of digital multimeters, troubleshooting electrical problems in starting, charging and accessory systems. May be repeated up to 4 credits.

Learning Outcomes

1. Research and interpret vehicle service information, system architecture, wiring diagrams, and procedures for electrical/electronic systems, including xEV, ADAS, and high-voltage systems.
2. Identify and explain the function and configuration of key electrical/electronic system components (fuses, relays, resistors, sensors, modules, actuators, networks).
3. Use proper diagnostic tools (DMM, oscilloscope, graphing multimeter, scan tool) to measure voltage, current, resistance, and circuit operation; interpret results.
4. Diagnose and repair electrical faults, including shorts, opens, grounds, resistance issues, excessive parasitic draw, and voltage drops; verify proper circuit operation.
5. Inspect, test, and service wiring, terminals, connectors, and harnesses using appropriate procedures, tools, and soldering techniques.
6. Test and maintain low-voltage batteries, cables, and connections; perform state-of-charge/load tests and charging procedures; jump-start and maintain memory functions.
7. Diagnose and repair low-voltage starting systems including slow/no crank conditions, idle-stop/start systems, and electrical/mechanical faults.
8. Inspect, test, and service charging system components (alternator, drive belts, tensioners, pulleys) and identify causes of undercharge, overcharge, or no-charge conditions.
9. Inspect, aim and troubleshoot lighting systems, including interior/exterior lamps, sockets, switches, and wiring; correct intermittent, dim, or non-functioning lights. 1
10. Inspect and diagnose instrument clusters and driver information systems, including warning lights, gauges, sensors, and maintenance indicators. 1
11. Inspect, diagnose and repair body electronic systems (power locks/windows, wipers, security, infotainment, seat/airbag systems); verify module communication and function. 1
12. Demonstrate safety procedures for xEV high-voltage systems; locate, describe, and follow correct steps to de-energize/re-energize systems and protect components and personnel.

AUTO 114. Automotive Electricity and Electronics PT II
4 Credits (2+4P)

Advanced AC and DC automotive electronic circuits. Troubleshooting electronically controlled components including supplemental restraint systems and convenience accessories. Restricted to Community Colleges campuses only.

Prerequisite: AUTO 113.

Learning Outcomes

1. Understand and demonstrate safety rules related to electronically controlled automotive systems.
2. Diagnosis and demonstrate knowledge of series, parallel, and combination circuits, and their applications as applied to automotive repair.
3. Demonstrate use of wiring diagrams as a diagnostic aide.
4. Demonstrate use of meters, handheld labscopes, scan tools, and other diagnostic equipment.
5. Demonstrate use of repair manuals, both hard copy and electronic.
6. Demonstrate knowledge, diagnose and repair Air Bag Supplemental Inflatable Restraint systems
7. Demonstrate knowledge, diagnose and repair various convenience electronic systems.
8. Interpret customer concerns, create and complete a diagnostic routine and successfully repair an electrical problem.
9. Diagnose and repair starting and charging systems.

AUTO 115. Automotive Engine Repair
4 Credits (2+4P)

Principles of gasoline engine operation. Identification of engine parts, operation, and function. Disassembly and reassembly. Engine problem diagnoses (cooling system, lubrication system, engine noises). Restricted to Community Colleges only.

Learning Outcomes

1. Understand internal combustion engine theory.
2. Identify all components of an engine and their function.
3. Identify worn engine components and determine necessary repairs.
4. Effectively present engine issues and corrections using verbal and written communication.
5. Diagnose cooling system issues and the effect on various components.
6. Rebuild/ reassemble an engine to specifications.
7. Understand the operation and rationale of forced induction.
8. Identify methods of increasing engine efficiency.

AUTO 117. Electronic Analysis and Tune-Up of Gasoline Engines
5 Credits (2+6P)

Theory and operation of ignition and emission control systems and fuel system. Use of troubleshooting equipment and diagnostic equipment.

Prerequisite: AUTO 120 or consent of instructor.

AUTO 119. Manual Transmission/Clutch
5 Credits (2+6P)

Manual transmission, transfer cases, and clutch operating principles. Students will diagnose problems, remove and replace, disassemble, repair, and assemble units.

AUTO 120. Electrical Systems
4 Credits (2+4P)

Troubleshooting and repair of starters, alternators, and associated circuits. Reading electrical diagrams, diagnosis and repair of electrical accessories.

Prerequisite: consent of instructor.

AUTO 122. Automotive Brakes
4 Credits (2+4P)

Focus is on theory, diagnosis, and service of drum, disc, and anti-lock braking systems, brake component machining, hydraulic component reconditioning, friction and hardware replacement. May be repeated up to 4 credits.

Learning Outcomes

1. Research and interpret vehicle service information, brake system types (hydraulic, disc, drum, electric), service procedures, and manufacturer specifications for fluid and components, including xEV and ADAS-equipped vehicles.
2. Identify and explain brake system components and configurations, including power-assist units, electronic brake control systems (ABS, TCS, ESC), and regenerative braking systems.
3. Retrieve, record, and clear diagnostic trouble codes (DTCs) and perform service mode activation, calibration, initialization, and relearn procedures when required.

4. Diagnose hydraulic brake system concerns using pressure principles (Pascal's Law); inspect and test brake fluid, master cylinder, lines, hoses, and fittings; determine needed action.
5. Bleed, replace, or test brake fluids, fabricate lines, and ensure correct type and contamination-free hydraulic system operation.
6. Inspect, remove, replace, and/or service drum brake components including drums, shoes, wheel cylinders, springs, levers, adjusters, and support plates.
7. Inspect, measure, service, or refinish disc brake components including rotors, calipers, pads, pistons, hardware, and mounting surfaces; determine rotor serviceability.
8. Diagnose and correct brake system performance issues such as pulling, noise, dragging, pulsation, and poor stopping, in both hydraulic and mechanical systems.
9. Inspect and test power-assist units, including vacuum and hydraulic boosters; identify operational concerns, perform functional checks, and inspect related components. 1
10. Inspect, service, and replace related systems: wheel bearings (sealed and serviceable), parking brake systems (manual and electric), wheel studs, and brake light/indicator systems. 1
11. Diagnose and repair electronic brake systems (ABS, TCS, ESC); identify components, describe function, and evaluate system performance using appropriate tools. 1
12. Describe and test regenerative braking system functions and perform electronic brake system bleeding procedures safely and accurately.

AUTO 123. Job Shadowing
1 Credit (1)
Observing a professional in a real-world work setting, while gaining on-the-job training. Student will meet in a weekly class or online.
Learning Outcomes
1. Work with colleagues in the diagnosing and repair of automobiles.
2. Understand basic tool needs to meet industry requirements.
3. Prepare for various pay scales (straight time, flat-rate, hourly).
4. Understand daily operations in a live shop setting.
5. Understand the roles in the automotive field to include Technician, Service Writer, Shop Foreman, and Service Manager.

AUTO 124. Automotive Heating and Air Conditioning
4 Credits (2+4P)
R12 and R134A air conditioning systems maintenance diagnosis and repair. R12 to R134A conversion procedures. Troubleshooting automatic temperature controls and leak detection. May be repeated up to 4 credits.
Learning Outcomes
1. Research and interpret vehicle HVAC service information, including refrigerant/oil types, diagnostic procedures, and safety precautions related to xEVs and ADAS-equipped vehicles.
2. Identify HVAC system components and configurations, including compressors, condensers, evaporators, control panels, ducts, and sensors.
3. Use diagnostic tools and procedures to retrieve DTCs, interpret A/C performance test results, and analyze system pressures, temperatures, and operating noises.
4. Diagnose and repair refrigerant circuit faults, including leaks, pressure imbalances, abnormal compressor operation, and restricted flow components (expansion valves, orifice tubes, desiccants).
5. Inspect, service, or replace HVAC components, such as compressors, condensers, evaporators, receiver/driers, hoses, and system seals; select proper oil type and quantity per OEM specs.
6. Diagnose and service heating and engine cooling system interactions with HVAC, including hoses, heater cores, control valves, and electric heating systems.
7. Inspect and diagnose HVAC airflow and cabin control components, including blower motors, filters, ducts, switches, doors, resistors, relays, and protection devices.
8. Check operation of HVAC control systems, including manual, automatic, mechanical, electrical, and vacuum-based systems; service control panels and actuators.
9. Demonstrate proper handling and recovery of refrigerants, including system evacuation, recovery, recycling, recharging, oil management, and refrigerant identification. 1
10. Safely operate and maintain refrigerant service equipment and comply with environmental regulations for refrigerant labeling, storage, and handling.

AUTO 125. Brakes
5 Credits (2+6P)
Theory of operation, diagnosis, repair, and maintenance of disc and drum brakes; safety and use of special tools. May be repeated up to 5 credits.
Learning Outcomes
1. Research and interpret vehicle service information, brake system types (hydraulic, disc, drum, electric), service procedures, and manufacturer specifications for fluid and components, including xEV and ADAS-equipped vehicles.
2. Identify and explain brake system components and configurations, including power-assist units, electronic brake control systems (ABS, TCS, ESC), and regenerative braking systems.
3. Retrieve, record, and clear diagnostic trouble codes (DTCs) and perform service mode activation, calibration, initialization, and relearn procedures when required.
4. Diagnose hydraulic brake system concerns using pressure principles (Pascal's Law); inspect and test brake fluid, master cylinder, lines, hoses, and fittings; determine needed action.
5. Bleed, replace, or test brake fluids, fabricate lines, and ensure correct type and contamination-free hydraulic system operation.
6. Inspect, remove, replace, and/or service drum brake components including drums, shoes, wheel cylinders, springs, levers, adjusters, and support plates.
7. Inspect, measure, service, or refinish disc brake components including rotors, calipers, pads, pistons, hardware, and mounting surfaces; determine rotor serviceability.
8. Diagnose and correct brake system performance issues such as pulling, noise, dragging, pulsation, and poor stopping, in both hydraulic and mechanical systems.
9. Inspect and test power-assist units, including vacuum and hydraulic boosters; identify operational concerns, perform functional checks, and inspect related components. 1
10. Inspect, service, and replace related systems: wheel bearings (sealed and serviceable), parking brake systems (manual and electric), wheel studs, and brake light/indicator systems. 1
11. Diagnose and repair electronic brake systems (ABS, TCS, ESC); identify components, describe function, and evaluate system performance using appropriate tools. 1
12. Describe and test regenerative braking system functions and perform electronic brake system bleeding procedures safely and accurately.

AUTO 126. Suspension, Steering, and Alignment
5 Credits (2+6P)

Types of steering systems, suspension maintenance and repair, four-wheel alignment procedures. May be repeated up to 5 credits.

Learning Outcomes

1. Research and interpret vehicle service data including steering/suspension systems, fluid specifications, service procedures, and manufacturer recommendations for xEVs and ADAS-equipped vehicles.
2. Identify and explain suspension, steering, and wheel alignment components, including electronically controlled systems and their functions.
3. Retrieve, record, and clear diagnostic codes related to suspension and steering systems; disable and enable SRS/airbag systems according to safety procedures.
4. Diagnose and interpret suspension and steering system symptoms (uneven ride height, noises, binding, fluid leaks, tire wear, and abnormal steering behavior); determine corrective action.
5. Inspect and service power steering systems (hydraulic and electric), including pumps, belts, hoses, fluids, gears, racks, and related components.
6. Remove, inspect, adjust, and/or replace steering system parts including tie rods, linkages, steering shafts, columns, knuckles, and bushings.
7. Inspect, replace, and service suspension system parts including control arms, struts, shocks, ball joints, sway bars, torsion bars, bushings, and electronically controlled components.
8. Perform and evaluate wheel alignment procedures including camber, caster, toe, thrust angle, setback, and SAI; explain alignment angles and their impact on handling and tire wear.
9. Prepare a vehicle for alignment, perform pre-alignment inspections, and reset steering angle sensors; determine need for ADAS recalibration. 1
10. Inspect, service, and replace wheel bearings, hubs, and mountings; check for looseness, noise, and proper installation. 1
11. Inspect, rotate, mount, balance, and repair tires and wheels; verify tire pressure, inspect TPMS systems, and perform relearn/calibration procedures. 1
12. Diagnose wheel and tire concerns such as vibration, noise, shimmy, runout, and pull; determine needed action.

AUTO 127. Basic Automatic Transmission
4 Credits (2+4P)

Theory and operation of the automatic transmission; maintenance, troubleshooting, diagnosis, and repair of components. May be repeated up to 4 credits.

Learning Outcomes

1. Recall and interpret vehicle service information, including fluid types, service history, precautions, TSBs, and ADAS/xEV-related systems.
2. Identify and describe transmission and transaxle types, components, and operational principles of CVT, DCT, hybrid, and xEV drive systems.
3. Retrieve, interpret, and clear diagnostic trouble codes (DTCs), monitor status, and freeze frame data using diagnostic tools.
4. Inspect and evaluate fluid condition, levels, and possible leaks on transmissions/transaxles both with and without dipsticks.
5. Diagnose and analyze power flow, gear ratio issues, and hydraulic/pressure concerns using mechanical and hydraulic principles (Pascal's Law).
6. Differentiate and interpret between engine performance and transmission/transaxle issues; determine appropriate corrective actions.
7. Perform and evaluate stall, lock-up converter, and electronic pressure control tests; determine necessary service or repair actions.
8. Diagnose and repair electronic transmission/transaxle control systems using manufacturer data and diagnostic tools.
9. Inspect, adjust, and/or replace components such as valve shift linkage, range sensors, powertrain mounts, and park/neutral switches. 1
10. Drain, replace, and refill transmission fluids and filters using manufacturer specifications; perform system relearn procedures. 1
11. Inspect, test, and repair external seals, gaskets, bushings, and electrical/electronic circuits within the transmission system. 1
12. Remove, reinstall, and inspect off-vehicle components including the transmission/transaxle, torque converter, oil cooler, and converter flex plate; evaluate wear and mating surfaces.

AUTO 129. Automotive Steering and Suspension
4 Credits (2+4P)

Diagnosis/service of suspension components including shocks, springs, ball joints, manual and power steering systems and four wheel alignment are some areas covered. May be repeated up to 4 credits.

Learning Outcomes

1. Research and interpret vehicle service data including steering/suspension systems, fluid specifications, service procedures, and manufacturer recommendations for xEVs and ADAS-equipped vehicles.
2. Identify and explain suspension, steering, and wheel alignment components, including electronically controlled systems and their functions.
3. Retrieve, record, and clear diagnostic codes related to suspension and steering systems; disable and enable SRS/airbag systems according to safety procedures.
4. Diagnose and interpret suspension and steering system symptoms (uneven ride height, noises, binding, fluid leaks, tire wear, and abnormal steering behavior); determine corrective action.
5. Inspect and service power steering systems (hydraulic and electric), including pumps, belts, hoses, fluids, gears, racks, and related components.
6. Remove, inspect, adjust, and/or replace steering system parts including tie rods, linkages, steering shafts, columns, knuckles, and bushings.
7. Inspect, replace, and service suspension system parts including control arms, struts, shocks, ball joints, sway bars, torsion bars, bushings, and electronically controlled components.
8. Perform and evaluate wheel alignment procedures including camber, caster, toe, thrust angle, setback, and SAI; explain alignment angles and their impact on handling and tire wear.
9. Prepare a vehicle for alignment, perform pre-alignment inspections, and reset steering angle sensors; determine need for ADAS recalibration. 1
10. Inspect, service, and replace wheel bearings, hubs, and mountings; check for looseness, noise, and proper installation. 1
11. Inspect, rotate, mount, balance, and repair tires and wheels; verify tire pressure, inspect TPMS systems, and perform relearn/calibration procedures. 1
12. Diagnose wheel and tire concerns such as vibration, noise, shimmy, runout, and pull; determine needed action.

AUTO 130. Introduction to Transportation Industry
3 Credits (3)

State and national traffic statutes that relate to the trucking industry. A Commercial Driver's License Learner s Permit will be obtained through successful completion of the course.
Prerequisites: Must be 18 years of age, have a current driver's license and consent of instructor.

AUTO 131. Class A CDL
3 Credits (1+4P)
Instruction in how to perform proper pre-trip inspection; hands-on training with a tractor-trailer unit on the backing range and street driving to develop skills necessary to pass Class A DCL exam. Restricted to Community Colleges campuses only.
Prerequisite(s): Class A CDL restricted license (permit) and either restriction of D.O.T.

AUTO 132. Automotive Air-Conditioning and Heating Systems
4 Credits (2+4P)
Theory and operation, reading schematic diagrams, troubleshooting, repair, and replacement operations performed. May be repeated up to 4 credits.
Learning Outcomes
1. Research and interpret vehicle HVAC service information, including refrigerant/oil types, diagnostic procedures, and safety precautions related to xEVs and ADAS-equipped vehicles.
2. Identify HVAC system components and configurations, including compressors, condensers, evaporators, control panels, ducts, and sensors.
3. Use diagnostic tools and procedures to retrieve DTCs, interpret A/C performance test results, and analyze system pressures, temperatures, and operating noises.
4. Diagnose and repair refrigerant circuit faults, including leaks, pressure imbalances, abnormal compressor operation, and restricted flow components (expansion valves, orifice tubes, desiccants).
5. Inspect, service, or replace HVAC components, such as compressors, condensers, evaporators, receiver/driers, hoses, and system seals; select proper oil type and quantity per OEM specs.
6. Diagnose and service heating and engine cooling system interactions with HVAC, including hoses, heater cores, control valves, and electric heating systems.
7. Inspect and diagnose HVAC airflow and cabin control components, including blower motors, filters, ducts, switches, doors, resistors, relays, and protection devices.
8. Check operation of HVAC control systems, including manual, automatic, mechanical, electrical, and vacuum-based systems; service control panels and actuators.
9. Demonstrate proper handling and recovery of refrigerants, including system evacuation, recovery, recycling, recharging, oil management, and refrigerant identification. 1
10. Safely operate and maintain refrigerant service equipment and comply with environmental regulations for refrigerant labeling, storage, and handling.

AUTO 137. Fuel Systems and Emission Controls
4 Credits (2+4P)
Covers theory and operation of fuel system and emission control. Troubleshooting, vacuum diagrams, overhaul, repair and adjustment of carburetion and fuel injection.
Prerequisites: AUTO 117 or consent of instructor.

AUTO 160. Hybrid\Electric Vehicles
4 Credits (2+4P)
Theory and operation of Hybrid and Electric vehicles with emphasis on electrical motor subsystems and battery management systems.
Prerequisite: AUTO 113, AUTO 115.
Prerequisite/Corequisite: AUTO 205.
Learning Outcomes
1. Use automotive scanners and test equipment effectively.
2. Explain the difference between hybrid and electrical vehicles.
3. Identify faulty electrical components and determine necessary repairs.
4. Effectively present issues and corrections using verbal and written communication.
5. Demonstrate proper safety when working with hybrid/EV batteries.
6. Demonstrate knowledge of differences between hybrid and fully electric vehicles and their benefits.
7. Perform routine service on hybrid and electric vehicles.

AUTO 162. Advanced Non-Structural Repair I
4 Credits (2+4P)
This course will involve the students in all phases of minor non-structural collision damage repairs. It will encompass sheet metal repair, advanced panel replacement and alignment.
Prerequisite(s): AUTO 161.

AUTO 164. Automotive Industry Collision Repair I
4 Credits (2+4P)
This advanced course is a continuation of AUTO 161, 162, and 163. This course will incorporate all areas of major non-structural collision damage repair. Through practical application the student will learn how to effectively repair all heavy collision damage using current I-CAR repair standards and procedures.
Prerequisite(s): AUTO 163.

AUTO 165. Automotive Industry Collision Repair II
4 Credits (2+4P)
This advanced course is a continuation of AUTO 164 with emplasis on time efficiency. This course will involve the student in all areas of major collision damage repair. The student will be exposed to all applicable I-CAR industry procedures and standards involved in sheet metal and composite panel repair.
Prerequisite(s): AUTO 164.

AUTO 172. Introduction to Automotive Refinishing
4 Credits (2+4P)
This course is designed to incorporate all aspects of surface preparation, paint safety, refinishing materials, and refinishing fundamentals. Students will receive instructions for the application of acrylic enamel and base coat/clear coat refinishing systems.

AUTO 174. Intermediate Automotive Refinishing
4 Credits (2+4P)
This course encompasses all areas of surface preparation, damage repair and refinishing procedures that are necessary for achieving a proper spot repair. Students will also be exposed to safe work habits in the refinishing area and correct automotive detailing procedures.
Prerequisite(s): AUTO 172.

AUTO 176. Automotive Color Adjustment & Blending
4 Credits (2+4P)
This course will help develop the skills needed to match any type of paint. It will expose the student to color theory, color evaluation, color matching, and other color adjustment factors. The student will be instructed in multiple panel paint blending techniques as well.
Prerequisite(s): AUTO 174.

AUTO 178. Automotive Overall Refinishing
4 Credits (2+4P)
This course encompasses all areas of automotive refinishing. This advanced course is a continuation of AUTO 176 with emphasis in achieving industry refinishing times and standards consistent with that of I-CAR. The student will be exposed to surface preparation and refinishing techniques involved with overall coat/clear coat refinishing system.
Prerequisite(s): AUTO 176.

AUTO 181. Frame and Structural Repair
4 Credits (2+4P)
This course will involve the student in all areas of frame and structural damage repairs. Through theory and practical application, the student will learn how to diagnose and repair various types of damage include: mash, twist, sag, and side sway. This course will expose the students to safe work habits while using measuring and straightening equipment.
Prerequisite(s): AUTO 165.

AUTO 182. Structural Panel Replacement
4 Credits (2+4P)
This course is a continuation of AUTO 181 with infancies in structural panel replacement. The student will be exposed to frame and unibody measuring equipment and their proper use in sectioning procedures. Through theory and practical application the student will learn how to ID structural components, properly separate spot welds, position and weld new body panels in place.
Prerequisite(s): AUTO 181.

AUTO 200. Engine Performance
4 Credits (2+4P)
Theory and operation of ignition, emission control systems, fuel systems, and exhaust systems. Use of troubleshooting and diagnostic equipment. May be repeated up to 4 credits.
Prerequisite/Corequisite: AUTO 113, AUTO 115.
Learning Outcomes
1. Use automotive scanners and test equipment effectively
2. Identify all emission control components of an engine and their function
3. Identify faulty ignition components and determine necessary repairs
4. Effectively present engine issues and corrections using verbal and written communication
5. Diagnose fuel system issues and the effect on various components
6. Demonstrate knowledge of differences between different fuel delivery methods and their benefits
7. Understand the operation and rationale of forced induction
8. Identify methods of increasing engine efficiency

AUTO 201. Engine Performance I
4 Credits (2+4P)
Theory, function, service and analysis of engine related subsystems including ignition, fuel, starting, and charging systems. Emphasis is placed on diagnosis and operation of electronic engine control management systems. Restricted to Community Colleges only.

AUTO 203. Engine Performance II
4 Credits (2+4P)
Study of engine management systems and emission control systems, their function and relationship to vehicle performance and air pollution. Emphasis is placed on the analysis and repair of non-compliant vehicles. Restricted to Community Colleges only.
Prerequisite: AUTO 201.
Learning Outcomes
1. Be able to explain basic electrical theories.
2. Be able to explain basic and advanced engine designs and engine operating theory.
3. Be able to explain engine cooling and lubricating systems.
4. Be able to explain intake and exhaust systems
5. Test battery, starting and charging systems
6. Test ignition systems including point type, electronic trigger type, and distributor-less systems.
7. Test automotive fuel system including fuel tanks, lines, filters and pumps.
8. Test basic electronic fuel injection systems.
9. Test automotive computer input devices and controlled devices 1
10. Demonstrate ability to work with PC based automotive software including Alldata,

AUTO 205. Manual Drive Train and Axles
4 Credits (2+4P)
Operation, diagnosis, maintenance, repair or replacement of manual transmissions, clutch assemblies, differentials, drivelines, axles, and manual transaxles. May be repeated up to 4 credits.
Learning Outcomes
1. Research and interpret vehicle service information, including fluid types, service precautions, technical bulletins, and manufacturer specifications, especially for xEVs and ADAS-equipped vehicles.
2. Identify and describe components and configurations of manual drive trains, clutches, axles, CV/universal joints, and four-wheel/all-wheel drive systems.
3. Retrieve, record, and clear diagnostic trouble codes (DTCs), freeze frame data, and monitor status using diagnostic equipment.
4. Inspect and evaluate fluid conditions, seals, leaks, and perform necessary fluid changes for manual transmissions, differentials, and transfer cases using correct specifications.
5. Diagnose and troubleshoot drive train and clutch-related issues such as slippage, noise, vibration, pulsation, and fluid concerns; determine appropriate repairs.
6. Inspect, adjust, or replace clutch components including pedal linkage, cables, pressure plates, flywheels, and hydraulic systems.
7. Service and repair shift linkage systems by adjusting, lubricating, or replacing cables, pivots, brackets, and bushings.
8. Inspect, test, and replace drive shaft, half shaft, CV joints, and universal joint components; measure driveline angles, shaft runout, and check balance and phasing.
9. Inspect and maintain differential housings, fluid levels, companion flanges, seals, and gear assemblies; assess for leaks and proper function. 1
10. Demonstrate knowledge of ring and pinion gear setup, including adjustments for depth, preload, backlash, and gear contact patterns. 1
11. Inspect and service drive axles, including wheel studs, shaft seals, bearings, retainers, and measuring runout and endplay. 1
12. Identify and resolve four-wheel and all-wheel drive concerns, including shifting issues, tire size mismatches, locking mechanisms, and fluid leaks.

AUTO 206. Automatic Transmissions
5 Credits (2+6P)

Operation, diagnosis, maintenance, and repair of automatic transmissions including rear wheel drive, front wheel drive, and electronically controlled transmissions and transaxles. Restricted to Community Colleges only.

AUTO 208. Introduction to Alternative Fueled Vehicles
3 Credits (3)
Course will familiarize student with conditions that are resulting in the alternative fueled vehicle movement as well as the design and safety precautions unique to each alternative fuel. Propulsion systems covered include electric vehicles, bio-fueled vehicles, hybrid-electric vehicles and hydrogen powered vehicles, along with other emerging technologies as appropriate. Restricted to: Community Colleges only.
Prerequisite(s): AUTO 113 and AUTO 114.

AUTO 209. Hybrid Vehicle Service Techniques
3 Credits (3)
Designed for experienced automotive technicians, this course will cover safety procedures, design, operational overview and service techniques as well as minor diagnosis and repair of all classifications of hybrid-electric vehicles. Each student must possess legal Class '0' high voltage gloves and liners to attend this class. Restricted to: Community Colleges only.
Prerequisite(s): AUTO 113 and AUTO 114.

AUTO 210. Light Diesel
4 Credits (2+4P)
Theory and operation of light duty diesel engines with emphasis on highway diesel usage including major engine subsystems and fuel management systems.
Prerequisite/Corequisite: AUTO 113, AUTO 115.
Learning Outcomes
1. Use automotive scanners and test equipment effectively.
2. Identify all emission control components included on diesel engines and their function.
3. Identify faulty emission components and determine necessary repairs.
4. Effectively present engine issues and corrections using verbal and written communication
5. Diagnose fuel system issues and the effect on various components.
6. Demonstrate knowledge of differences between different fuel delivery methods and their benefits.
7. Understand the operation and rationale of forced induction.
8. Identify methods of increasing engine efficiency.

AUTO 221. Cooperative Experience I
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U.
Prerequisite: consent of instructor.

AUTO 255. Special Problems in Automotive Technology
1-5 Credits
Individual studies in areas directly related to automotive technologies. May be repeated for a maximum of 12 credits.
Prerequisite: consent of instructor.

AUTO 290. ASE Certification Preparation
1 Credit (1)
This is the capstone course for the Automotive Technology Program and is a requirement for graduation. Consent of Instructor required. Restricted to: AUTO majors. Restricted to Community Colleges campuses
Learning Outcomes
1. write technical reports explaining customers complaint(s), specific component malfunction(s) and related problems to include repair procedures, specifications, parts and costs associated with each specific repair
2. determine, categorize and document component or systems malfunctions which will be discussed in class
3. adequately identify safety hazards associated with electrical, electronic, hydraulic, pneumatic and mechanical systems before participating in any lab project
4. use a systematic approach to identify, diagnose and repair new hydro, electrical and mechanical systems
5. identify all related parts and components before attempting to repair each system
6. clearly identify and understand the specific function of each component before these systems and subsystems are dismantled for repairs
7. demonstrate proficiency in locating, identifying and following procedures for repairs as outlined on the Mitchell and All-DATA computer information systems
8. retrieve all phases of automotive information needed to repair the following: Electrical and Electronics, Engine Repair, Engine Performance, Automatic transmissions, Heating And Air Conditioning Systems
9. demonstrate proficiency in the proper usage of on-board computer scanners used to identify and properly diagnose possible malfunction within a specific on-board computer system 1
10. demonstrate proficiency in the proper use of scanners, information and vehicle specifications to determine needed repairs 1
11. identify, evaluate, diagnosis and repair electrical, electronic and mechanical systems and subsystems

AUTO 295. Special Topics
1-6 Credits
Topics to be announced in the Schedule of Classes.

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Automotive Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(66-67 credits)

NOTE: Students must earn a final grade of C-/S or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total 66 credits as required by the degree. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Choose one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires a course from Area I, students must select three courses from the remaining areas to complete General Education requirements (at least 9 credits worth).		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area III: Laboratory Sciences [3]		
Area IV: Social/Behavioral Sciences [3]		
Area V: Humanities [3]		
Area VI: Creative and Fine Arts [3]		
General Education Elective - Area I: Communications - Oral Communications		
COMM 1115G	Introduction to Communication [3]	3
or COMM 1130G	Public Speaking	
Or other approved New Mexico General Education Area I course listed in Oral Communication in the current DACC/NMSU Catalog		
Core Requirements		
Choose one from the following:		3
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra [3]	
MATH 1220G	College Algebra (or higher) [3]	
Electives		
Approved Technical Elective (AUTO, WELD, HVAC, BMGT, BUSA, OECS 105, MAT, ELT)		3
Major Requirements		
Technical Requirements		
AUTO 112	Basic Gasoline Engines	5
AUTO 113	Automotive Electricity and Electronics PT I	4
AUTO 114	Automotive Electricity and Electronics PT II	4
AUTO 119	Manual Transmission/Clutch	5
AUTO 123	Job Shadowing	1
AUTO 125	Brakes	5
AUTO 126	Suspension, Steering, and Alignment	5
AUTO 127	Basic Automatic Transmission	4
AUTO 132	Automotive Air-Conditioning and Heating Systems	4
AUTO 200	Engine Performance	4
AUTO 221	Cooperative Experience I	2
AUTO 290	ASE Certification Preparation	1
Total Credits		**66-67**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(66-67 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total 66 credits as required by the degree. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

First Year		
Fall		**Credits**
ENGL 1110G	Composition I	4
OETS 118	Mathematics for Technicians	3
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra (or higher)	
AUTO 112	Basic Gasoline Engines	5
AUTO 113	Automotive Electricity and Electronics PT I	4
AUTO 123	Job Shadowing	1
	Credits	**17**
Spring		
AUTO 114	Automotive Electricity and Electronics PT II	4
AUTO 125	Brakes	5
AUTO 126	Suspension, Steering, and Alignment	5
AUTO 127	Basic Automatic Transmission	4
	Credits	**18**
Summer		
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	3

Or other approved New Mexico General Education Area I course listed in Oral Communication in the current DACC/NMSU Catalog		
	Credits	**3**
Second Year		
Fall		
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.		3-4
AUTO 119	Manual Transmission/Clutch	5
AUTO 200	Engine Performance	4
AUTO 132	Automotive Air-Conditioning and Heating Systems	4
	Credits	**16-17**
Spring		
Select 2 courses from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.		6
Approved Technical Elective (AUTO, WELD, HVAC, BMGT, BUSA, OECS 105, MAT, ELT)		3
AUTO 221	Cooperative Experience I	2
AUTO 290	ASE Certification Preparation	1
	Credits	**12**
	Total Credits	**66-67**

Basic Automotive Technician - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(19-20 credits)

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in designated Mathematics courses.

Students must complete all University degree requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements - Choose one of the following		
Mathematics Course		*3-4*
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra (or higher)	
Technical Requirements		
AUTO 112	Basic Gasoline Engines	5
AUTO 123	Job Shadowing	1
AUTO 125	Brakes	5
AUTO 126	Suspension, Steering, and Alignment	5
Total Credits		**19-20**

(19-20 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in designated Mathematics courses.

Students must complete all University degree requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
OETS 104	Basic Mathematics for Technicians (or other approved math course)	4
AUTO 112	Basic Gasoline Engines	5
AUTO 125	Brakes	5
	Credits	**14**
Semester 2		
AUTO 123	Job Shadowing	1
AUTO 126	Suspension, Steering, and Alignment	5
	Credits	**6**
	Total Credits	**20**

Intermediate Automotive Technician - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(36 credits)

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements to total at least 36 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
Choose one of the following:		3
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra (or higher)	
OETS 103	Technical Career Skills	4
or ENGL 1110G	Composition I	
Technical Requirements		
AUTO 112	Basic Gasoline Engines	5
AUTO 113	Automotive Electricity and Electronics PT I	4
AUTO 119	Manual Transmission/Clutch	5
AUTO 123	Job Shadowing	1
AUTO 125	Brakes	5
AUTO 126	Suspension, Steering, and Alignment	5
AUTO 132	Automotive Air-Conditioning and Heating Systems	4
Total Credits		**36**

(36 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements to total at least 36 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Choose one from the following:		3
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra (or higher)	
AUTO 112	Basic Gasoline Engines	5
AUTO 113	Automotive Electricity and Electronics PT I	4
AUTO 123	Job Shadowing	1
AUTO 125	Brakes	5
	Credits	**18**
Semester 2		
OETS 103 or ENGL 1110G	Technical Career Skills or Composition I	4
AUTO 119	Manual Transmission/Clutch	5
AUTO 126	Suspension, Steering, and Alignment	5
AUTO 132	Automotive Air-Conditioning and Heating Systems	4
	Credits	**18**
	Total Credits	**36**

Advanced Automotive Technician - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(49 credits)

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements to total at least 49 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
Mathematics Course (Choose one of the following)		*3*
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra (or higher)	
OETS 103 or ENGL 1110G	Technical Career Skills Composition I	4
Technical Requirements		
AUTO 112	Basic Gasoline Engines	5
AUTO 113	Automotive Electricity and Electronics PT I	4
AUTO 114	Automotive Electricity and Electronics PT II	4
AUTO 119	Manual Transmission/Clutch	5
AUTO 123	Job Shadowing	1
AUTO 125	Brakes	5
AUTO 126	Suspension, Steering, and Alignment	5
AUTO 127	Basic Automatic Transmission	4
AUTO 132	Automotive Air-Conditioning and Heating Systems	4
AUTO 200	Engine Performance	4
AUTO 290	ASE Certification Preparation	1
Total Credits		**49**

(49 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required AUTO courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements to total at least 49 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
OETS 118	Mathematics for Technicians (or other approved math course)	3
AUTO 112	Basic Gasoline Engines	5
AUTO 113	Automotive Electricity and Electronics PT I	4
AUTO 123	Job Shadowing	1
AUTO 125	Brakes	5
	Credits	**18**
Semester 2		
OETS 103 or ENGL 1110G	Technical Career Skills or Composition I	4
AUTO 114	Automotive Electricity and Electronics PT II	4
AUTO 126	Suspension, Steering, and Alignment	5
AUTO 127	Basic Automatic Transmission	4
	Credits	**17**
Semester 3		
AUTO 119	Manual Transmission/Clutch	5
AUTO 132	Automotive Air-Conditioning and Heating Systems	4
AUTO 200	Engine Performance	4

AUTO 290	ASE Certification Preparation	1
	Credits	**14**
	Total Credits	**49**

Building Construction Technology

Associate of Applied Science Degree

- Building Construction Technology (60 credits)

The Associate of Applied Science Degree in Building Construction Technology prepares students for opportunities within the growing construction industry. Providing significant hands-on instruction and student participation, the degree includes basic construction safety, technical math skills, blueprint reading, use of hand and power tools, wood building materials, and basic plumbing skills. This competency and performance-based degree follows nationally recognized National Center for Construction Education and Research (NCCER) accreditation and certification standards. Students may enroll on a full-time or part-time basis. Some courses are offered in the evening to accommodate students' work schedules.

Students may also choose to pursue a Certificate of Completion in Building Construction Technology (43-44 credits), Basic Solar (22 credits), Energy Auditing (23 credits), Basic Residential Wiring (17 credits), and/or Plumbing (17 credits) while pursuing an Associate of Applied Science Degree in Building Construction Technology.

Certificates of Completion

- Building Construction Technology (43-44 credits)
- Basic Solar (22 credits)
- Energy Auditing (23 credits)
- Basic Residential Wiring (17 credits)
- Plumbing (17 credits)

The certificates of completion in Building Construction Technology prepare students for basic, entry-level positions within the growing construction industry. Providing hands-on instruction and student participation, the certificates include basic construction safety, technical math skills, blueprint reading, use of hand and power tools, construction materials, and other related, applicable skills and training as described below. These competency and performance-based certificates follow nationally recognized National Center for Construction Education and Research (NCCER) accreditation and certification standards. Students may enroll on a full-time or part-time basis. Some courses are offered in the evening to accommodate students' work schedules.

- The Certificate of Completion in Basic Solar prepares a student with the skills for entry-level employment in the field of basic solar panel installation and construction related solar energy applications.
- The Certificate of Completion in Energy Auditing prepares a student with the skills for entry-level employment in the field of energy auditing, including the analysis of existing structures for energy efficiency and conservation.
- The Certificate of Completion in Basic Residential Wiring prepares students for entry-level employment in the residential wiring field, including basic residential wiring procedures and practices.
- The Certificate of Completion in Plumbing prepares a student with the skills for entry-level employment in the plumbing field, including basic residential plumbing procedures and practices.

All Building Construction Technology students are encouraged to join the student chapter of the National Association of Home Builders (NAHB). Membership provides students an opportunity to develop their leadership skills, become proficient in public speaking and parliamentary procedures, network with industry professionals, attend training provided by Las Cruces Home Builders Association (LCHBA), and attend other relevant professional development activities. Through their membership, students will have the opportunity to participate in service-learning events that support the local community. Students may also be able to demonstrate their technical skills at the International Builders Show (IBS) or through SkillsUSA competitions.

Whether during class, laboratory, or working on a class-related job site, students enrolled in the Building Construction Technology program will be required to perform the same job duties and be able to meet the same physical requirements that they will as a graduate in the field. Depending where they find employment, graduates may be required to:

- Work in inclement weather,
- Lift up to 50 pounds from the ground,
- Possess good eye-hand coordination,
- Work safely around electrical hazards using the appropriate safety equipment,
- Work safely using hand and power tools,
- Ascend and descend stairs and ladders, and
- Stand, squat, or kneel for long periods.

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Building Construction Technology - Certificate of Completion (p. 173)

Basic Solar - Certification of Completion (p. 174)

Energy Auditing - Certificate of Completion (p. 175)

Basic Residential Wiring - Certificate of Completion (p. 174)

Plumbing - Certificate of Completion (p. 175)

CNST 1110. General Carpentry or Building Trades I
8 Credits (2+12P)
This course will have two components: a classroom segment, where carpentry concepts will be explored, and a hands-on segment where students will be able to participate in the actual construction of a structure. Habitat for Humanity has generously offered one of their projects as a "hands-on" site. May be repeated up to 8 credits.
Learning Outcomes
1. Identify and define various elements of a Structural Wood Wall.
2. Build Structural and non-load bearing Walls and Partitions using OSHA compliant safety practices.
3. Size floor joists and roof rafters according to local building codes.
4. Hang and "Trim Out" Doors and Windows for Residential Construction Projects.
5. Choose construction project foundations.

CNST 1114. Basic Carpentry
3 Credits (1+4P)
Covers orientation to the trade; wood building materials, fasteners, and adhesives; detailed description and explanations of hand-operated and power tools, including safety; framing basics including laying out and constructing of wood floors, walls and ceilings and includes roughing in of door and window openings.

Corequisite: CNST 1115, CNST 1116.

Learning Outcomes

1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Work effectively as a team.
4. Identify various types of building materials and their uses.
5. Calculate the quantities of lumber and wood products using industry standard methods.
6. Describe the fasteners, anchors and adhesives used in construction.
7. Describe the responsibilities of safety related to the construction industry.
8. Select proper tools for the job.
9. Identify the different grades and markings of wood building materials. 1
10. List and recognize different types of flooring materials. 1
11. Knowledge of the materials and methods used to construct floor systems using the platform method of floor framing. 1
12. Describe the procedure for laying out a wood frame wall. 1
13. Describe the correct procedure for laying out floor joist. 1
14. Estimate the materials required to frame a floor system.

CNST 1115. Carpentry Level I

3 Credits (1+4P)

Describes the various kinds of roofs and provides instructions for lay out of the different roofing systems. Describes the various types of windows, skylights, and exterior doors and provides instruction for installation.

Corequisite: CNST 1114; CNST 1116.

Learning Outcomes

1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Work effectively as a team.
4. Identify various types of building materials and their uses.
5. Calculate the quantities of lumber and wood products using industry standard methods.
6. Describe the fasteners, anchors and adhesives used in construction.
7. Describe the responsibilities of safety related to the construction industry.
8. Select proper tools for the job.
9. Identify the different grades and markings of wood building materials. 1
10. List and recognize different types of flooring materials. 1
11. Knowledge of the materials and methods used to construct floor systems using the platform method of floor framing. 1
12. Describe the procedure for laying out a wood frame wall. 1
13. Describe the correct procedure for laying out floor joist. 1
14. Estimate the materials required to frame a Floor System.

CNST 1116. Basic Carpentry Lab

2 Credits (2)

Provides students the opportunity to practice skills they have acquired in CNST 1114 and CNST 1115. It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCER) Carpentry Program.

Corequisite: CNST 1114; CNST 1115.

Learning Outcomes

1. Demonstrate the correct selection, use, and care of various hand tools.
2. Demonstrate the correct selection, use, and care of various power tools.
3. Recognize and Read basic blueprint terms, components, and symbols.
4. Recognize and identify different classifications of drawings.
5. Lay out and frame a complete roof structure.
6. Be able to layout and set up concrete forms.
7. Build a Staircase.
8. Install windows and exterior doors properly.

CNST 1118. Math for Building Trades

3 Credits (3)

Geometry, algebra, arithmetic, and basic trigonometry pertaining to mathematical applications in the building trades field. Same as OEET 118, DRFT 118, OEPB 118.

Prerequisite: CCDM 103 N.

CNST 1120. Construction Drawings

4 Credits (2+4P)

An introduction to the various construction documents with symbols. Emphasizing extraction of information and specifications from drawings.

Learning Outcomes

1. Interpret construction documents.
2. Identify and navigate the basic views commonly displayed in a technical drawings.
3. Identify and describe common components on construction documents.
4. Demonstrate the use of measuring devices.
5. Use appropriate construction terminology.

CNST 1121. Introduction to Construction I

2 Credits (2+1P)

Basic safety, including personal protective equipment, how to perform basic construction tasks safely, and what to do if an accident occurs. Includes basic construction methods.

Corequisite: CNST 1122 and CNST 1133.

Learning Outcomes

1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Students will demonstrate the ability to effectively work in a team.
4. Demonstrate how related industry theories apply to real world settings.
5. Investigate mechanical processes found in building trades.
6. Identify and resolve ethical workplace issues.
7. Describe the responsibilities of safety related to the construction industry.
8. Students will be able to selected the proper tools for the job.

CNST 1122. Introduction to Construction II

2 Credits (2+1P)

Introduction to power and hand tools, blueprints, and basic rigging hardware and techniques.

Corequisite: CNST 1121 and CNST 1133.

Learning Outcomes

1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.

3. Students will demonstrate being able to work effectively in a team.
4. Demonstrate how related industry theories apply to real world settings.
5. Investigate mechanical processes found in building trades.
6. Identify and resolve ethical workplace issues.
7. Describe the responsibilities of safety related to the construction industry.
8. Students will be able to selected the proper tools for the job.

CNST 1133. Introduction to Construction Laboratory
3 Credits (3)
Provides students the opportunity to practice skills they have acquired in CNST 1121 and CNST 1122 It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCER) Carpentry Program.
Corequisite: CNST 1121, CNST 1122.
Learning Outcomes
1. Demonstrate effectively leadership skills.
2. Work effectively as a team.
3. Demonstrate the ability to read construction drawings.
4. Demonstrate how related industry theories apply to real world settings.
5. Identify and resolve ethical workplace issues.
6. Describe the responsibilities of safety related to the construction industry.
7. Work effectively as a team.
8. Demonstrate an awareness of the environmental problems arising from conventional practices.
9. Students will be able to operate hand and power tools safely. 1
10. Students will be able to selected the proper tools for the job. 1
11. Investigate mechanical processes found in building trades.

CNST 1144. Woodworking Skills I
3 Credits (1+4P)
Use and care of hand tools and elementary power tools, safety procedures, and supervised project construction. May be repeated up to 3 credits.
Learning Outcomes
1. Students will gain the skills necessary to use hand tools, and power tools, perform basic calculations accurately, and complete projects.
2. Students will purchase materials, draft, and construct one project without a door or drawer.
3. Students will develop creative thinking skills and problem-solving skills in working with the various hand tools.

CNST 1155. Woodworking Skills II
3 Credits (1+4P)
Advanced woodworking skills to include use of advanced power tools, power tool safety, and supervised construction.
Learning Outcomes
1. Students will gain the skills necessary to use hand tools, and power tools, perform basic calculations accurately, and complete projects.
2. Students will purchase materials, draft, and construct one project without a door or drawer.
3. Students will develop creative thinking skills and problem-solving skills in working with the various hand tools.

CNST 1160. Plumbing Theory I
3 Credits (2+3P)
Covers occupational introductions, human relations, safety, tools and equipment used in plumbers trade, plumbing components, sizes of various residential and commercial plumbing systems, pipe fittings, pipe joining and cost estimation.
Learning Outcomes
1. Demonstrate the ability to use equipment safely and to demonstrate these practices in the classroom.
2. Demonstrate diagramming and explain the drain, waste, and vent system.
3. Demonstrate the ability to diagram and explain the potable water system.
4. Demonstrate the ability to draw and explain storm water systems.
5. Demonstrate an awareness of the various materials and fittings used in plumbing.
6. Demonstrate an awareness of the various materials and fittings used in plumbing.
7. Demonstrate soldering of copper pipe. Demonstrate gluing of PVC pipe.

CNST 1166. Woodworking Theory and Practice
3 Credits (2+2P)
History of wood manufacturing, industrial techniques, wood characteristics, stains and finishes. Design and construction of minor wood projects. May be repeated up to 3 credits.
Learning Outcomes
1. Students will learn about the history of woodworking, learn about the different types of wood and best use for projects; learn about wood stain, and construct one project without a drawer working with various hand tools.

CNST 1215. Weatherization in Construction
3 Credits (2+2P)
Introduction to industry weatherization standards and practices utilized in the construction of buildings for the purpose of energy conservation. Economic and environmental impacts of the use of energy in heating and cooling building will be examined.
Prerequisite(s): CNST 1110, CNST 1122 and CNST 1133.
Learning Outcomes
1. Knowledge of the construction industry.
2. Knowledge of related career pathways.
3. Applicable knowledge and skills related to specific industry fields.
4. Knowledge and ability to follow industry safety practices and procedures.
5. Understand applicable codes, rules, and regulations.

CNST 1240. Cabinet Making
3 Credits (1+3P)
Covers advanced design and construction of cabinets including safety and use of hand and power tools, and materials.
Prerequisites: CNST 1155, CNST 1166, or consent of instructor.
Learning Outcomes
1. Demonstrate the safe use of various hand and power tools used in cabinet making.
2. Demonstrate the proper selection of tools for required tasks.
3. Design cabinet projects and prepare accurate materials lists.
4. Perform planning, joining, cutting, routing and other procedures used for cabinet making.
5. Demonstrate how to select and apply various finishes.

6. Properly assemble, install, assess and adjust cabinet project components.

CNST 1311. Small Equipment Maintenance and Repair
4 Credits (2+4P)
Covers small engine theory, troubleshooting and repair, auto maintenance, hydraulic theory and repair lubricants, batteries and scheduled tool maintenance. May be repeated up to 4 credits.

CNST 1330. Professional Development and Leadership
1 Credit (1)
As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. Students competing or participating in Skills USA are required to register for the course.
Learning Outcomes
1. Apply knowledge of conduit types and sizes to select appropriate bending methods.
2. Describe the purpose and function of raceways and fittings.
3. Restate the properties, ratings, and applications of different conductors and cables.
4. Identify the layout and organization of electrical drawings, including plans, elevations, and details.
5. Determine residential service sizing, grounding, and bonding requirements.
6. Apply knowledge of test equipment usage and safety practices to perform accurate electrical measurements and diagnostics.

CNST 1510. Forklift Operation
1 Credit (1)
Classroom instruction and hands-on practice to prepare students to operate a forklift safely in the workplace. Students will have the opportunity to earn a forklift operator's permit. Consent of Instructor required.
Learning Outcomes
1. Recall the rules and regulations for operating a forklift.
2. Apply knowledge of the correct methods for handling loads with a forklift.
3. Evaluate the factors affecting the stability of a forklift.
4. Utilize a forklift safety checklist to ensure compliance with safety protocols and procedures.
5. Indicate the process and safety guidelines for battery charging in forklifts.
6. Define the procedures for servicing and handling LP gas in forklifts.

CNST 2217. Building and the Environment
3 Credits (3)
Introduction to LEED's, and Green Building Fundamentals, sustainability, sustainable design and green building evaluating cost implication of green building. Describes site development; managing site water runoff, improving a project's water use efficiency. Discusses renewable energy sources, and introduces student to generating power on-site using renewable energy sources, improving a building's indoor environment quality, improving the building industries' environmental performance and environmental aspects of building maintenance, re-use and conservation.
Learning Outcomes
1. Employ effective oral and written communication skills.
2. Interpret information and instructions accurately.
3. Explain knowledge of sustainable and alternative building practices, such as LEED/Green initiatives.
4. Evaluate mechanical processes commonly used in building trades.
5. Describe and utilize methods to measure personnel and individual improvement.
6. Demonstrate effective leadership skills by utilizing available resources efficiently.

CNST 2290. Plumbing II
3 Credits (2+3P)
Provides students the opportunity to gain more practice in the skills and knowledge learned in Plumbing I. Students will install fixtures and run the various plumbing supply lines from Plumbing Level I. The course included hands on projects in which the students apply many of the competencies that have been presented through the National Center for Construction and Education Research (NCCER) Plumbing Program.
Prerequisite/Corequisite: CNST 1160.
Learning Outcomes
1. Work with copper tubing and fittings.
2. Practice safety related to the plumbing trade.
3. Work with cast iron pipe and fittings.
4. Work with steel pipe and fittings.
5. Perform calculations related to the plumbing trades.
6. Read plumbing blueprints and drawings.
7. Install plumbing fixtures.
8. Install and design drain, waste and vent systems.
9. Identify the major components of water distribution systems and describe their functions.

CNST 2994. Special Problems in Building Technology
1-4 Credits
Individual studies in areas directly related to building technologies. May be repeated up to 4 credits.
Learning Outcomes
1. Varies.

CNST 2995. Cooperative Co-Op
1-4 Credits (1-4)
Supervised cooperative work program. Student is employed in an approved occupation and is supervised and rated by the employer and instructor. Student will meet in a weekly class.
Learning Outcomes
1. Varies.

CNST 2996. Topics in Construction
1-6 Credits (1-6)
Topics to be announced in the Schedule of Classes.
Learning Outcomes
1. Varies.

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Building Construction Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required CNST and TCEN courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Choose one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires a course from Area I, students must select three courses from the remaining areas to complete General Education requirements. [1]		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I	
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area II: Mathematics		
Area III: Laboratory Sciences		
Area IV: Social/Behavioral Sciences		
Area V: Humanities		
Area VI: Creative and Fine Arts		
General Education Elective - Area I: Communications - Oral Communications		
COMM 1115G	Introduction to Communication	3
Core Requirement		
Choose one from the following:		3
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
OETS 118	Mathematics for Technicians	
Major Requirements		
Technical Requirement Courses		
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1160	Plumbing Theory I	3
CNST 1120	Construction Drawings	4
CNST 1114	Basic Carpentry	3
CNST 1115	Carpentry Level I	3
CNST 1116	Basic Carpentry Lab	2
CNST 1330	Professional Development and Leadership	1
or CNST 1710	Forklift Operation	
CNST 2290	Plumbing II	3
CNST 2217	Building and the Environment	3
Choose ONE of the following tracks of study:		12
Basic Solar Track		
TCEN 101	Energy for the Next Generation	
TCEN 110	Photovoltaic Application	
TCEN 205	NEC for Alternative Energy	
or OEET 110	Electrical Theory I	
Elective ARCT, CNST, DRFT, or TCEN Courses (1 credit)		
Energy Auditing Track		
CNST 1215	Weatherization in Construction	
TCEN 105	Building Analyst I	
TCEN 106	Building Analyst II	
TCEN 156	Building Envelope	
General Building Track		
Elective ARCT, CNST, DRFT, or TCEN Courses (12 credits)		
Total Credits		**60**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

(60-62 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of *C-* or better in all CNST and TCEN courses, and achieve a cumulative grade-point average of at least 2.0. A grade of *C-* or better is required in ENGL 1110G Composition I.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level I		4
ENGL 1110G	Composition I	
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1330	Professional Development and Leadership	1
or CNST 1710	or Forklift Operation	
Choose one from the following:		3
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
OETS 118	Mathematics for Technicians	
	Credits	**15**
Semester 2		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
CNST 1114	Basic Carpentry	3
CNST 1115	Carpentry Level I	3
CNST 1116	Basic Carpentry Lab	2

CNST 1160	Plumbing Theory I	3
	Credits	**14**
Semester 3		
Select two courses from different NM General Education Areas II, III, IV, V, and VI. A total of 4 courses from different areas are required.		6-8
Track Courses (select one track) - Choose one course from selected track below (total of 12 credits needed to complete each track).		3
Basic Solar Track		
TCEN 101	Energy for the Next Generation	
TCEN 110	Photovoltaic Application	
TCEN 205 or OEET 110	NEC for Alternative Energy or Electrical Theory I	
Elective ARCT, CNST, DRFT, or TCEN course (1 credit)		
Energy Auditing Track		
CNST 1215	Weatherization in Construction	
TCEN 105	Building Analyst I	
TCEN 106	Building Analyst II	
TCEN 156	Building Envelope	
General Building Track		
Elective ARCT, CNST, DRFT, or TCEN courses (12 credits)		
CNST 1120	Construction Drawings	4
CNST 2290	Plumbing II	3
	Credits	**16-18**
Semester 4		
Select one course from different NM General Education Areas II, III, IV, V, and VI. A total of 4 courses from different areas are required.		3
CNST 2217	Building and the Environment	3
Track Course - Choose one course from the list in Semester 3.		3
Track Course - Choose one course from the list in Semester 3.		3
Track Course - Choose one course from the list in Semester 3.		3
	Credits	**15**
	Total Credits	**60-62**

Building Construction Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(43-44 credits)

NOTE: Students must earn a final grade of *C-* or better in all CNST, DRFT, OETS, and TCEN courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 43-44 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
Choose one from the following:		3-4
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
Technical Requirements		
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1160	Plumbing Theory I	3
CNST 1120	Construction Drawings	4
CNST 1114	Basic Carpentry	3
CNST 1115	Carpentry Level I	3
CNST 1116	Basic Carpentry Lab	2
CNST 2217	Building and the Environment	3
TCEN 105	Building Analyst I	3
TCEN 106	Building Analyst II	3
Technical Electives		
Select 6 credits from the following:		6
CNST 2290	Plumbing II	
DRFT 109	Computer Drafting Fundamentals	
TCEN 156	Building Envelope	
Advisor approved CNST or TCEN elective		3
Total Credits		**43-44**

(43-44 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of *C-* or better in all CNST, DRFT, OETS, and TCEN courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 43 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
Choose one from the following:		3-4
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
Technical Elective		3
CNST 2290 or DRFT 109 or TCEN 156	Plumbing II or Computer Drafting Fundamentals or Building Envelope	
	Credits	**13-14**
Semester 2		
CNST 1160	Plumbing Theory I	3
CNST 1120	Construction Drawings	4
CNST 1114	Basic Carpentry	3
CNST 1115	Carpentry Level I	3
CNST 1116	Basic Carpentry Lab	2
TCEN 105	Building Analyst I	3
	Credits	**18**
Semester 3		
CNST 2217	Building and the Environment	3

TCEN 106	Building Analyst II	3
Technical Elective		3
CNST 2290 or DRFT 109 or TCEN 156	Plumbing II or Computer Drafting Fundamentals or Building Envelope	
Advisor approved CNST or TCEN elective		3
	Credits	**12**
	Total Credits	**43-44**

Basic Residential Wiring - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(17 credits)

NOTE: Students must earn a final grade of *C-* or better in all required CNST/ELTR courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 17 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
ELTR 1220	Introduction to Wiring Lab	3
ELTR 1230	Residential Wiring II	3
Total Credits		**17**

(17 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of *C-* or better in all required BCT courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 17 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

First Year		
Fall		**Credits**
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
ELTR 1220	Introduction to Wiring Lab	3
	Credits	**10**
Spring		
CNST 1120	Construction Drawings	4
ELTR 1230	Residential Wiring II	3
	Credits	**7**
	Total Credits	**17**

Basic Solar - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(22 credits)

NOTE: Students must earn a final grade of *C-* or better in all CNST, OEET, and TCEN courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 22 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
TCEN 101	Energy for the Next Generation	3
TCEN 110	Photovoltaic Application	4
TCEN 205	NEC for Alternative Energy	4
or OEET 110	Electrical Theory I	
Total Credits		**22**

(22 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of *C-* or better in all required CNST, OEET, and TCEN courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 22 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
TCEN 101	Energy for the Next Generation	3
	Credits	**14**
Semester 2		
TCEN 110	Photovoltaic Application	4

TCEN 205 or OEET 110	NEC for Alternative Energy or Electrical Theory I	4
	Credits	**8**
	Total Credits	**22**

Energy Auditing - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(23 credits)

NOTE: Students must earn a final grade of *C-* or better in all CNST and TCEN courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 23 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
CNST 1215	Weatherization in Construction	3
TCEN 105	Building Analyst I	3
TCEN 106	Building Analyst II	3
TCEN 156	Building Envelope	3
Total Credits		**23**

(23 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of *C-* or better in all CNST and TCEN courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 23 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
CNST 1215	Weatherization in Construction	3
	Credits	**14**
Semester 2		
TCEN 105	Building Analyst I	3
TCEN 106	Building Analyst II	3
TCEN 156	Building Envelope	3
	Credits	**9**
	Total Credits	**23**

Plumbing - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(17 credits)

NOTE: Students must earn a final grade of *C-* or better in all CNST courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 17 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
CNST 1160	Plumbing Theory I	3
CNST 2290	Plumbing II	3
Total Credits		**17**

(17 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of *C-* or better in all CNST courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 17 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 1133	Introduction to Construction Laboratory	3
CNST 1120	Construction Drawings	4
CNST 1160	Plumbing Theory I	3
CNST 2290	Plumbing II	3
	Credits	**17**
	Total Credits	**17**

Business Management

Associate of Applied Science Business Management Degree

- Finance and Banking Services Concentration
- General Management Concentration
- Retail Marketing and Sales Concentration

Certificates of Completion

- General
- Business Fundamentals
- Advertising Representative
- Applied Business Retail and Merchandising Services
- Banking
- Business Leadership

If you've always wanted to work in the fast-paced world of business, the Business Management program at DACC is your ticket to success. The Business Management program meets the need for supervisors and managers that continues to grow in business organizations, and our students are filling those positions. The experience and education you receive through the Business Management program prepares you to assume the responsibility of supervising and managing business operations.

The Business Management program, through a curriculum of practical training courses, general education courses, and selected elective classes that target a specific industry or business, can help prepare you for an entry-level supervisory or management position. You may take courses as diverse as Introduction to Supervision, Business Law, Economics, Computer Spreadsheet Applications, and Business Finance.

The program also includes twelve credit hours of electives, allowing you to customize your course of study and concentrate in a particular instructional area. You may choose courses from three concentrations.

- General Management
- Retail Marketing and Sales
- Finance and Banking

You also may customize an option by seeking advice from a faculty member to plan a series of elective courses that match your interest and career goals.

Graduates of the Business Management program can apply most of their courses toward either of two bachelor's degree programs at NMSU:

- agricultural economics and agricultural business (https://catalogs.nmsu.edu/nmsu/agricultural-consumer-environmental-sciences/agricultural-economics-business/) (offered by the College of Agricultural, Consumer, and Environmental Sciences), or
- applied studies (offered by the College of Arts and Sciences).

DACC's Associate in Applied Science degree programs in Pre-Business, Business, Administrative Office Technology, and Health Information Technology are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). All the certificates in those programs are also accredited, with the exception of the Business Fundamentals Certificate. The ACBSP emphasizes quality in teaching and student learning outcomes in business education through efforts that demonstrate adherence to business standards and performance results. The accreditation review process provides institutions with an opportunity to examine business programs and services on a continuous basis in order to foster excellence in teaching and student learning outcomes. Participation in the review process affirms the business unit's responsibility for the quality of business education and demonstrates a commitment to continuous quality improvement.

Business Management - Associate of Applied Science Business Management (p. 180)

Advertising Representative - Certificate of Achievement (p. 186)

Business Fundamentals - Certificate of Completion (p. 187)

General Business Management - Certificate of Completion (p. 188)

Applied Business Retail and Merchandising Services - Certificate of Completion (p. 186)

Banking - Certificate of Completion (p. 187)

Business Leadership - Certificate of Completion (p. 188)

Specific Concentration Coursework

Business Management (Finance & Banking) - Associate of Applied Science Business Management (p. 182)

Business Management (General Management) - Associate of Applied Science Business Management (p. 183)

Business Management (Retail Marketing & Sales) - Associate of Applied Science Business Management (p. 184)

BMGT 112. Banks and Your Money
3 Credits (3)
Banking in today's economy: language and documents of banking, check processing, teller functions, deposit function, trust services, bank bookkeeping, loans, and investments.
Learning Outcomes

1. Define and explain the importance of full-service commercial banking.
2. Explain the impacts of the banking industry on the economy, the community, and individuals.
3. Describe the major functions of commercial banks and their interrelationships.
4. List and describe the major products and services provided by commercial banks.
5. Contrast the differences and similarities between time and demand deposits.
6. Describe the process and rationale behind issuing credit and loans.
7. Discuss the importance, necessity and process of bank investments.
8. Explain the concept of liquidity and its importance to the banking industry.
9. Identify and describe the duties of the various bank regulating agencies and the major regulations they enforce. 1
10. Describe the history and growth of the banking industry in the United States. 1
11. Explain the functions and importance of the Federal Reserve System.

BMGT 126. Retail Management
3 Credits (3)
Phases of retailing, including types of retail outlets and basic problems of organizing and operating a retail store. Restricted to: Community Colleges only.
Learning Outcomes

1. Define retailing in its various perspectives and note its special characteristics.
2. Explain the steps in strategic planning for retailers.
3. Describe consumer demographics, lifestyle factors, needs and desires.

4. Examine consumer attitudes toward shopping and consumer shopping behavior, including the consumer decision process and its stages.
5. Explore the methods used by manufacturers, wholesalers, and retailers to exert influence in the distribution channel.
6. Describe the wheel of retailing, scrambled merchandising and the retail life cycle and retail strategy mixes.
7. Examine consumer attitudes toward shopping and consumer shopping behavior, including the consumer decision process and its stages.
8. Create a merchandise plan, which uses forecasting, assortments, brands, timing and allocation.

BMGT 132. Principles of Selling
3 Credits (3)
Analysis of customer behavior, persuasive communication, process of the sales interview. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Define selling, consider it from various perspectives; demonstrate its impact, and its special characteristics.
2. Explain the steps within the selling process.
3. Demonstrate how the steps in the selling process interact within one another in a logical, seamless flow.
4. Examine ethics in personal selling.
5. Demonstrate the creativity and innovation that any successful salesperson uses to overcome challenges by employing new ideas to sell their products.
6. Students will identify and understand their core personality style to enhance their communication skills.
7. Incorporate sales communication and techniques into a job interview.

BMGT 136. Forecasting Business Activity
3 Credits (3)
Course covers the important elements of forecasting all types of business activities including inventory control, revenue forecasts, staffing, and other industry specific activities using metrics and data analysis processes. Restricted to Community Colleges campuses only.
Prerequisite: BUSA 1110.
Learning Outcomes
1. Define integrity and understand its importance to small business and explain how it applies to various stakeholders.
2. Distinguish among the different types and sources of startup ideas.
3. Understand the pros and cons of franchising.
4. Describe the purpose and content of an income statement and balance sheet.
5. Designate the purpose of financial forecasting.
6. Diagnose a pro forma income statement to forecast a new ventures profitability.
7. Realize the concepts of forecasting a firm's cash flows.
8. Identify various scenarios for effective financial forecasting.
9. Evaluate the choice between debt and equity financing. 1
10. Comprehend how technology can be used to improve customer relationships. 1
11. Explain how the internet and social media are changing promotional and communication practices. 1
12. Discuss the key financial issues in managing a firm's inventory.

BMGT 138. Advertising
3 Credits (3)
Psychological approach to non-personal consumer persuasion; applied techniques in media selection, layout mechanics, production methods, and campaign structures. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Define advertising and the relevant application of psychology in delivering the message.
2. Explain the importance of various advertising media in the marketing mix.
3. Identify and explain the social, ethical and legal issues advertisers must consider.
4. Describe the significance of the marketing function in business.
5. Explain the importance of advertising and other marketing communication tools.
6. Demonstrate application of the planning process as it applies to marketing and advertising.
7. Describe the factors that are weighed when considering the use of radio and television in the creative advertising mix.
8. Describe the relationship between market segment, consumer behavior and selection of advertising campaign types.
9. List the alternative means of reaching a target market and the technical challenges of each.

BMGT 140. Principles of Supervision I
3 Credits (3)
Principles of supervision emphasizing planning, organization, rating of employees and procedures to develop good morale. Introduction to interpretation of case studies. Restricted to: Community Colleges only.
Learning Outcomes
1. Identify the elements that are necessary to be a successful supervisor in today's workforce.
2. Discuss how globalization affects supervisors in today's diverse labor force.
3. Explain the concepts of the learning organization and Continuous Quality Improvement and how their concepts influence organizational design and the management of employees.
4. Examine employee benefits and the applicable federal laws which affect the individual and the organization, and discuss their impact on both.
5. Identify and explain the decision-making process for a supervisory position.
6. Describe the value and impact of employee motivation for both the organization and the supervisor.
7. Recognize and define effective leadership styles and skills.
8. Review the importance of communication in the workplace, give examples of communication techniques and describe techniques for overcoming communication barriers.
9. Define and analyze essential supervisory skills including: team cohesiveness, human relations, decision making skills, planning and goal setting. 1
10. Summarize the importance of high ethical standards within the organization and for the employee.

BMGT 150. Income Taxation
3 Credits (3)

Federal income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates with particular reference to CLU, life insurance and annuities. Restricted to: Community Colleges only.

BMGT 155. Special Topics I
1-3 Credits (1-3)
Introductory special topics of lower division level work that provides a variety of timely subjects and content material. May be repeated up to 9 credits. Restricted to Community Colleges campuses only.

BMGT 160. Self-Presentation and Etiquette
3 Credits (3)
Introduction to business etiquette based on tradition, social expectations, and professional behavior standards. Restricted to: Community Colleges only.

BMGT 201. Work Readiness and Preparation
3 Credits (3)
Instruction in methods of selection, seeking, acquiring and retaining employment. Addresses work success skills, business etiquette, employer expectation and workplace norms. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Catalog personal and professional information that will aid in career planning and job search processes.
2. Develop methods of establishing short- and long-term career goals.
3. Recognize the strengths of various kinds of resumes and how they are used based on one's career status and type of job being sought.
4. Explain the importance of good communication and work etiquette in job success.
5. Demonstrate how to create a professional image to increase job search success.
6. Explore career management opportunities and practices.
7. Demonstrate successful interview techniques.
8. Compare and contrast employee and employer expectations.
9. Discuss ethical and appropriate work practices. 1
10. Prepare a job specific resume, cover letter, and follow up/thank you letter which are professional and appropriate.

BMGT 205. Customer Service in Business
3 Credits (3)
Establishes concepts of service quality in relationship to business success and maximization of returns to the organization. Explores techniques for delivering quality and service in a variety of business settings. Restricted to: Community Colleges only.
Learning Outcomes
1. Identify customer service and aspects of exceptional customer service.
2. Describe the elements of communication in customer service.
3. Explain professionalism in customer service.
4. Evaluate methods of resolving complaints from customers.
5. Describe the differences and influences of customers with disabilities, generational groups, and culturally diverse backgrounds.
6. Describe the purpose and use of voice and virtual technologies.
7. Explain the role of customer service management in providing quality service.

BMGT 208. Business Ethics
3 Credits (3)
The course examines the underlying dimensions of ethics in business, investigating ethics in relationship to the organization, the stakeholders, and society. Exploration of ethical issues from a historical context, analyzing actual events through the lens of business decision making, including legal/political, sociocultural, economic, and environmental considerations will be undertaken. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Identify and reflect on the foundation of personal morals.
2. Compare and contrast the various ethical philosophies that impact personal and business decisions.
3. Describe the concepts of justice and economic distribution and apply to a real-world scenario.
4. Explain capitalism and how ethics relate to that economic system.
5. Illustrate ethical responsibilities through the lens of the corporation and apply to a real-world scenario.
6. Define and appraise the impact of ethical decisions on the consumer.
7. Explain environmental ethics through a business perspective and apply to a real-world scenario.
8. Analyze ethical and moral issues and decisions facing employers and employees through real world scenarios.

BMGT 216. Business Math
3 Credits (3)
Application of basic mathematical procedures to business situations, including percentage formula applications, markup, statement analysis, simple and compound interest, and annuities. Restricted to: Community Colleges only.
Prerequisite(s): CCDM 103 N or satisfactory math score on ACT.

BMGT 221. Internship I
1,3 Credits (1,3)
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and instructor. May be repeated up to 3 credits.
Learning Outcomes
1. Define and explain the purpose, expectations, and professional standards associated with the internship experience.
2. Demonstrate the ability to apply theoretical knowledge and practical skills acquired in the classroom to real-world situations within the internship setting.
3. Assess personal strengths, weaknesses, and areas for improvement based on feedback received from internship supervisors, self-reflection, and peer evaluations.
4. Collaborate effectively with colleagues, supervisors, and clients in the internship setting, demonstrating strong communication, teamwork, and problem-solving skills.
5. Evaluate the overall internship experience and its impact on personal and professional development, and identify areas for future growth and learning in the chosen field of study.

BMGT 232. Personal Finance
3 Credits (3)
Budgeting, saving, credit, installment buying, insurance, buying vs. renting a home, income tax statement preparation, investment, and estate disposal through will and trust. Restricted to: Community Colleges only.
Learning Outcomes
1. Explain the time value of money.
2. Explain the importance and relevance of financial planning.
3. Demonstrate development of a financial plan.

4. Explain the concepts of cash flow and use of capital.
5. Describe credit and the use of credit to attain wealth.
6. Demonstrate a variety of investment techniques and vehicles.
7. Explain the importance of estate planning.
8. List the functions and uses of insurance.

BMGT 236. Small Business Start-Up
3 Credits (3)
Starting a small business is a complex endeavor that requires specialized knowledge. This course prepares students to take the first step in business ownership and operations. Restricted to Community Colleges campuses

Learning Outcomes
1. Identify the unique challenges of starting a small business.
2. Identify opportunities to start up a business and conduct a needs analysis.
3. Develop value proposition/market fit for proposed products and services.
4. Develop an appropriate business model.
5. Identify the availability of necessary resources.

BMGT 237. Managing Small Businesses
3 Credits (3)
Managing a small business requires the owner/operator to be proficient in a number of skills and technical areas. This course provides small business owners/operators with the training and essential knowledge to manage a small business. Restricted to Community Colleges campuses.

Learning Outcomes
1. Identify the strengths and weaknesses of small businesses.
2. Define entrepreneurship and identifying its traits.
3. Demonstrate a capability to explore and research business opportunities.
4. Explain how to plan to start a new business, identifying legal structures, financing options, and organizing a management team.
5. Identify and analyze financial statements.
6. Review the importance of management information systems.
7. Identify their own managerial leadership style.
8. Review purchasing and inventories, taxation and insurance.
9. Describe the process of writing a business plan.

BMGT 250. Diversity in the Workplace
3 Credits (3)
Concepts of culture, diversity, prejudice, and discrimination within the domestic workforce/society. Restricted to Community Colleges campuses only.
Prerequisite: BUSA 1110.

Learning Outcomes
1. Students will identify and evaluate tools useful for exploring their own identity.
2. Students will analyze and evaluate the connections they have with individuals from different backgrounds.
3. Students will analyze and evaluate concepts of culture, prejudice, and discrimination.
4. Students will demonstrate the ability to analyze, evaluate, and apply inclusive strategies to work effectively within a diverse workforce.

BMGT 272. E-Commerce Operations
3 Credits (3)
Includes the many forms of e-commerce and emerging technologies that will impact the business of tomorrow. Restricted to Community Colleges campuses only.
Prerequisite(s): OECS 105 or BCIS 1110.

BMGT 280. Introduction to Human Resources
3 Credits (3)
Personnel functions encompassing job analysis, recruitment, selection, training, appraisals, discipline, and terminations. Prerequisite(S): BUSA 1110 or B A 104. Restricted to Community Colleges campuses only.

BMGT 282. Introduction to International Business Management
3 Credits (3)
Overview of the social, economic and cultural environment of international business transactions. Restricted to Community Colleges only.
Prerequisite(s): BUSA 1110.

BMGT 286. Introduction to Logistics
3 Credits (3)
Overview on the planning, organizing, and controlling of transportation, inventory maintenance, order processing, purchasing, warehousing, materials, handling, packaging, customer service standards, and product scheduling. Restricted to: Community Colleges only.

BMGT 287. Introduction to Export/Import
3 Credits (3)
Procedures and documentation for exporting and importing products. Emphasis on NAFTA regulations and other U.S. border operations crossings. Restricted to Community Colleges only.
Prerequisite(s): BUSA 1110.

BMGT 290. Applied Business Capstone
3 Credits (3)
Refines skills and validates courses taken in BMGT program. Business simulations, case studies and projects used to test and improve business practices. Student must be within 25 credits of graduation. Restricted to: BMGT majors. Restricted to Community Colleges campuses only.
Prerequisite: BUSA 1110, and (BMGT 140 or MGMT 2110), and (BUSA 2230G or SOCI 1110G or PSYC 1110G).

Learning Outcomes
1. Plan, design, and create a real world project related to their field of study.
2. Participate in job shadowing in positions related to their field of study.
3. Create a portfolio in preparation for career applications.
4. Collaborate as a member of a team in their field of study.
5. Identify and use ethical decision-making in working on individual projects, job shadowing, and a team.

BMGT 298. Independent Study
3 Credits (3)
Individual studies directed by consenting faculty with prior approval of department chair. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): Sophomore standing with 3.0 GPA.

BUSA 1110. Intro to Business
3 Credits (3)
Fundamental concepts and terminology of business including areas such as management, marketing, accounting, economics, personnel, and finance; and the global environment in which they operate.

Learning Outcomes
1. Explain how business and entrepreneurship affect the quality of life and the world around us.

2. Explain the characteristics of the different forms of business ownership.
3. Perform basic stakeholder analysis concerning accountability, ethics and social responsibility of business.
4. Demonstrate knowledge of the various dimensions of the business environment including political and legal, socio-cultural, environmental, diversity, economic, technological, and global.
5. Describe the purpose and functions of finance, operations, marketing, management, accounting, and information systems.
6. Demonstrate basic skills such as use of common business terminology, information search skills, presentation and writing skills, and team skills.
7. Describe the purpose and content of a business plan.

BLAW 2110. Business Law I
3 Credits (3)
Survey of the legal environment of business and common legal principles including: the sources of law, dispute resolution and the U.S. court systems, administrative law, tort law, contract law, agency and employment law, business structure and governance, ethics and corporate social responsibility. Explores sources of liability and presents strategies to minimize legal risk. Offered at all NMSU Community Colleges except Dona Ana Community College. Credit may not be earned in both BLAW 2110 and BLAW 317.
Learning Outcomes
1. Describe the sources of law.
2. Describe and explain dispute resolution and the court systems in the United States.
3. Describe the concepts of negligence, intentional torts and strict liability.
4. Describe and apply the essential aspects of contracts from creation, performance, breach and remedies, including basic contract law from Article 2 of the Uniform Commercial Code.
5. Explain the concept of ethics.

ENTR 1110. Entrepreneurship
3 Credits (3)
Introduces students to the concept of entrepreneurship and to the process of business startups. May be repeated up to 3 credits.
Prerequisite: BUSA 1110.
Learning Outcomes
1. Identify the unique characteristics of an entrepreneur.
2. Identify opportunities and conduct needs analysis.
3. Develop value proposition/market fit for proposed products and services.
4. Develop an appropriate business model.
5. Identify availability of necessary resources.

MKTG 2110. Principles of Marketing
3 Credits (3)
Survey of modern marketing concepts and practices focusing on the marketing mix: product, pricing, promotion, and distribution strategies. Topics include: the marketing environment, consumer behavior, marketing research, target marketing, and the ethical and social responsibilities of marketers. May be repeated up to 6 credits.
Prerequisite: BUSA 1110.
Learning Outcomes
1. Describe the professional, ethical, and social responsibilities of marketers.
2. Explain the role of the product in the marketing mix, including the product life cycle, the relevance of product innovation, and product classifications.
3. Illustrate the role of promotion in the marketing mix, including the communication process and the promotional mix.
4. Explain the role of price in the marketing mix, including pricing objectives, pricing policies, and pricing methods.
5. Describe the operation of channels of distribution and supply chains, including functions of intermediaries and degrees of coverage.
6. Define the concepts of target markets and market segmentation with respect to elements of the marketing mix.
7. Explain the importance of market research and information systems in supporting marketing decision making.
8. Describe the dynamic environment(s) in which marketing decisions must be made.

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Business Management - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(64-65 credits)

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and required program credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires a courses from Area I, II, IV and V, and students need to take ONE ADDITIONAL General Education course to meet NMSU requirements.		
Area I: Communications - English Composition Level 1		

ENGL 1110G	Composition I (C- required) [3]	
or ENGL 2210G	Professional and Technical Communication	
or ENGL 1110H	Composition I Honors	
or ENGL 2210H	Professional and Technical Communication	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH, C-required) [3]	
or MATH 1220G	College Algebra	
or MATH 1430G	Applications of Calculus I	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON) [3]	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or any other Area V course) [3]	
General Education Elective [2]		*3-4*
Core Requirements		
BUSA 2230G	Human Relations in Business	3
ACCT 2110	Principles of Accounting I [3]	3
or ACCT 1115	Accounting Principles I	
BFIN 2110	Introduction to Finance	3
BMGT 208	Business Ethics	3
BUSA 1110	Intro to Business [3]	3
MGMT 2110	Principles of Management [3]	3
or BMGT 140	Principles of Supervision I	
MKTG 2110	Principles of Marketing [3]	3
Choose one from the following:		3
BCIS 1110	Introduction to Information Systems	
or BCIS 1220	Introduction to MS Word	
or BCIS 1110	Introduction to Information Systems	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
Related/Professional Requirements		
BLAW 316	Legal Environment of Business [3]	3
or BLAW 2110	Business Law I	
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone [4]	3
BMGT Electives		**12**
Choose 12 credits from the following:		
BMGT 112	Banks and Your Money	
BMGT 126	Retail Management	
BMGT 132	Principles of Selling	
BMGT 136	Forecasting Business Activity	
BMGT 138	Advertising	
BMGT 140	Principles of Supervision I	
BMGT 155	Special Topics I	
BMGT 205	Customer Service in Business	
BMGT 232	Personal Finance	
BMGT 236	Small Business Start-Up	
BMGT 237	Managing Small Businesses	
BMGT 250	Diversity in the Workplace	
BMGT 280	Introduction to Human Resources	
BMGT 282	Introduction to International Business Management	
BMGT 286	Introduction to Logistics	
ENTR 1110	Entrepreneurship	
BMGT 287	Introduction to Export/Import	
CTFM 1110	Fundamentals of Fashion [5]	
CTFM 2130	Concepts in Apparel Construction [5]	
CTFM 2120	Fashion Illustration [5]	
Total Credits		**64-65**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Students are required to take the Business Capstone Course (BMGT 290 Applied Business Capstone) at DACC. The course is offered during the Spring Semester ONLY.

5 The CTFM course are electives for students pursuing the Fashion Merchandising & Design Bachelor's at NMSU.

(64-65 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in Mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your faculty advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and required program credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ENGL 1110G or ENGL 1110H or ENGL 2210H	Composition I (or ENGL 2210G, C- required) or Composition I Honors or Professional and Technical Communication	4
MATH 1130G	Survey of Mathematics (or higher MATH)	3
PHIL 1115G	Introduction to Philosophy (or any other Area V course)	3
BUSA 1110 or BCIS 1220 or BCIS 1110	Intro to Business or Introduction to MS Word or Introduction to Information Systems	3
BMGT Elective - Choose one from the following:		3
BMGT 112	Banks and Your Money	
BMGT 126	Retail Management	
BMGT 132	Principles of Selling	
BMGT 136	Forecasting Business Activity	
BMGT 138	Advertising	
BMGT 140	Principles of Supervision I	
BMGT 155	Special Topics I	
BMGT 205	Customer Service in Business	
BMGT 232	Personal Finance	
BMGT 236	Small Business Start-Up	

BMGT 237	Managing Small Businesses	
BMGT 250	Diversity in the Workplace	
BMGT 280	Introduction to Human Resources	
BMGT 282	Introduction to International Business Management	
BMGT 286	Introduction to Logistics	
BMGT 287	Introduction to Export/Import	
ENTR 1110	Entrepreneurship	
CTFM 1110	Fundamentals of Fashion	
CTFM 2120	Fashion Illustration	
CTFM 2130	Concepts in Apparel Construction	
	Credits	**16**
Semester 2		
ACCT 2110 or ACCT 1115	Principles of Accounting I or Accounting Principles I	3
BUSA 2230G	Human Relations in Business	3
MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	3
BMGT Electives - Choose two other courses from the list in Semester 1		6
	Credits	**15**
Semester 3		
ECON 1110G	Survey of Economics (or higher ECON)	3
BFIN 2110	Introduction to Finance	3
BMGT 208	Business Ethics	3
Choose one from the following:		3
BCIS 1110 or BCIS 1220 or BCIS 1110	Introduction to Information Systems or Introduction to MS Word or Introduction to Information Systems	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
BMGT Electives - Choose one other course from the list in Semester 1.		3
	Credits	**15**
Semester 4		
General Education Elective		3-4
BLAW 316	Legal Environment of Business	3
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone	3
MKTG 2110	Principles of Marketing	3
	Credits	**18-19**
	Total Credits	**64-65**

Business Management (Finance & Banking Services) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61-62 credits)

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and required program credits to total at least 61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV and V, and students need to take ONE ADDITIONAL General Education course to meet NMSU requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I (C- or higher) [3]	
or ENGL 2210G	Professional and Technical Communication	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH, C- or higher) [3]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON) [3]	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or any other Area V course) [3]	
General Education Elective [2]		*3-4*
Core Requirements		
BUSA 2230G	Human Relations in Business	3
ACCT 2110	Principles of Accounting I [3]	3
or ACCT 1115	Accounting Principles I	
BFIN 2110	Introduction to Finance	3
BMGT 208	Business Ethics	3
BUSA 1110	Intro to Business [3]	3
MGMT 2110	Principles of Management [3]	3
or BMGT 140	Principles of Supervision I	
MKTG 2110	Principles of Marketing [3]	3
Choose one from the following:		3
BCIS 1220	Introduction to MS Word	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
Related/Professional Requirements		
BLAW 316	Legal Environment of Business [3]	3
or BLAW 2110	Business Law I	
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone [4]	3
Concentration Coursework		
BMGT 112	Banks and Your Money	3
BMGT 232	Personal Finance	3
A Banking and Financial Course (see advisor)		3
Total Credits		**61-62**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

[4] Students are required to take the Business Capstone Course (BMGT 290 Applied Business Capstone) at DACC. The course is offered during the Spring Semester ONLY.

(61-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in Mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your faculty advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and required program credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
ENGL 1110G	Composition I (or ENGL 2210G, C- required)	4
MATH 1130G	Survey of Mathematics (or higher MATH, C-required)	3
PHIL 1115G	Introduction to Philosophy (or any other Area V course)	3
BUSA 1110	Intro to Business	3
Concentration Course - Choose one from the following:		3
BMGT 112	Banks and Your Money	
BMGT 232	Personal Finance	
A Banking and Financial Course 3 credits (see advisor)		
	Credits	**16**
Semester 2		
ACCT 2110 or ACCT 1115	Principles of Accounting I or Accounting Principles I	3
BUSA 2230G	Human Relations in Business	3
MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	3
Concentration Courses - Choose two other courses from the list in Semester 1		6
	Credits	**15**
Semester 3		
ECON 1110G	Survey of Economics	3
BFIN 2110	Introduction to Finance	3
BMGT 208	Business Ethics	3
Choose one from the following:		3
BCIS 1220	Introduction to MS Word	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
Concentration Courses - Choose one other course from the list in Semester 1.		3
	Credits	**15**
Semester 4		
General Education Elective		3-4
BLAW 316	Legal Environment of Business	3
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone	3
MKTG 2110	Principles of Marketing	3
	Credits	**18-19**
	Total Credits	**64-65**

Business Management (General Management) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(64-65 credits)

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV and V, students do not need to take any additional General Education courses to meet the requirement.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I (C- required) [3]	
or ENGL 2210G	Professional and Technical Communication	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH, C-required) [3]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON) [3]	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or other Area V course) [3]	
General Education Elective [2]		*3-4*
Core Requirements		
BUSA 2230G	Human Relations in Business	3
ACCT 2110	Principles of Accounting I [3]	3
or ACCT 1115	Accounting Principles I	
BFIN 2110	Introduction to Finance [3]	3
BMGT 208	Business Ethics	3
BUSA 1110	Intro to Business [3]	3
MGMT 2110	Principles of Management [3]	3
or BMGT 140	Principles of Supervision I	
MKTG 2110	Principles of Marketing [3]	3
Choose one from the following:		3
BCIS 1215	Introduction to MS Excel I	
BCIS 1220	Introduction to MS Word	
BCIS 1230	Introduction to MS PowerPoint	

Related/Professional Requirements		
BLAW 316	Legal Environment of Business [3]	3
or BLAW 2110	Business Law I	
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone [4]	3
Concentration Coursework		**12**
Choose 12 credits from the following:		
BMGT 250	Diversity in the Workplace	
BMGT 280	Introduction to Human Resources	
BMGT 282	Introduction to International Business Management	
BMGT 286	Introduction to Logistics	
BMGT 287	Introduction to Export/Import	
Total Credits		**64-65**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Students are required to take the Business Capstone Course (BMGT 290 Applied Business Capstone) at DACC. The course is offered during the Spring Semester ONLY.

(64-65 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I (or ENGL 2210G, C- required)	
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics (or higher MATH, C- required)	
Area V: Humanities		3
PHIL 1115G	Introduction to Philosophy (or other Area V course)	
BUSA 1110	Intro to Business	3
Concentration Course - Choose one course from the following:		3
BMGT 250	Diversity in the Workplace	
BMGT 280	Introduction to Human Resources	
BMGT 282	Introduction to International Business Management	
BMGT 286	Introduction to Logistics	
BMGT 287	Introduction to Export/Import	
	Credits	**16**
Semester 2		
ACCT 2110 or ACCT 1115	Principles of Accounting I or Accounting Principles I	3
BUSA 2230G	Human Relations in Business	3
MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	3
Concentration Courses - Choose two other courses from the list in Semester 1.		6
	Credits	**15**
Semester 3		
Area IV: Social/Behavioral Sciences		3
ECON 1110G	Survey of Economics (or higher ECON)	
BFIN 2110	Introduction to Finance	3
BMGT 208	Business Ethics	3
Choose one from the following:		3
BCIS 1220	Introduction to MS Word	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
Concentration Course - Choose one other course from the list in Semester 1.		3
	Credits	**15**
Semester 4		
General Education Elective		3-4
BLAW 316	Legal Environment of Business	3
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone	3
MKTG 2110	Principles of Marketing	3
	Credits	**18-19**
	Total Credits	**64-65**

Business Management (Retail Marketing & Sales) - Associate of Applied Science

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(64 credits)

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*

This degree requires courses from Areas I, II, IV and V, students do not need to take any additional General Education courses to meet the requirement.

Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I (C- required) [3]	
or ENGL 2210G	Professional and Technical Communication	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH, C-required) [3]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON) [3]	
or BUSA 2230G	Human Relations in Business	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or any other Area IV course) [3]	
General Education Elective [2]		*3*
Core Requirements		
BUSA 2230G	Human Relations in Business	3
ACCT 2110	Principles of Accounting I [3]	3
or ACCT 1115	Accounting Principles I	
BFIN 2110	Introduction to Finance [3]	3
BMGT 208	Business Ethics	3
BUSA 1110	Intro to Business [3]	3
MGMT 2110	Principles of Management [3]	3
or BMGT 140	Principles of Supervision I	
MKTG 2110	Principles of Marketing [3]	3
Choose one from the following:		3
BCIS 1110	Introduction to Information Systems	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
Technical/Related Requirements		
BLAW 316	Legal Environment of Business [3]	3
or BLAW 2110	Business Law I	
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone [4]	3
Concentration Coursework [4]		
Select 12 credits from the following:		12
BMGT 126	Retail Management	
BMGT 132	Principles of Selling	
BMGT 136	Forecasting Business Activity	
BMGT 138	Advertising	
BMGT 205	Customer Service in Business	
Total Credits		**64**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Students are required to take the Business Capstone Course (BMGT 290 Applied Business Capstone) at DACC. The course is offered during the Spring Semester ONLY.

(64 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional and Major courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I (or ENGL 2210G, C- required)	
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics (or higher MATH, C-required)	
Area V: Humanities		3
PHIL 1115G	Introduction to Philosophy (or any other Area V course)	
BUSA 1110	Intro to Business	3
Concentration Course - Choose one course from the following:		3
BMGT 126	Retail Management	
BMGT 132	Principles of Selling	
BMGT 136	Forecasting Business Activity	
BMGT 138	Advertising	
BMGT 205	Customer Service in Business	
	Credits	**16**
Semester 2		
ACCT 2110 or ACCT 1115	Principles of Accounting I or Accounting Principles I	3
BUSA 2230G	Human Relations in Business	3
MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	3
Concentration Courses - Choose two other courses from the list in Semester 1.		6
	Credits	**15**
Semester 3		
Area IV: Social/Behavioral Sciences		3
ECON 1110G	Survey of Economics (or higher ECON)	
BFIN 2110	Introduction to Finance	3
BMGT 208	Business Ethics	3
Choose one from the following:		3
BCIS 1110	Introduction to Information Systems	
BCIS 1215	Introduction to MS Excel I	
BCIS 1230	Introduction to MS PowerPoint	
Concentration Course - Choose one other course from the list in Semester 1.		3
	Credits	**15**

Semester 4		
General Education Elective		3
BLAW 316	Legal Environment of Business	3
BMGT 201	Work Readiness and Preparation	3
BMGT 221	Internship I	3
BMGT 290	Applied Business Capstone [4]	3
MKTG 2110	Principles of Marketing	3
	Credits	**18**
	Total Credits	**64**

Advertising Representative - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(15 credits)

NOTE: If declared as a major, this certificate program is not eligible for financial aid.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 15 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
BMGT 132	Principles of Selling	3
BMGT 138	Advertising	3
MKTG 2110	Principles of Marketing [1]	3
FDMA 1120	Desktop Publishing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
Total Credits		**15**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(15 credits)

NOTE: If declared as a major, this certificate program is not eligible for financial aid.

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 15 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
BMGT 132	Principles of Selling	3
BMGT 138	Advertising	3
FDMA 1120	Desktop Publishing	3
MKTG 2110	Principles of Marketing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
	Credits	**15**
	Total Credits	**15**

Applied Business Retail and Merchandising Services - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

NOTE: Students must earn a final grade of C- or better in all Technical Requirements courses and Area of Interest courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 16 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

16 credits

The Certificate in Applied Business Retail and Merchandising Services will enable students to acquire the fundamental business skills needed to manage and promote a retail sales operation. This is an applied certificate aimed at developing a student's employee performance and leading to pursuit of the Associate of Applied Business.

Prefix	Title	Credits
Course Requirements		
BUSA 1110	Intro to Business	3
BMGT 126	Retail Management	3
BMGT 132	Principles of Selling	3
BMGT 136	Forecasting Business Activity	3
BMGT 216	Business Math (or any math course with MATH prefix or BUSA 1180)	3
BMGT 221	Internship I	1
Total Credits		**16**

A Suggested Plan of Study

This roadmap is only a suggested plan of study in order to complete a Certificate in two semesters. It is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change. Students are advised to earn a C or better to avoid repeating courses. BMGT 216 Business Math requires a C or

better in CCDM 103 N Pre-Algebra, or an adequate placement in the Math Placement Exam.

First Year		
Fall		**Credits**
BUSA 1110	Intro to Business	3
BMGT 136	Forecasting Business Activity	3
BMGT 221	Internship I	1
	Credits	**7**
Spring		
BMGT 216	Business Math (or any math course with MATH prefix or BUSA 1180)	3
BMGT 126	Retail Management	3
BMGT 132	Principles of Selling	3
	Credits	**9**
	Total Credits	**16**

Banking - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(33 credits)

NOTE: Students must earn a final grade of C- or better in all Technical Requirements courses and Area of Interest courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in designated English and Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 33 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Core Curriculum Requirements		
BCIS 1110	Introduction to Information Systems	3
ACCT 2110	Principles of Accounting I	3
ACCT 2120	Principles of Accounting II	3
BLAW 2110	Business Law I	3
BMGT 112	Banks and Your Money	3
ECON 2110G	Macroeconomic Principles	3
ENGL 2210G	Professional and Technical Communication Honors	3
MGMT 2110	Principles of Management	3
OECS 215	Spreadsheet Applications	3
Approved BMGT Elective		6
Total Credits		**33**

A Suggested Plan of Study

Additional classes may be needed based on placement test results and course prerequisites. Visit with an advisor for help with creating a customized plan.

First Year		
Fall		**Credits**
ACCT 2110	Principles of Accounting I	3
BCIS 1110	Introduction to Information Systems	3
BMGT 112	Banks and Your Money	3
	Credits	**9**
Spring		
ACCT 2120	Principles of Accounting II	3
Approved BMGT Elective		3
BLAW 2110	Business Law I	3
	Credits	**9**
Second Year		
Fall		
OECS 215	Spreadsheet Applications	3
ENGL 2210G	Professional and Technical Communication Honors	3
Approved BMGT Elective		3
	Credits	**9**
Spring		
ECON 2110G	Macroeconomic Principles	3
MGMT 2110	Principles of Management	3
	Credits	**6**
	Total Credits	**33**

Business Fundamentals - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 16 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
Area I: Communications - English Compostition Level 1		
ENGL 1110G	Composition I (or ENGL 2210G, grade C- or higher) [1, 2]	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
BUSA 1110	Intro to Business	3
Choose one from the following:		3
BUSA 1180	Business Mathematics	
MATH 1215	Intermediate Algebra (grade C- or higher) [1]	
MATH 1220G	College Algebra (grade C- or higher) [1]	
MATH 1130G	Survey of Mathematics (grade C- or higher) [1]	
Choose one from the following:		3
BUSA 2230G	Human Relations in Business	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
PSYC 1110G	Introduction to Psychology [1]	
SOCI 1110G	Introduction to Sociology [1]	
Choose one from the following:		3
BFIN 2110	Introduction to Finance [1]	
MGMT 2110	Principles of Management [1]	
or BMGT 140	Principles of Supervision I	

MKTG 2110	Principles of Marketing [1]	
Total Credits		**16**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

[2] This course requires a grade of C- or better.

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Technical Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 16 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ENGL 1110G	Composition I (or ENGL 2210G, grade C- or higher)	4
MATH 1130G or MATH 1215 or MATH 1220G or BUSA 1180	Survey of Mathematics (grade C- or higher) [1] or Intermediate Algebra or College Algebra or Business Mathematics	3
PSYC 1110G or SOCI 1110G or BUSA 2230G or ECON 2110G or ECON 2120G	Introduction to Psychology or Introduction to Sociology or Human Relations in Business or Macroeconomic Principles or Principles of Microeconomics Honors	3
BUSA 1110	Intro to Business	3
	Credits	**13**
Semester 2		
Choose ONE from the following:		3
BFIN 2110	Introduction to Finance	
MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	
MKTG 2110	Principles of Marketing	
	Credits	**3**
	Total Credits	**16**

[1] While BUSA 1180 and MATH 1215 meet program requirements, they do not meet the NM General Education Area II: Mathematics requirements.

Business Leadership - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

The Business Leadership Certificate prepares students in leadership roles in the workplace or in community organizations.

Total Credits Required for Certificate: 18

Prefix	Title	Credits
BCIS 1110	Introduction to Information Systems	3
BMGT 208	Business Ethics	3
BUSA 2230G	Human Relations in Business	3
BUSA 1110	Intro to Business	3
COMM 1130G or COMM 1115G	Public Speaking Introduction to Communication	3
MGMT 2110	Principles of Management	3
Total Credits		**18**

A Suggested Plan of Study - Business Leadership Certificate of Completion

Additional classes may be needed based on placement test results and course prerequisites. Visit with an advisor for help with creating a customized plan.

First Year		
Fall		**Credits**
BMGT 208	Business Ethics	3
BUSA 1110	Intro to Business	3
MGMT 2110	Principles of Management	3
	Credits	**9**
Spring		
BCIS 1110	Introduction to Information Systems	3
BUSA 2230G	Human Relations in Business	3
COMM 1130G or COMM 1115G	Public Speaking or Introduction to Communication	3
	Credits	**9**
	Total Credits	**18**

General Business Management - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(22 credits)

NOTE: Students must earn a final grade of C- or better in all Technical Requirements courses and Area of Interest courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 22 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education Requirements		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I (or ENGL 2210G, grade C- or higher) [1,2]	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (grade C- or higher) [1]	3
Technical Requirements		
BUSA 1110	Intro to Business [1]	3
MGMT 2110	Principles of Management [1]	3
or BMGT 140	Principles of Supervision I	
Area of Interest Courses		
Select 9 credits from one or more of the following Areas of Interest. Specific courses listed below.		9
Finance and Banking Services [3]		
BMGT 112	Banks and Your Money	
BMGT 232	Personal Finance	
General Management [3]		
BMGT 250	Diversity in the Workplace	
BMGT 280	Introduction to Human Resources	
BMGT 282	Introduction to International Business Management	
BMGT 286	Introduction to Logistics	
BMGT 287	Introduction to Export/Import	
HIT 240	Health Information Quality Management	
Retail Marketing and Sales [3]		
BMGT 126	Retail Management	
BMGT 132	Principles of Selling	
BMGT 136	Forecasting Business Activity	
BMGT 138	Advertising	
BMGT 205	Customer Service in Business	
Total Credits		**22**

1 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

2 This course requires a grade of C- or better.

3 Work with your Faculty Advisor to select Area of Interest courses that meet your career goals.

(22 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and Area of Interest courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 22 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I (or ENGL 2210G, grade C- or higher)	
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics (grade C- or higher)	
BUSA 1110	Intro to Business	3
	Credits	**10**
Semester 2		
MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	3
Choose three from the following:		9
BMGT 112	Banks and Your Money	
BMGT 232	Personal Finance	
General Management		
BMGT 250	Diversity in the Workplace	
BMGT 280	Introduction to Human Resources	
BMGT 282	Introduction to International Business Management	
BMGT 286	Introduction to Logistics	
BMGT 287	Introduction to Export/Import	
HIT 240	Health Information Quality Management	
Retail Marketing and Sales		
BMGT 126	Retail Management	
BMGT 132	Principles of Selling	
BMGT 136	Forecasting Business Activity	
BMGT 138	Advertising	
BMGT 205	Customer Service in Business	
	Credits	**12**
	Total Credits	**22**

Computer and Information Technology

Computer and Information Technology (CIT) is the discipline of using integrated computer-based systems to create, store, manipulate, secure, and share electronic data. At DACC, students can specialize in cybersecurity, data systems/analytics, network infrastructure, programming, and server administration.

For more information:

visit our webpage at https://dacc.nmsu.edu/academics/departments/computer-information-technology/

email us at cit@dacc.nmsu.edu, or

call us at 575-527-7663.

CIT is a rapidly evolving discipline that shapes the modern world. It encompasses various subdisciplines, including hardware, software, data, networking, and cybersecurity. Constant adaption and change drive advancements that impact all aspects of daily life, personal and professional. As technology becomes increasingly intertwined with daily life, cybersecurity has emerged as a vital concern. Cybersecurity professionals specialize in safeguarding data, integrated systems, and

networks, from unauthorized access and attacks. They continuously develop strategies and tools to protect against cyber threats and ensure confidentiality, integrity, and availability of information.

In addition to cybersecurity, CIT professionals specialize in various subdisciplines, including system administration, networking, cloud computing, artificial intelligence, and Internet of Things (IoT). These specializations contribute to cutting-edge innovations that shape the future. As technology continues to advance, graduates from DACC remain at the forefront, shaping the digital landscape. Our students learn to work with applications and systems from leading technology companies such as Amazon, Apple, Dell, Google, Hewlett Packard, Microsoft, Oracle, Palo Alto, and Samsung.

CAREER OPPORTUNITIES

Graduates of DACC's Computer and Information Technology Department are the problem-solvers that employers quickly hire and promote. Many students start their careers immediately after earning their two-year degree while others continue to a four-year degree. Companies that employ our students include:

- AbsenceSoft
- Advanced Systems Development
- Amazon Web Services
- Apple, Inc.
- Army Research Laboratory (ARL)
- Belcan
- City of Las Cruces
- Deutsche Bank USA
- Dona Ana County
- Elephant Butte Irrigation District (EBID)
- First Savings Bank
- Indian Health Services
- Gadsden Independent School District
- Judicial Information Division of the New Mexico Courts
- Kirtland Air Force Base
- Las Cruces Public Schools
- Los Alamos National Laboratory (LANL)
- National Aeronautics and Space Administration (NASA)
- Native Joint Venture Corporation (NVJC)
- New Mexico Department of Agriculture
- New Mexico Department of Health
- New Mexico Department of Transportation
- New Mexico State University
- New Mexico Taxation and Revenue Department
- Peraton
- Performance Data Center
- Public Service Company of New Mexico
- Sandia National Laboratories
- Science Applications International Corporation (SAIC)
- Sierra Lobo
- Tata Consultancy Services
- United Services Automobile Association (USAA)
- United States Army Training and Doctrine Command
- United States Department of Defense
- United States Department of Energy
- United States Department of State
- Virgin Galactic
- VOLT Global
- Water Resources Research Institute
- White Sands Federal Credit Union

INDUSTRY CERTIFICATIONS

Students have opportunities to obtain industry certifications in the following fields of study:

- Coding and Programming
- Data Analytics and Management
- Device Configuration and Management
- Information Systems
- Internet of Things
- Network Administration
- Network Security
- Operating Systems
- Programming
- Security Analysis
- Server Administration

For more information:

visit our webpage at https://dacc.nmsu.edu/academics/departments/computer-information-technology/

email us at cit@dacc.nmsu.edu, or

call us at 575-527-7663.

Associate of Applied Sciences Degrees

Computer Information Systems (Artificial Intelligence) - Associate of Applied Science (p. 198)

Computer Information Systems - Associate of Applied Science (p. 199)

Computer Technology (Artificial Intelligence) - Associate of Applied Science (p. 200)

Computer Technology (IT Specialist) - Associate of Applied Science (p. 202)

Computer Technology (Networking) - Associate of Applied Science (p. 204)

C (p. 206)omputer Technology (Programming) - Associate of Applied Science (p. 206)

Cybersecurity - Associate of Applied Science (p. 208)

Certificates of Completion

Artificial Intelligence Technician - Certificate of Completion (p. 209)

Cisco Networking - Certificate of Completion (p. 210)

Computer Information Systems - Certificate of Completion (p. 210)

Computer Information Technology - Certificate of Completion (p. 210)

Computer Technology - Data Analytics - Certificate of Completion (p. 211)

Cybersecurity - Certificate of Completion (p. 211)

Programming - Certificate of Completion (p. 212)

System Administration - Certificate of Completion (p. 212)

ACCT 2220. Computerized Accounting
3 Credits (3)
This course requires the prior knowledge from Survey of Accounting or Principles of Accounting I (Financial). It employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.
Prerequisite: ACCT 2110 or ACCT 1120.
Learning Outcomes
1. Set up a computerized accounting system and chart of accounts for a business enterprise.
2. Record sales/collections, purchase/payments, inventory, payroll, and adjusting entries using accounting software.
3. Identify the manual transactions underlying the computerized accounting systems.
4. Produce a variety of reports and financial statements using accounting software.
5. Analyze reports to identify and correct errors.

AIML 1310. Introduction to Artificial Intelligence
3 Credits (3)
Cover basic concepts and applications of artificial intelligence (AI), including AI project cycles. Focus on issues surrounding AI including ethics, bias, culture, regulations, and professional expectations.
Learning Outcomes
1. Describe issues relating to ethics, bias, design, training, and social impact of AI systems.
2. Summarize basic function and structure of AI systems.
3. Describe issues relating to ethics, bias, design, training, and social impact of AI systems.
4. Identify and describe the stages and significance of the AI project cycle.
5. Create AI models, utilizing training and testing with datasets.

AIML 1320. Fundamentals of Artificial Intelligence
4 Credits (4)
Compares and applies machine learning solutions for computer vision, natural language processing, and data analytics.
Prerequisite: CIST 2251.
Learning Outcomes
1. Apply an AI solution given a test data set and desired outcome.
2. Evaluate AI data sets.
3. Explain AI training and evaluation processes.
4. Plan the construction of a new AI solution given a problem to solve.

AIML 2310. Deep Learning
4 Credits (4)
Deep learning mimics the human brain enabling systems to make predictions with incredible accuracy. Students in this course identify the main deep learning algorithms and applications.
Prerequisite: AIML 1320.
Learning Outcomes
1. Identify deep learning algorithms.
2. Choose deep learning algorithms for specific applications.
3. Review and recommend applications that use deep learning.

AIML 2320. Natural Language Processing
3 Credits (3)
Natural language processing machines understand and respond to text or voice with text or speech of their own. Students in the course identify the main natural language processing algorithms and applications.
Learning Outcomes
1. Identify natural language processing algorithms.
2. Choose natural language algorithms for specific applications.
3. Review and recommend applications that use natural language processing.

BCIS 1110. Introduction to Information Systems
3 Credits (3)
Examination of information systems and their impact on commerce, education, and personal activities. Utilization of productivity tools for communications, data analysis, information management and decision-making.
Learning Outcomes
1. Describe the social impact of information literacy and systems in relation to commerce, education, and personal activities.
2. Explain how to use the information resources legally, safely, and responsibly in relation to ethical, security, and privacy issues.
3. Evaluate bias, accuracy and relevance of information and its sources.
4. Use productivity tools for communications, data analysis, information management and decision-making.
5. Describe and use current information systems and technologies

BCIS 1160. Windows
1-3 Credits (1-3)
This course prepares students to develop the skills needed to deploy and manage Windows. Students will learn how to manage and troubleshoot Windows devices in a secure network environment. Students will also learn to run multiple operating systems using client Hyper-V. Microsoft Intune will be utilized to teach students to manage Windows mobile and desktop devices in a cloud-based environment. Out-of-class computer work is required. May be repeated up to 6 credits.
Learning Outcomes
1. Demonstrate how to install Windows.
2. Execute System Utilities.
3. Explain how to manage disks and file systems.
4. Recount the features of user management.
5. Describe Windows security features.
6. Identify the features of user productivity tools and application support.
7. Highlight the steps to complete performance tuning and system recovery.
8. Outline in detail how Microsoft Intune Device Management is utilized.
9. Summarize how to run multiple operating systems inside a virtual machine using Client Hyper-V. 1
10. Summarize Enterprise Computing. 1
11. Illustrate Remote Access and Client Support processes.

BCIS 1215. Introduction to MS Excel I
3 Credits
This course introduces Microsoft Excel spreadsheet software. Coverage includes creating, editing, manipulating, and printing workbooks, charts, features and commands, spreadsheet design, formulas, and functions.
Learning Outcomes
1. Identify the basic Excel (spreadsheet) concept.
2. Describe and apply basic skills of worksheet and cell formatting, charts, and tables.
3. Recognize and demonstrate the concepts of creating, editing, and formatting worksheets.
4. Apply and demonstrate the concepts of working with charts.
5. Apply formulas and functions.
6. Analyze data using formulas and compiling workbook data.

BCIS 1220. Introduction to MS Word
3 Credits (2+2P)
This course introduces MS Word software. Basic word processing techniques and applications will be covered. Students will create, revise, store, share and retrieve documents. Students will learn various formatting techniques, use of tables, use of references tools. May be repeated up to 6 credits.
Learning Outcomes
1. Manage documents: navigate within documents; format documents; save and share documents; and inspect documents for issues.
2. Insert and format text, paragraphs, and sections: Insert text and paragraphs; format text and paragraphs; create and configure document settings.
3. Manage tables and lists: create tables; modify tables; create and modify lists.
4. Create and manage references: create and manage reference elements; create and manage reference tabs.
5. Insert and format graphic elements: insert illustrations/text boxes; format illustrations and text boxes; add text to graphic elements; modify graphic elements.
6. Manage document collaboration: add and manage comments; manage change tracking.

BCIS 1230. Introduction to MS PowerPoint
3 Credits (3)
Introduction to the electronic presentation, specifically how to use, design and edit presentation graphics for use in a variety of personal and business applications. Students will learn how to create and work with design templates, auto layouts, and background slides. Also covered are how to add tables, charts, clip art, pictures, video, sound and animation effects.
Prerequisite: BCIS 1220 or ability to demonstrate keyboarding and Windows proficiency.
Learning Outcomes
1. Create, edit, format, and save PowerPoint presentations.
2. Create and change templates.
3. Create, apply, and customize Master slides.
4. Create, apply, and customize presentation themes.
5. Create, apply, and customize styles presentations.

BCIS 2120. Desktop Publishing
3 Credits (3)
This course utilizes a variety of software packages to produce reports, brochures, advertisements, correspondence and newsletters. Various software packages are used such as Microsoft Office Publisher® and Adobe® InDesign CS Suite.
Prerequisite: BCIS 1110.
Learning Outcomes
1. Effectively utilize the features of Microsoft Publisher, such as create, open, edit, save, view and print a publication.
2. Design and create top quality publications using templates, color schemes, text and graphics suitable for academic professional, and personal use.
3. Merge publications while working with advanced formatting.
4. Produce publications using design techniques, font schemes, object manipulation, and layout guides.

BCIS 2130. Web Design
3 Credits (3)
Design and create a website using HTML, CSS, web development tools and industry-recognized software while applying best practices in site management and business web presence.
Learning Outcomes
1. Students will identify and apply best practices for web design in a business setting.
2. Students will create a basic web page utilizing WC3 principles.
3. Students will explain the importance and impact of web presence in today's business environment.
4. Students will determine and utilize web page features and techniques for a specific business.
5. Students will create a web design management plan for business.
6. Students will discuss web page tools for performance and web traffic analytics.
7. Students will identify web design components for a mobile society.

BCIS 2310. Spreadsheets and Data Analysis
3 Credits (3)
Evaluation of and advanced applications of electronic spreadsheets. Basic concepts of business statistics, data analysis, and management science integrated in a contemporary spreadsheet environment. Emphasizes practical applications and business decision making.
Prerequisite: BCIS 1110.
Learning Outcomes
1. Develop and work with professional-looking worksheets.
2. Integrate Microsoft Excel®® with other Microsoft programs.
3. Work with multiple worksheets and workbooks.
4. Perform what-if analyses.
5. Enhance Microsoft Excel®® with Visual Basic®.
6. Use Microsoft Excel® to perform statistical analyses.

CIST 1110. Introduction to Operating Systems
1-3 Credits
This course offers a comprehensive introduction to operating systems, covering topics such as process and memory management, file systems, I/O systems, security, mobile computing, and networking. With a focus on Windows-based systems, students will learn the implementation, configuration, installation, and maintenance of operating systems, gaining a deeper understanding of current systems. May be repeated up to 6 credits.
Learning Outcomes
1. Identify and explain computer hardware including the components of a computer system and its functions.

2. Install, configure, and troubleshoot hardware components such as CPUs, RAM, motherboards, hard drives, and expansion cards.
3. Identify and explain the different types of computer operating systems, including Windows, macOS, and Linux, and their respective features and functions.
4. Install, configure, and troubleshoot operating systems and software applications, and use various system tools and utilities to diagnose and resolve common hardware and software issues.
5. Understand and implement basic networking concepts, including IP addressing, subnetting, and network protocols.
6. Implement security concepts, including user authentication, access controls, firewalls, encryption and resolve common security threats and vulnerabilities.

CIST 1111. Introductions (Foundations) of Information Systems
1 Credit (1)
Information systems are an integral part of all business activities and careers. This course is designed to introduce students to contemporary information systems and demonstrate how these systems are used throughout global organizations. The focus of this course will be on the key components of information systems-people, software, hardware, data, and communication technologies, and how these components can be integrated and managed to create competitive advantage. Through the knowledge of how IS provides a competitive advantage students will gain an understanding of how information is used in preorganization's and how IT enables improvement in quality, speed, and agility. This course also provides an introduction to systems and development concepts, technology acquisition, and various types of application software that have become prevalent or are emerging in modern organizations and society. May be repeated up to 1 credit.
Learning Outcomes
1. Demonstrate an understanding of the history of computers, current computer technology and terminology.
2. Understand computing disciplines: computer science and information systems.
3. Understand networking and the Internet.
4. Demonstrate knowledge of the Systems.
5. Development of Life Cycle process how technology is issued in business.
6. Understanding of INFOSEC processes and methodology and computer, network security and some of the societal implications of computers and related technology.

CIST 1117. Introduction to the Internet
3 Credits (3)
This course introduces foundational concepts and skills for navigating the Internet and using web-based tools effectively. Students will learn browser basics, including navigating web pages and managing settings, as well as email communication, web searching, and evaluating online content. Topics include accessing and citing information resources, exploring user generated content such as podcasts and social networks, understanding Internet security practices, and explaining wireless networking technologies. The course aligns with Certified Internet Web (CIW) and Internet & Computing Core Certification (IC3) standards, providing essential knowledge for beginners with no prior experience.
Learning Outcomes
1. Navigate web pages, use bookmarks or favorites, manage cookies, and employ private browsing within a web browser.
2. Create, organize, and manage email communications effectively, utilizing common message features and email application functions.
3. Conduct web searches using search engines, evaluate the credibility of websites, and apply search engine optimization techniques.
4. Locate, understand, and cite current and specific Internet content, including text-based and multimedia resources.
5. Identify, explain, and use user-generated content, including pull technologies like podcasts and feeds, and push technologies like messaging and social networks.
6. Identify and explain physical and logical security processes, including firewalls, anti-malware applications, and enhanced security practices.
7. Describe the evolution of wireless technologies and differentiate between various types of wireless networks.

CIST 1121. A+ Hardware and Operating Systems
1-3 Credits
Introduction to PC hardware, peripherals, and operating systems. Includes problem diagnosis, troubleshooting processes, Windows utilization, and system optimization. May be used to prepare for industry certification exams. May be repeated up to 3 credits.
Learning Outcomes
1. Install, configure, and maintain computer equipment, mobile devices, and software for end users.
2. Service components based on customer requirements.
3. Understand networking basics and apply basic cybersecurity methods to mitigate threats.
4. Properly and safely diagnose, resolve, and document common hardware and software issues.
5. Apply troubleshooting skills and provide customer support using appropriate communication skills.
6. Describe the basics of scripting, cloud technologies, virtualization, and multi-OS deployments in corporate environments.

CIST 1220. Programming Fundamentals
3 Credits (3)
This is an entry level programming course designed to teach students the basic concepts of computer programming. By the end of the course, students will have the skills and confidence needed to succeed in future programming language courses.
Learning Outcomes
1. Explain what computer programming.
2. Create pseudo code from a problem definition.
3. Create executable code from pseudo code.
4. Create basic calculator programs that ask users for input, perform some calculations and display results.
5. Create programs that use loops and conditionals.
6. Utilize data structures that store collections with multiple values.
7. Create programs that use functions.

CIST 1261. JavaScript Web Programming
1-3 Credits
Use JavaScript libraries and frameworks including jQuery to implement web widgets and validate form data. Create interactive web pages with JavaScript manipulation of HTML and CSS. Use AJAX and other technologies for browser-to server interactions. May be repeated up to 9 credits.
Learning Outcomes
1. Describe JavaScript, browser, and HTML DOM objects.
2. Implement control structures, expressions, and functions.
3. Demonstrate declaring variables, calculating values and displaying the results.

4. Analyze and debug an application.
5. Utilize JavaScript Frameworks and Libraries.

CIST 1409. IT Essentials I: PC Hardware, Software, and Practical Applications
1-3 Credits (1-3)
This course provides student with the knowledge required to understand the fundamentals of computer technology, networking, and security, and the skills required to identify hardware, peripheral, networking, and security components. May be repeated up to 3 credits.
Learning Outcomes
1. Analyze and evaluate basic computer hardware/software problems.
2. Understand customer service and helpdesk.
3. Categorize network problems and solutions following the to the OSI model.
4. Demonstrate use of internet resources for hardware/software problem identification, solutions, analysis, and upgrades.
5. Demonstrate ability to build, repair, configure, optimize, upgrade and install hardware.
6. Demonstrate ability to troubleshoot, upgrade and install software.
7. Understand and apply security policies, practices, and standards in a PC environment.

CIST 1411. Introduction to Networks
3-4 Credits (3-4)
An introduction to the TCP/IP and OSI networking models and concepts for implementing those models in Wide Area and Local Area Networks. TCP/IP network fundamentals will be presented. Topics include network device configuration, IPv4 and IPv6 network addressing, basic security administration and network troubleshooting principles. This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications.
Learning Outcomes
1. Configure routers, switches, and end devices to establish end-to-end connectivity and provide access to local and remote network resources.
2. Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
3. Create and implement IPv4 and IPv6 addressing schemes.
4. Explain how the upper layers of the OSI and TCP/IP models support network applications.
5. Use security best practices to configure and protect a small network.
6. Troubleshoot connectivity issues in a small network.

CIST 1412. Network Device Configuration
3-4 Credits (3-4)
This course covers the architecture, components, and operations of routers and switches in a small network and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure routers and switches, perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, configure static and dynamic addressing, and configure and secure a basic WLAN. This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications. May be repeated up to 8 credits.
Prerequisite/Corequisite: CIST 1411.
Learning Outcomes
1. Configure and troubleshoot VLANs and Inter-VLAN routing.
2. Configure and troubleshoot redundancy issues on switched networks using Spanning Tree Protocol and EtherChannel.
3. Explain how to support available and reliable networks [and configure] first-hop redundancy protocols.
4. Configure IPv4 and IPv6 static routing and dynamic addressing on network devices.
5. Configure WLANs using wireless routers and controllers.
6. Configure and apply security best practices to mitigate Layer 2 and Layer 3 network attacks.

CIST 1413. Network Administration Concepts
4 Credits (2+4P)
Students will learn to design, configure, and troubleshoot various types of networks, implement security measures to protect network assets, analyze network protocols and services, diagnose network issues, and monitor network performance. Students will engage in hands-on/virtual lab exercises, performance-based assessments, and written assessments to apply their knowledge and skills. Upon completion of this course, students will be equipped for a successful career in network administration. The course aligns with the domains and objectives of the CompTIA Network+ and TestOut Network Pro certification exams.
Prerequisite: CIST 1411.
Learning Outcomes
1. Implement security measures to protect network assets, including the use of firewalls, access controls, and encryption methods.
2. Apply network protocols and services such as TCP/IP, DNS, DHCP, and SMTP.
3. Execute network troubleshooting and optimization techniques by diagnosing and resolving network performance and optimizing issues, including problems, network operations for LAN, WAN, and wireless networks.
4. Apply network monitoring and maintenance procedures by monitoring network performance, implementing maintenance, and understanding the importance of backup and disaster recovery planning.
5. Employ virtualization and cloud technologies such as virtual networks, virtual servers, and cloud storage.

CIST 1605. Internet of Things
3 Credits (3)
Examines the evolution of the Internet and how the interconnection of people, processes, data, and things is transforming every industry. This hands-on IoT course addresses the main stages of digitization including identifying and communicating a business or social problem and designing and connecting IoT devices to interact with the physical world. Students will develop high-demand skills such as creative problem-solving, critical thinking, collaboration and communication in hands-on lab and hackathon experiences. May be repeated up to 6 credits.
Prerequisite: CIST 1605.
Learning Outcomes
1. Analyze the things and connections that make up the IoT.
2. Build sensor/actuator systems using the Arduino microcontroller.
3. Create programs in Python that provide IoT functionality to the Raspberry Pi single-board computer.
4. Create an end-to-end IoT system.
5. Design an IoT system that can solve a problem of interest to the student.

CIST 1611. Azure Fundamentals
0.5-3 Credits
This course will provide foundational level knowledge of cloud services and how those services are provided with Microsoft Azure including

workloads, security, privacy, and support. Restricted to Community Colleges campuses only. May be repeated up to 6 credits.
Prerequisite/Corequisite: CIST 1121.
Learning Outcomes
1. Describe Cloud Concepts.
2. Explain Core Azure Services.
3. Compare and contrast core solutions and management tools on Azure.
4. Identify general security and network security features.
5. Describe identity, governance, privacy, and compliance features.
6. Compare Azure cost management and Service Level Agreements.

CIST 1680. Linux Essentials
3 Credits (3)
Introduces the Linux operating system with emphasis on command line application. Students will learn management of the Linux file system, processes, storage devices, users and groups. Learning objectives also include configuration of boot activity, network, and printers.
Learning Outcomes
1. Install and maintain Linux operating systems.
2. Locate Help resources in the Linux operating systems.
3. Use the package management utility to administer the Linux operating systems.
4. Explain the fundamental properties of the shell.
5. Administrate Linux operating systems using Command Line Interface (CLI) and Graphic User Interface (GUI).

CIST 1996. Topics in Computer Information Systems Technology
1-3 Credits (1-3)
Topics to be announced in the Schedule of Classes. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

CIST 2210. Introduction to SQL (Structured Query Language)
1-3 Credits (1-3)
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, and constraints and benefit by learning the industry standards while utilizing the latest database software and online training materials. This course also prepares students to pass the 1st Oracle Associate Certification Test. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite: CIST 2311.
Learning Outcomes
1. Create basic and advanced queries used to retrieve data from multiple tables utilizing proprietary and ANSI standard JOIN commands.
2. Construct queries with aggregate grouping functions.
3. Compose DML queries that manipulate, sort, and restrict data.
4. Build DDL queries that can create or alter tables and utilize transaction control for saving objects and data.
5. Construct advanced Queries: rollup, cube, set operators, merge, subqueries, and correlated subqueries.
6. Build, maintain, and execute views.

CIST 2211. Azure Administrator
1-3 Credits
An introduction to the skills and knowledge necessary for implementing, managing, and monitoring identity, governance, storage, compute, and virtual networks in a cloud environment, plus provision, size, monitor, and adjust resources, when needed. May be preparation for an industry certification exam. May be repeated up to 6 credits.
Prerequisite: CIST 1413.
Learning Outcomes
1. Explain Azure identities and governance.
2. Implement and manage storage.
3. Deploy and manage Azure compute resources.
4. Configure and manage virtual networking.
5. Monitor and back up Azure resources.

CIST 2237. Android Application Development with Java and Kotlin
1-3 Credits (1-3)
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. May be repeated up to 6 credits.
Learning Outcomes
1. Install and use an Android IDE for developing android apps.
2. Use both Java and Kotlin Programming languages to code the assignments.
3. Integrate Android Material Design features.
4. Implement common Android features, for example: Shared Preferences, splash screens, fragments, multi-threading and SQLite Database.
5. Implement current programming techniques as they evolve, such as Jetpack's Navigation, Room Database API, etc.
6. Implement JUnit Testing.
7. Describe the steps in publishing an app.

CIST 2251. Python Programming II
1-3 Credits (1-3)
In this course, students will take Python machine learning ideas and create serverless web applications accessible by anyone with an Internet connection. Students will work through a series of common Python data science problems in an increasing order of complexity. Students will learn to create a web application around numerical or categorical predictions, Machine Learning tools like TensorFlow, understand the analysis of text, create powerful and interactive presentations, serve restricted access to data, and leverage web plugins to accept credit card payments and donations. May be repeated up to 6 credits.
Learning Outcomes
1. Demonstrate how to use Serverless Technologies.
2. Demonstrate how to use client-side intelligence using regression coefficients.
3. Demonstrate how to use Real-Time Intelligence with Logistic Regression.
4. Demonstrate how to use Pretrained Intelligence with Gradient Boosting Machine.
5. Demonstrate how to Support Both Web and Mobile Browsers.
6. Demonstrate how to Display Predictions with Google Maps.
7. Demonstrate how to Forecast with Naive Bayes and OpenWeather.
8. Demonstrate how to use Interactive Drawing Canvas and Digit Predictions Using TensorFlow.
9. Demonstrate how to display dynamic charts. 1

10. Demonstrate how to use Recommending with Singular Value Decomposition.

CIST 2275. C++ Programming II
1-3 Credits (1-3)
Continues coverage of C++ programming. Covers structures, enumerated data types, C++ function enhancements, classes and objects, inheritance, polymorphism and virtual functions. This advanced course provides a solid foundation in object oriented programming methods. May be repeated up to 6 credits.
Learning Outcomes
1. Construct and use a C++ Class that models a "real-world item or task" The class will include private members and public methods, including constructors, accessors and mutators, the class will demonstrate good OOP C++ programming practice.
2. Construct a C++ program that has (at least) two programmer-written classes that demonstrate the "has a" relationship of composition.
3. Construct a program that contains an array of programmer-written objects.
4. Construct a program with at least one class that overloads basic operators to perform conditional comparisons or object data updates.
5. Demonstrate the ability to pass objects between functions using pass by address using pointer and references.
6. Construct a C++ program that incorporates the principle of inheritance to derive new, customized classes where parent methods are called internally and other methods are overridden, access the derived classes polymorphically.

CIST 2311. Database Concepts and Principles
1-3 Credits (1-3)
A study of how relational databases are designed for maximum data manipulation is the first step in the field of data management and analytics. Topics covered include core database concepts, how to create database objects and manipulate data. May be preparation for an industry certification exam. May be repeated up to 6 credits.
Learning Outcomes
1. Discuss relational database concepts.
2. Select, insert, update and delete data in databases.
3. Explain data manipulation language (DML) and data definition language (DDL).
4. Choose data types, build tables, and create views.
5. Build primary, foreign, and composite keys.
6. Create stored procedures and functions and construct indexes.
7. Examine database security concepts.
8. Design database backups and restoration processes.

CIST 2321. Visual Analytics
3 Credits
This course explores the principles and practices of Business Intelligence (BI), which is a critical component of modern decision-making in organizations. Students will learn how to collect, analyze, and visualize data to support strategic and tactical business decisions.
Learning Outcomes
1. Explain the fundamentals of Business Intelligence.
2. Describe various BI tools and technologies.
3. Perform data extraction, transformation, and loading (ETL).
4. Create interactive dashboards and reports.
5. Analyze real-world BI case studies and applications.
6. Describe the ethical and legal considerations in BI.

CIST 2331. Predictive Analytics
3 Credits (3)
This course delves into the field of predictive analytics, equipping students with the skills to use historical data to make future predictions. Students will learn various predictive modeling techniques, data preprocessing, model evaluation, and the practical applications of predictive analytics in real-world scenarios. May be repeated up to 6 credits.
Learning Outcomes
1. Explain the fundamentals of predictive analytics.
2. Describe techniques for data preparation and feature engineering.
3. Explain how to build and evaluate predictive models.
4. Explore predictive analytics applications across industries.
5. Apply predictive modeling skills to real-world datasets.
6. Identify the ethical considerations in predictive analytics.

CIST 2411. Enterprise Networking
3-4 Credits (3-4)
This course describes the architecture and considerations related to designing, securing, operating, and troubleshooting enterprise networks. Topics include wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access and software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. Network management tools and key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation, are introduced. May be repeated up to 8 credits.
Prerequisite/Corequisite: CIST 1412.
Learning Outcomes
1. Configure single-area OSPFv2 in both point-to-point and multiaccess networks.
2. Explain how to mitigate threats and enhance network security using security best practices.
3. Implement access control lists (ACLs) to filter traffic and secure administrative access.
4. Explain techniques to provide address scalability and configure NAT services.
5. Explain QoS and how to optimize, monitor, and troubleshoot scalable network architectures.
6. Explain and implement network management protocols.
7. Explain how technologies such as virtualization, software defined networking, and automation affect evolving networks.

CIST 2611. Windows Hybrid Server Administration
3 Credits (3)
This course provides students with the skills to perform the following technical tasks: deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments; and manage Windows Servers and workloads in a hybrid environment. Students will also learn how to manage virtual machines and containers; implement and manage an on premises and hybrid networking infrastructure; and manage storage and file services.
Prerequisite/Corequisite: CIST 1116 or CIST 1611.

Learning Outcomes

1. Deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments.
2. Manage Windows Servers and workloads in a hybrid environment.
3. Manage virtual machines and containers.
4. Implement and manage an on-premises and hybrid networking infrastructure.
5. Manage storage and file services.

CIST 2620. Windows Server Administration
3 Credits (2+2P)
This course addresses the implementation and support needs of IT professionals that are planning to deploy and support Window Servers(s). It provides in-depth, hands-on training for IT professionals responsible for the planning, implementation, management, and support of Windows Server operating systems(s). Assists in preparation for the Microsoft certification.
Prerequisite/Corequisite: E T 120.
Learning Outcomes

1. Be able to manage back-ups, disks and volumes and storage pools.
2. Be able to manage basic networking, DNS, and DHCP services.
3. Be able to configure, deploy, and manage servers; manage files and folders, quotas and printing.
4. Be able to create and manage virtual hard disks and volumes, machines, switches, and storage.
5. Be able to create domain controllers and manage users, devices and organizational units using AD DS.
6. Be able manage domain policies, rights, and permissions.

CIST 2636. CLOUD Computing
1-3 Credits (1-3)
Investigation of technology skills related to maintaining and optimizing cloud infrastructure services. These skills include virtualization, configuration, maintenance, management, securing and troubleshooting of cloud infrastructure services. May be repeated up to 6 credits.
Prerequisite/Corequisite: CIST 1680.
Learning Outcomes

1. Analyze the different cloud models to design the best solution to support business requirements.
2. Manage and maintain servers, including OS configurations, access control and virtualization.
3. Analyze system requirements to successfully execute workload migrations to the cloud.
4. Maintain and optimize cloud environments, including proper automation and orchestration procedures, backup and restore operations, and disaster recovery tasks.
5. Troubleshoot capacity, automation, connectivity and security issues related to cloud implementations.

CIST 2811. Foundations of Security
3 Credits (3)
This course is a study of encryption technologies, system and network security, firewall implementation, intrusion detection and prevention. It also covers operating system, user account, and file resource security, assessing risk, auditing.
Prerequisite/Corequisite: CIST 1413. Restricted to Las Cruces campus only.
Learning Outcomes

1. Assess the security posture of an enterprise environment and recommend and implement appropriate security solutions.
2. Monitor and secure hybrid environments, including cloud, mobile, and Internet of Things (IoT).
3. Discuss applicable regulations and policies, including principles of governance, risk, and compliance.
4. Identify, analyze, and respond to security events and incidents.

CIST 2812. Fundamentals of Cybersecurity
3 Credits (3)
An introduction that explores various methods for attacking and defending a network, security concepts and attack methodologies. Topics may include Internet architecture, routing, addressing, topology, fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. May be preparation for an industry certification exam.
Prerequisite/Corequisite: MATH 1215. Restricted to Las Cruces campus only.
Learning Outcomes

1. Apply environmental reconnaissance techniques using appropriate tools and processes.
2. Implement or recommend the appropriate response and countermeasure.
3. Analyze the output resulting from a vulnerability scan and compare and contrast common vulnerabilities found in targets within an organization.
4. Explain the importance of communication during the incident response process.
5. Analyze common symptoms to select the best course of action to support incident response.
6. Explain the relationship between frameworks, common policies, controls, and procedures.
7. Review security architecture and make recommendations to implement compensating controls.
8. Compare and contrast the general purpose and reasons for using various cybersecurity tools and technologies.

CIST 2860. Digital Forensics and Incident Response
3 Credits (3)
This course offers students a structured approach to the field of computer forensics and the analysis of digital evidence. Through a combination of theoretical knowledge and hands-on practical exercises, students will develop the skills necessary to conduct effective computer forensic investigations. The course will cover various forensic investigation techniques and utilize standard forensic tools to successfully gather, preserve and analyze digital evidence. This class prepares students for a position as a cybersecurity incident handler.
Prerequisite/Corequisite: E T 120.
Learning Outcomes

1. Understand core concepts in digital forensics, incident response and chain of custody.
2. Execute data analysis for forensic or incident purposes.
3. Explain the relationship between digital forensics and incident response.
4. Conduct and report on system investigations across different platforms.
5. Apply cryptographic hash functions to forensic artifacts.
6. Employ steganography for data hiding and recovery in media files.

CIST 2881. Cybersecurity Fundamentals
3 Credits (3)
This course covers a range of topic including network and computer security, general security concepts, communication security,

infrastructure security, operational and organizational security, encryption technologies, system and network security types of attacks, risk management, intrusion detection and prevention, assessing risk, auditing, and security control procedures. The course is designed to prepare students for an industry certification exam.
Prerequisite/Corequisite: E T 120.
Learning Outcomes
1. Identify and mitigate various types of security threats, such as malware, social engineering, and network attacks.
2. Utilize security technologies, including firewalls, intrusion detection and prevention systems, and VPNs, to secure a network.
3. Implement security principles and practices in the design and implementation of secure networks and systems.
4. Manage user authentication, authorization, and access control to secure sensitive data.
5. Respond to security incidents and have a disaster recovery plan in place.

CIST 2887. Ethical Hacking
3 Credits (3)
This course introduces the essential concepts and practices of ethical hacking. Students will learn to use various ethical hacking tools and techniques to assess the security posture of a network and identify potential vulnerabilities that could be exploited by malicious actors. The course is based on the EC Council Ethical Hacking ECH Version 12 and TestOut Ethical Hacker Pro certification exam domains/objectives. By the end of the course, students will have a solid understanding of network security threats and vulnerabilities, and the ability to perform a comprehensive security assessment of a network. The course is suitable for students interested in pursuing a career in cybersecurity or who want to improve their understanding of network security and ethical hacking.
Prerequisite: CIST 1411 and CIST 2881.
Prerequisite/Corequisite: E T 283.
Learning Outcomes
1. Apply vulnerability scanning tools to identify network security weaknesses.
2. Use penetration testing tools to assess network security and identify potential vulnerabilities.
3. Analyze the impact of various network security threats and recommend appropriate countermeasures.
4. Develop and implement appropriate security controls to protect a network from security threats.
5. Create a comprehensive security assessment report that presents findings and recommendations in a clear and concise manner.

CIST 2996. Topics in Computer Information Systems Technology
1-4 Credits (1-4)
Specific subject to be determined based upon student need. May be repeated up to 8 credits.
Learning Outcomes
1. Varies.

CIST 2998. Internship in Computer Information Systems Technology
1-3 Credits (1-3)
Work experience, directly related to a student's field of study, that provides an opportunity to explore career options while experiencing hands-on application, knowledge, and theory learned in the classroom. May be repeated up to 6 credits.
Prerequisite: (CIST 1409 or CIST 1121) AND (CIST 1680), AND (CIST 1411).
Learning Outcomes
1. Varies.

CIST 2999. Capstone in Computer Information Systems Technology
3-4 Credits (3-4)
Experiential hands-on learning applying skills and knowledge gained in computer and technology-related courses supporting contemporary workforce performance. May be repeated up to 8 credits.
Learning Outcomes
1. Varies.

CTEC 152. JAVA Programming
1-3 Credits (1-3)
Introduction to concepts of programming in the Java language. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging code. This is a hands-on course that does not require students to have prior programming experience. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

CTEC 158. Visual Basic Programming
1-3 Credits (1-3)
Introduction to concepts of programming in the Visual Basic language. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging code. This is a hands-on course that does not require students to have prior programming experience. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

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Computer Information Systems (Artificial Intelligence) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61-62 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education".

Prefix	Title	Credits
General Education		
This degree requires courses from Areas I, II, III, and V; student do not need to take additional courses to complete the General Education requirements.		*17-18*
Area I: Communications		

ENGL 1110G	Composition I [1]	
Area II: Mathematics		
MATH 1220G	College Algebra [1]	
or MATH 1250G	Trigonometry & Pre-Calculus	
or MATH 1350G	Introduction to Statistics	
or MATH 1430G	Applications of Calculus I	
or MATH 1511G	Calculus and Analytic Geometry I	
Area III: Laboratory Sciences		
CSCI 1115G	Modern Computing in Practice [1]	
Area V: Humanities		
Choose one from the following for three credits:		
PHIL 1120G	Logic, Reasoning, & Critical Thinking [1]	
or PHIL 2110G	Introduction to Ethics	
General Education Elective		
ENGL 2210G	Professional and Technical Communication [1]	
Major Requirements		
CIST 2311	Database Concepts and Principles	3
CIST 2210	Introduction to SQL (Structured Query Language)	3
CTEC 152	JAVA Programming	3
or CSCI 1210	Java Programming	
CIST 1411	Introduction to Networks	4
CIST 2251	Python Programming II	3
CIST 1413	Network Administration Concepts	4
CIST 2321	Visual Analytics	3
CIST 2331	Predictive Analytics	3
AIML 1320	Fundamentals of Artificial Intelligence	4
AIML 2310	Deep Learning	4
Select 7 credits from approved computer-related electives. Any course with the following prefix: AIML, BCIS, C S, CSCI, E E, E T, or MATH, EXCLUDING courses used to fulfill Technical/Major Requirements. [2]		7
CIST 2812	Fundamentals of Cybersecurity	3
Total Credits		**61-62**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

[2] Note the total required credits must equal at least 60 credits.

(61-62 credits)
A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education”.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
CIST 2321	Visual Analytics	3
CIST 2311	Database Concepts and Principles	3
ENGL 1110G	Composition I	4
CIST 1411	Introduction to Networks	4
	Credits	**14**
Semester 2		
CIST 2210	Introduction to SQL (Structured Query Language)	3
ENGL 2210G	Professional and Technical Communication	3
CIST 2331	Predictive Analytics	3
CIST 2251	Python Programming II	3
Approved Elective		4
	Credits	**16**
Semester 3		
MATH 1220G or MATH 1250G or MATH 1350G or MATH 1430G or MATH 1511G	College Algebra or Trigonometry & Pre-Calculus or Introduction to Statistics or Applications of Calculus I or Calculus and Analytic Geometry I	3
AIML 1320	Fundamentals of Artificial Intelligence	4
CTEC 152 or CSCI 1210	JAVA Programming or Java Programming	3
CIST 1412	Network Device Configuration	4
	Credits	**14**
Semester 4		
CSCI 1115G	Modern Computing in Practice	4
AIML 2310	Deep Learning	4
PHIL 1120G or PHIL 2110G	Logic, Reasoning, & Critical Thinking or Introduction to Ethics	3
CIST 2812	Fundamentals of Cybersecurity	3
Approved Elective		3
	Credits	**17**
	Total Credits	**61**

[1] Approved Elective with prefix of BCIS, CSCI, E T, MATH, AIML, CIST, ICT

Computer Information Systems - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education”.

Prefix	Title	Credits
General Education		
This degree requires courses from Areas I, II, III, and V; student do not need to take additional courses to complete the General Education requirements.		*17-18*
Area I: Communications		

ENGL 1110G	Composition I [1]	
Area II: Mathematics		
Choose one from the following for three - four credits:		
MATH 1220G	College Algebra [1]	
MATH 1250G	Trigonometry & Pre-Calculus [1]	
MATH 1350G	Introduction to Statistics [1]	
MATH 1430G	Applications of Calculus I [1]	
MATH 1511G	Calculus and Analytic Geometry I [1]	
Area III: Laboratory Sciences		
CSCI 1115G	Modern Computing in Practice [1]	
Area V: Humanities		
Choose one from the following for three credits:		
PHIL 1120G	Logic, Reasoning, & Critical Thinking [1]	
or PHIL 2110G	Introduction to Ethics	
General Education Elective		
ENGL 2210G	Professional and Technical Communication [4]	
Major Requirements		
CIST 2311	Database Concepts and Principles	3
CIST 2210	Introduction to SQL (Structured Query Language)	3
CTEC 152	JAVA Programming	3
or CSCI 1210	Computer Programming Fundamentals	
CIST 2251	Python Programming II	3
CIST 1413	Network Administration Concepts	4
CIST 1411	Introduction to Networks	4
CIST 2321	Visual Analytics	3
CIST 2331	Predictive Analytics	3
At least 15 credits of courses with the following prefixes [2]		15
CIST 2812	Fundamentals of Cybersecurity	3
MATH, BCIS, CIST, E T, AIML or ICT		
Total Credits		**61-62**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

[2] Note the total required credits must equal at least 60 credits.

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

First Year		
Fall		**Credits**
ENGL 1110G	Composition I	4
CIST 1411	Introduction to Networks	4
CIST 2311	Database Concepts and Principles	3
CIST 2321	Visual Analytics	3
Elective [1]		3
	Credits	**17**
Spring		
ENGL 2210G	Professional and Technical Communication	3
Choose one from the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
Elective [1]		3
CIST 2210	Introduction to SQL (Structured Query Language)	3
CIST 2331	Predictive Analytics	3
	Credits	**15-16**
Second Year		
Fall		
CSCI 1115G	Modern Computing in Practice	4
CTEC 152 or CSCI 1210	JAVA Programming or Computer Programming Fundamentals	3
CIST 1413	Network Administration Concepts	4
Elective Course		
CIST 2251	Python Programming II	3
	Credits	**14**
Spring		
PHIL 1120G or PHIL 2110G	Logic, Reasoning, & Critical Thinking or Introduction to Ethics	3
Elective [1]		9
CIST 2812	Fundamentals of Cybersecurity	3
	Credits	**15**
	Total Credits	**61-62**

[1] Approved Elective with prefix of BCIS, CSCI, CIST, E T, ICT, or AIML

Computer Technology (Artificial Intelligence) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-63 credits)

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CIST courses.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at

least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 14-15 credits [1, 2]		*14-15*
This degree requires courses from Areas I, II, III and IV; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications - English Compostion Level 1		
ENGL 1110G	Composition I (grade of C- or better required) [3]	
Area II: Mathematics		
Choose one of the following:		
MATH 1220G	College Algebra [3]	
MATH 1250G	Trigonometry & Pre-Calculus [3]	
MATH 1350G	Introduction to Statistics [3]	
MATH 1430G	Applications of Calculus I [3]	
MATH 1511G	Calculus and Analytic Geometry I [3]	
MATH 1521G	Calculus and Analytic Geometry II [3]	
OR Appropriate Technology-Related Math Course		
Area III: Laboratory Sciences		
Choose one of the following:		
CSCI 1115G	Modern Computing in Practice [3]	
ASTR 1120G	The Planets Lecture & Laboratory [3]	
PHYS 1115G	Survey of Physics with Lab [3]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [3]	
Area IV: Social/Behavioral Sciences		
Choose one from the following:		
CJUS 1110G	Introduction to Criminal Justice (Choose one from the following:)	
ECON 1110G	Survey of Economics (Choose one from the following:)	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies [3]	
GNDR 2120G	Representing Women Across Cultures [3]	
PSYC 1110G	Introduction to Psychology [3]	
SOCI 1110G	Introduction to Sociology [3]	
General Education Elective - Area I: Communications - English Composition Level 2		
ENGL 2210G	Professional and Technical Communication (General Education Elective - Area I: Communications - English Composition Level 2)	3
Core Requirements		
Major Requirements		
Technical Requirements		
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	3
CIST 1680	Linux Essentials	3
BCIS 1160	Windows	3
CIST 2251	Python Programming II	3
CIST 2311	Database Concepts and Principles	3
CIST 1411	Introduction to Networks	4
CIST 1413	Network Administration Concepts	4
CIST 2998	Internship in Computer Information Systems Technology	3
CIST 2331	Predictive Analytics	3
AIML 1320	Fundamentals of Artificial Intelligence	4
AIML 2310	Deep Learning	4
Choose one from the following:		3
CIST 2321	Visual Analytics	
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2275	C++ Programming II	
CTEC 152	JAVA Programming	
or CIST 1261	JavaScript Web Programming	
or CSCI 1210	Java Programming	
CTEC 158	Visual Basic Programming	
OR Any Appropriate CSCI Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
Concentration Coursework		
Select 3 credits from approved computer-related electives. Any course with the following prefix: AIML, BCIS, DRFT, E E, E T, FDMA. EXCLUDING courses used to fulfill Technical/Major Requirements.		3
Total Credits		**60-61**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. Some courses not currently taught at DACC. Please refer to Class Schedule for a listing of courses taught at DACC.

(60-63 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CIST courses.

The New Mexico General Education Requirements (p. 56) can be found in the section titled “Transfer Among New Mexico Institutions of Higher Education".

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the

degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	3
BCIS 1160	Windows	3
	Credits	**13**
Semester 2		
Area III: Laboratory Sciences - Choose one from the following:		4
ASTR 1120G	The Planets Lecture & Laboratory	
CSCI 1115G	Modern Computing in Practice	
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
CIST 2331	Predictive Analytics	3
CIST 2251	Python Programming II	3
CIST 2311	Database Concepts and Principles	3
CIST 1680	Linux Essentials	3
	Credits	**16**
Semester 3		
General Education Elective - Area I: Communications - English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	
CIST 1411	Introduction to Networks	4
Choose one of the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
AIML 1320	Fundamentals of Artificial Intelligence	4
	Credits	**14-15**
Semester 4		
Concentration Courses - Select 2 credits from approved computer-related electives. Any course with the following prefix: BCIS, CSCI, DRFT, E E, E T, FDMA, and AIML. EXCLUDING courses used to fulfull Technical/Major Requirements.		3
Choose one of the following:		3
CIST 2321	Visual Analytics	
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2275	C++ Programming II	
CTEC 152 or CIST 1261	JAVA Programming or JavaScript Web Programming	
CTEC 158	Visual Basic Programming	
CIST 1413	Network Administration Concepts	4
CIST 2998	Internship in Computer Information Systems Technology	3
AIML 2310	Deep Learning	4
	Credits	**17**
	Total Credits	**60-61**

Computer Technology (IT Specialist) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education”.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 14-15 credits [1, 2]		*14-15*
This degree requires courses from Areas I, II, III and IV; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications - English Compostion Level 1		
ENGL 1110G	Composition I (grade of C- or better required) [3]	
Area II: Mathematics		
Choose one of the following:		
MATH 1220G	College Algebra [3]	
MATH 1250G	Trigonometry & Pre-Calculus [3]	
MATH 1350G	Introduction to Statistics [3]	
MATH 1430G	Applications of Calculus I [3]	
MATH 1511G	Calculus and Analytic Geometry I [3]	
MATH 1521G	Calculus and Analytic Geometry II [3]	
Area III: Laboratory Sciences		
Choose one from the following:		
CSCI 1115G	Modern Computing in Practice [3]	
ASTR 1120G	The Planets Lecture & Laboratory [3]	
PHYS 1115G	Survey of Physics with Lab [3]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [3]	

Area IV: Social/Behavioral Sciences		
Choose one from the following:		
CJUS 1110G	Introduction to Criminal Justice [3]	
ECON 1110G	Survey of Economics [3]	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
PSYC 1110G	Introduction to Psychology [3]	
SOCI 1110G	Introduction to Sociology [3]	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies [3]	
GNDR 2120G	Representing Women Across Cultures [3]	
General Education Elective - Area I: Communications - English Composition Level 2		
ENGL 2210G	Professional and Technical Communication [3]	3
or ENGL 2221G	Writing in the Humanities and Social Science	
Major Requirements		
Technical Requirements		
BCIS 1160	Windows	3
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	3
or CIST 1605	Internet of Things	
or CIST 1121	A+ Hardware and Operating Systems	
CIST 1411	Introduction to Networks	4
or E T 153	Fundamentals of Networking Communications	
or E T 155	Network Operating Systems I	
or E T 273	Advanced Networking Communications	
CIST 1680	Linux Essentials	4
or E T 153	Fundamentals of Networking Communications	
or E T 155	Network Operating Systems I	
or E T 273	Advanced Networking Communications	
CIST 2311	Database Concepts and Principles	3
CIST 2881	Cybersecurity Fundamentals	3
or CIST 2811	Foundations of Security	
CIST 2998	Internship in Computer Information Systems Technology	3
Choose one from the following:		3-4
CSCI 1240	C++ Programming I	
or CIST 2275	C++ Programming II	
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2251	Python Programming II	
CTEC 158	Visual Basic Programming	
CTEC 152	JAVA Programming	
or CSCI 1210	Computer Programming Fundamentals	
or CIST 1261	JavaScript Web Programming	
OR Any Appropriate CSCI Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
Concentration Coursework		
Select 16 credits from approved computer-related electives (except OTEC 1101). Any course with the following prefix: BCIS, CSCI, CIST, DRFT, E E, E T, FDMA, and AIML. EXCLUDING courses used to fulfill Technical/Major Requirements.		16
Total Credits		**60-61**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Some courses not currently taught at DACC. Please refer to Class Schedule for a listing of courses taught at DACC.

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0. If a student has no basic typing skills,

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education”.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
Area II: Mathematics - Choose one of the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
BCIS 1160	Windows	3
CIST 1409 or CIST 1605 or CIST 1121	IT Essentials I: PC Hardware, Software, and Practical Applications or Internet of Things or A+ Hardware and Operating Systems	3
	Credits	**16-17**
Semester 2		
Area III: Laboratory Sciences - Choose one from the following:		4
ASTR 1120G	The Planets Lecture & Laboratory	

CSCI 1115G	Modern Computing in Practice	
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
Approved Computer-Related Elective - Choose one from the following:		3
CSCI 1240 or CIST 2275	C++ Programming I or C++ Programming II	
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2251	Python Programming II	
CTEC 152 or CIST 1261 or CSCI 1210	JAVA Programming or JavaScript Web Programming or Computer Programming Fundamentals	
CTEC 158	Visual Basic Programming	
OR Any Appropriate CSCI Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
	Credits	**13**
Semester 3		
Concentration Courses (choose three) - Select 9 credits from approved computer-related electives (except OTEC 1101). Any course with the following prefix: BCIS, CSCI, CIST, DRFT, E E, E T, FDMA, and AIML.. EXCLUDING courses used to fulfull Technical/Major Requirements.		9
Choose one from the following:		3-4
CIST 1411	Introduction to Networks	
E T 153	Fundamentals of Networking Communications	
E T 155	Network Operating Systems I	
E T 273	Advanced Networking Communications	
General Education Elective - Area I: Communications - English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	
	Credits	**15-16**
Semester 4		
Concentration Courses - Select 7 credits from approved computer-related electives (except OTEC 1101). Any course with the following prefix: BCIS, CSCI, CIST, DRFT, E E, E T, FDMA, and AIML. EXCLUDING courses used to fulfull Technical/Major Requirements.		7
CIST 2998	Internship in Computer Information Systems Technology	3
Approved Computer-Related Elective - A list of approved electives can be found in Semester 2.		3
CIST 2811 or CIST 2811	Foundations of Security or Foundations of Security	3
	Credits	**16**
	Total Credits	**60-62**

Computer Technology (Networking) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

The degree requires a minimum of 60 credits and a cumulative GPA of 2.0.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education".

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 14-15 credits [1, 2]		*14-15*
This degree requires courses from Areas I, II, III and IV; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I (grade of C- or better required) [3]	
Area II: Mathematics		
Selcect from one of the following:		
MATH 1220G	College Algebra [3]	
MATH 1250G	Trigonometry & Pre-Calculus [3]	
MATH 1350G	Introduction to Statistics [3]	
MATH 1430G	Applications of Calculus I [3]	
MATH 1511G	Calculus and Analytic Geometry I [3]	
MATH 1521G	Calculus and Analytic Geometry II [3]	
OR Appropriate Technology-Related Math Course		
Area III: Laboratory Sciences		
Select one course from the following:		
CSCI 1115G	Modern Computing in Practice [3]	
ASTR 1120G	The Planets Lecture & Laboratory [3]	
PHYS 1115G	Survey of Physics with Lab [3]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [3]	
Area IV: Social/Behavioral Sciences		
Select one course from the following:		
CJUS 1110G	Introduction to Criminal Justice [3]	
ECON 1110G	Survey of Economics [3]	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
PSYC 1110G	Introduction to Psychology [3]	
SOCI 1110G	Introduction to Sociology [3]	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies [3]	
GNDR 2120G	Representing Women Across Cultures [3]	
General Education Elective		
ENGL 2210G or ENGL 2221G	Professional and Technical Communication [3] Writing in the Humanities and Social Science	3
Major Requirements		
Technical Requirements		
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	3

or CIST 1605	Internet of Things	
or CIST 1121	A+ Hardware and Operating Systems	
CIST 1680	Linux Essentials	3
BCIS 1160	Windows	3
CIST 2311	Database Concepts and Principles	3
CIST 1411	Introduction to Networks	4
or E T 153	Fundamentals of Networking Communications	
or E T 155	Network Operating Systems I	
or E T 273	Advanced Networking Communications	
CIST 2881	Cybersecurity Fundamentals	3
or CIST 2811	Foundations of Security	
CIST 2998	Internship in Computer Information Systems Technology	3
Select one course from the following:		3
CIST 2210	Introduction to SQL (Structured Query Language) (Select one course from the following:)	
CIST 1260	JAVA Programming	
or CIST 1261	JavaScript Web Programming	
or CSCI 1210	Java Programming	
CSCI 1240	C++ Programming I	
or CIST 2275	C++ Programming II	
CIST 2251	Python Programming II	
CIST 1258	Visual Basic Programming	
OR Any Appropriate CSCI Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
Select 18 credits from the following (EXCLUDING courses used to fulfill Technical/Major Requirements.):		18
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2251	Python Programming II	
CIST 1412	Network Device Configuration	
CIST 2611	Windows Hybrid Server Administration	
CIST 2411	Enterprise Networking	
CIST 2636	CLOUD Computing	
E T 253	Networking Operating Systems II [4]	
CIST 1413	Network Administration Concepts	
CIST 2211	Azure Administrator	
Total Credits		**60-61**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Some courses not currently taught at DACC. Please refer to Class Schedule for a listing of courses taught at DACC.

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 63 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Compostion Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
Choose one from the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
OR Appropriate Technology-Related Math Course		
BCIS 1160	Windows	3
CIST 1409 or CIST 1605 or CIST 1121	IT Essentials I: PC Hardware, Software, and Practical Applications or Internet of Things or A+ Hardware and Operating Systems	3
	Credits	**16-17**

Semester 2		
Area III: Laboratory Sciences - Choose one from the following:		4
ASTR 1120G	The Planets Lecture & Laboratory	
CSCI 1115G	Modern Computing in Practice	
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
Approved Computer-Related Elective - Choose one from the following:		3
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2251	Python Programming II	
CSCI 1240 or CIST 2275	C++ Programming I or C++ Programming II	
CIST 1260 or CSCI 1210	JAVA Programming or Java Programming	
CIST 1258	Visual Basic Programming	

OR Any Appropriate CSCI Course		
	Credits	**13**
Semester 3		
General Education Elective - Area I: Communications - English Compostion Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	
Concentration Courses (choose three) - Select 9 credits from the following (EXCLUDING courses used to fulfill Technical/Major Requirements):		9
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2251	Python Programming II	
CIST 1412	Network Device Configuration	
CIST 2611	Windows Hybrid Server Administration	
CIST 2411	Enterprise Networking	
CIST 2636	CLOUD Computing	
E T 253	Networking Operating Systems II	
CIST 2211	Azure Administrator	
Choose one from the following:		4
CIST 1411	Introduction to Networks	
E T 153	Fundamentals of Networking Communications	
E T 155	Network Operating Systems I	
E T 273	Advanced Networking Communications	
	Credits	**16**
Semester 4		
Concentration Courses (choose one) - Select 6 credits from the list of Concentration Courses in Semester 2.		6
CIST 2998	Internship in Computer Information Systems Technology	3
CIST 2881	Cybersecurity Fundamentals	3
Approved Computer-Related Elective - A list of approved electives can be found in Semester 2.		3
	Credits	**15**
	Total Credits	**60-61**

Computer Technology (Programming) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(62-64 credits)

This degree requires a minimum of 62 credits and a cumulative GPA of 2.0.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in and designated Mathematics courses.

The New Mexico General Education Requirements (p. 56) can be found in the section titled, “Transfer Among New Mexico Institutions of Higher Education”.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, III and IV; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I (grade of C- or better required) [3]	
Area II: Mathematics		
Area III: Laboratory Sciences		
Select one course from the following:		
ASTR 1120G	The Planets Lecture & Laboratory [3]	
CSCI 1115G	Modern Computing in Practice [3]	
PHYS 1115G	Survey of Physics with Lab [3]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [3]	
Area IV: Social/Behavioral Sciences		
Select one course from the following:		
CJUS 1110G	Introduction to Criminal Justice [3]	
ECON 1110G	Survey of Economics [3]	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies [3]	
GNDR 2120G	Representing Women Across Cultures [3]	
PSYC 1110G	Introduction to Psychology [3]	
SOCI 1110G	Introduction to Sociology [3]	
Area VI: Creative and Fine Arts		
General Education Elective		
ENGL 2210G	Professional and Technical Communication [3]	3
or ENGL 2221G	Writing in the Humanities and Social Science	
Core Requirements		
Select one course from the following:		3-4
MATH 1220G	College Algebra [3]	
MATH 1250G	Trigonometry & Pre-Calculus [3]	
MATH 1350G	Introduction to Statistics [3]	
MATH 1430G	Applications of Calculus I [3]	
MATH 1511G	Calculus and Analytic Geometry I [3]	
MATH 1521G	Calculus and Analytic Geometry II [3]	
Major Requirements		
Technical Requirements		
BCIS 1160	Windows	3
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	3
or CIST 1605	Internet of Things	
or CIST 1412	Network Device Configuration	
CIST 1411	Introduction to Networks	4
or E T 153	Fundamentals of Networking Communications	
or E T 155	Network Operating Systems I	
or E T 273	Advanced Networking Communications	
CIST 1413	Network Administration Concepts	4
CIST 1680	Linux Essentials	3

CIST 2311	Database Concepts and Principles	3
CIST 2998	Internship in Computer Information Systems Technology	3
Select one course from the following:		3-4
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2251	Python Programming II	
CIST 2275	C++ Programming II	
CTEC 152	JAVA Programming	
or CSCI 1210	Computer Programming Fundamentals	
OR Any Appropriate CSCI Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
Concentration Coursework		
Select 9 credits of programming electives from the following (EXCLUDING courses used to fulfill Technical/Major Requirements.):		9
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2275	C++ Programming II	
CTEC 158	Visual Basic Programming	
CTEC 152	JAVA Programming	
Select 7 credits of electives from BCIS, CSCI, C S, E T, MATH, AIML, or CIST (EXCLUDING courses used to fulfill Technical/Major Requirements).		5
Total Credits		**60-62**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Some courses not currently taught at DACC. Please refer to Class Schedule for a listing of courses taught at DACC.

(60-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behvioral Sciences - Choose one from the following:		3
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
Choose one from the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
OR Appropriate Technology-Related Math Course		
BCIS 1160	Windows	3
CIST 1409 or CIST 1605 or CIST 1121	IT Essentials I: PC Hardware, Software, and Practical Applications or Internet of Things or A+ Hardware and Operating Systems	3
	Credits	**16-17**
Semester 2		
General Education - Choose one course from different NM General Education Areas II, V, or VI in the NMSU/DACC Catalog.		3-4
Area III: Laboratory Sciences - Choose one from the following:		4
ASTR 1120G	The Planets Lecture & Laboratory	
CSCI 1115G	Modern Computing in Practice	
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G or PHYS 1230L	Algebra-Based Physics I or Algebra-Based Physics I Lab	
PHYS 1240G or PHYS 1240L	Algebra-Based Physics II or Algebra-Based Physics II Lab	
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
Approved Computer-Related Elective - Choose one from the following:		3
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2251	Python Programming II	
CIST 2275	C++ Programming II	
CTEC 152 or CSCI 1210	JAVA Programming or Computer Programming Fundamentals	
CTEC 158	Visual Basic Programming	
OR Any Appropriate CSCI Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
	Credits	**16-17**
Semester 3		
General Education Elective - Area I: Communications - English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	

Concentration Courses - Select 9 credits of programming electives from the following (EXCLUDING courses used to fulfill Technical/Major Requirements.):		9
CIST 2210	Introduction to SQL (Structured Query Language)	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2251	Python Programming II	
CIST 2275	C++ Programming II	
CTEC 152 or CIST 1261	JAVA Programming or JavaScript Web Programming	
CTEC 158	Visual Basic Programming	
OR Any Appropriate C S Course (EXCLUDING courses used to fulfill Technical/Major Requirements.)		
CIST 1411	Introduction to Networks	4
E T 153	Fundamentals of Networking Communications	
E T 155	Network Operating Systems I	
E T 273	Advanced Networking Communications	
	Credits	**16**
Semester 4		
Select 5 credits of approved computer-related electives (EXCLUDING courses used to fulfill Technical/Major Requirements)		5
CIST 1413	Network Administration Concepts	4
CIST 2998	Internship in Computer Information Systems Technology	3
	Credits	**12**
	Total Credits	**60-62**

Cybersecurity - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(63-64 credits)

NOTE: Degree requires a minimum of **60 credit hours** and a cumulative GPA of 2.0.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 14-15 credits [1, 2]		*14-15*
This degree requires courses from Areas I, II, III, and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
Choose one from the following (3-4 credits):		
MATH 1220G	College Algebra [3]	
MATH 1250G	Trigonometry & Pre-Calculus [3]	
MATH 1350G	Introduction to Statistics [3]	
MATH 1430G	Applications of Calculus I [3]	
MATH 1511G	Calculus and Analytic Geometry I [3]	
MATH 1521G	Calculus and Analytic Geometry II [3]	
MATH 1521H	Calculus and Analytic Geometry II Honors [3]	
Area III: Laboratory Sciences		
CSCI 1115G	Modern Computing in Practice [3]	
Area IV: Social/Behaivoral Sciences		
CJUS 1110G	Introduction to Criminal Justice [3]	
General Education Elective - Area I: Communications - English Composition Level 2		
ENGL 2210G	Professional and Technical Communication [3]	3
Major Requirements		
BCIS 1160	Windows	3
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	3
CIST 1411	Introduction to Networks	4
or CIST 1121	A+ Hardware and Operating Systems	
or CIST 1605	Internet of Things	
CIST 1412	Network Device Configuration	4
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
CIST 2611	Windows Hybrid Server Administration	3
CIST 2636	CLOUD Computing	3
CIST 2811	Foundations of Security	3
CIST 2812	Fundamentals of Cybersecurity	3
CIST 2881	Cybersecurity Fundamentals	3
CIST 2887	Ethical Hacking	3
Choose 8 credits from the following:		
From BCIS, CSCI, E T, MATH, CIST, OR AIML		8
Total Credits		**63-64**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(63-64 credits)

A Suggested Plan of Study

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NOTE: Degree requires a minimum of **60 credit hours** and a cumulative GPA of 2.0.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at

least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		3
CJUS 1110G	Introduction to Criminal Justice	
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
ELECTIVES		
From BCIS, CSCI, CIST, E T, MATH OR AIML		3
	Credits	**16**
Semester 2		
General Education Elective - Area I: Communications - English Composition Level 2		3
ENGL 2210G	Professional and Technical Communication	
BCIS 1160	Windows	3
CIST 1411	Introduction to Networks	4
CIST 2636	CLOUD Computing	3
ELECTIVES		
From BCIS, CSCI, C S, CIST, E T, MATH OR AIML		3
	Credits	**16**
Semester 3		
Area II: Mathematics - Choose one from the following:		3-4
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
MATH 1521H	Calculus and Analytic Geometry II Honors	
CIST 1409 or CIST 1121 or CIST 1605	IT Essentials I: PC Hardware, Software, and Practical Applications or A+ Hardware and Operating Systems or Internet of Things	3
CIST 1412	Network Device Configuration	4
CIST 2611	Windows Hybrid Server Administration	3
CIST 2811	Foundations of Security	3
	Credits	**16-17**
Semester 4		
Area III: Laboratory Sciences		4
CSCI 1115G	Modern Computing in Practice	
CIST 2812	Fundamentals of Cybersecurity	3
CIST 2881	Cybersecurity Fundamentals	3
CIST 2887	Ethical Hacking	3
Electives		
From BCIS, CSCI, C S, E T, MATH OR AIML		2
	Credits	**15**
	Total Credits	**63-64**

Artificial Intelligence Technician - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

NOTE: Students must complete all University certificate requirements to total at least 16 credits and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CIST and AIML courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Course Requirements		
CIST 2251	Python Programming II	3
CIST 2321	Visual Analytics	3
CIST 2331	Predictive Analytics	3
AIML 1310	Introduction to Artificial Intelligence	3
AIML 2310	Deep Learning	4
Total Credits		**16**

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must complete all University certificate requirements to total at least 16 credits and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CIST and AIML courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
CIST 2251	Python Programming II	3
CIST 2321	Visual Analytics	3
AIML 1310	Introduction to Artificial Intelligence	3
	Credits	**9**
Semester 2		
CIST 2331	Predictive Analytics	3
AIML 2310	Deep Learning	4
	Credits	**7**
	Total Credits	**16**

Cisco Networking - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

NOTE: Students must complete all University certificate requirements to total at least 16 credits, and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the certificate requirements and/or elective credits.

Prefix	Title	Credits
Course Requirements		
CIST 1411	Introduction to Networks	4
or CIST 2331	Predictive Analytics	
CIST 1412	Network Device Configuration	4
CIST 2411	Enterprise Networking	4
CIST 2881	Cybersecurity Fundamentals	4
or CIST 1413	Network Administration Concepts	
Total Credits		**16**

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must complete all University certificate requirements to total at least 16 credits.and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for most courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
CIST 1411 or CIST 2331	Introduction to Networks or Predictive Analytics	4
CIST 1413 or CIST 2811	Network Administration Concepts or Foundations of Security	4
	Credits	**8**
Semester 2		
CIST 2411	Enterprise Networking	4
CIST 2881 or CIST 1413	Cybersecurity Fundamentals or Network Administration Concepts	4
	Credits	**8**
	Total Credits	**16**

Computer Information Systems - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

NOTE: Students must complete all University certificate requirements to total at least 16 credits.and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CTEC, CSEC, and OECS courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Technical Requirements		
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
CTEC 152	JAVA Programming	3
or CIST 2251	Python Programming II	
CIST 2210	Introduction to SQL (Structured Query Language)	3
CIST 1411	Introduction to Networks	4
Total Credits		**16**

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must complete all University certificate requirements to total at least 16 credits.and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OATS 101 Beginning Keyboarding is a prerequisite for all CTEC, CSEC, and OECS courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
CIST 1680	Linux Essentials	3
CIST 2311	Database Concepts and Principles	3
CTEC 152	JAVA Programming	3
	Credits	**9**
Semester 2		
CIST 2210	Introduction to SQL (Structured Query Language)	3
CIST 1411	Introduction to Networks	4
	Credits	**7**
	Total Credits	**16**

Computer and Information Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

NOTE: Students must complete all University certificate requirements to total at least 16 credits. and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits.

Prefix	Title	Credits
Technical/Major Requirements		**10**
CIST 1409	IT Essentials I: PC Hardware, Software, and Practical Applications	
CIST 1411	Introduction to Networks	
CIST 1680	Linux Essentials	
Related Requirements		
Choose 6 credits from any courses with the following prefix: BCIS, CSCI, CIST, DRFT, E E, E T, FDMA, MATH, or AIML.		6
Total Credits		**16**

[1] Some courses not currently taught at DACC. Please refer to current Class Schedule for a listing of courses taught at DACC.

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must complete all University certificate requirements to total at least 16 credits.and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits.

Semester 1		Credits
CIST 1409 or E T 283	IT Essentials I: PC Hardware, Software, and Practical Applications or Hardware PC Maintenance	3
CIST 1680	Linux Essentials	3
Related Requirement (3 credits) - Any course with the following prefix: BCIS, CSCI, CIST, DRFT, E E, E T, FDMA, MATH, or AIML		3
	Credits	**9**
Semester 2		
CIST 1411	Introduction to Networks	4
Related Requirement (3 credits) - Any course with the following prefix: BCIS, C S, CSCI, CIST, DRFT, E E, E T, FDMA, MATH, or AIML		3
	Credits	**7**
	Total Credits	**16**

Computer Technology - Data Analytics - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(19 credits)

NOTE: Students must complete all University certificate requirements to total at least 19 credits and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OATS 101 Keyboarding Basics is a prerequisite for all CTEC, CSEC, and OECS courses.

Prefix	Title	Credits
Required Courses		
CIST 1680	Linux Essentials	3
CIST 1411	Introduction to Networks	4
CIST 2321	Visual Analytics	3
AIML 1310	Introduction to Artificial Intelligence	3
CIST 2331	Predictive Analytics	3
Total Credits		**16**

Semester 1		Credits
CIST 1680	Linux Essentials	3
CIST 1411	Introduction to Networks	4
CIST 2321	Visual Analytics	3
	Credits	**10**
Semester 2		
AIML 1310	Introduction to Artificial Intelligence	3
CIST 2331	Predictive Analytics	3
	Credits	**6**
	Total Credits	**16**

Cybersecurity - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(26 credits)

NOTE: Students must complete all University certificate requirements to total at least 26 credits and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits.

Prefix	Title	Credits
Course Requirements		
BCIS 1160	Windows	3
CIST 1411	Introduction to Networks	4
CIST 1413	Network Administration Concepts	4
CIST 1680	Linux Essentials	3
CIST 2611	Windows Hybrid Server Administration	3
CIST 2636	CLOUD Computing	3
CIST 2811	Foundations of Security	3
CIST 2812	Fundamentals of Cybersecurity	3
Total Credits		**26**

(26 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Semester 1		Credits
BCIS 1160	Windows	3
CIST 1411	Introduction to Networks	4
CIST 1413	Network Administration Concepts	4
CIST 1680	Linux Essentials	3
	Credits	**14**
Semester 2		
CIST 2812	Fundamentals of Cybersecurity	3
CIST 2811	Foundations of Security	3

CIST 2611	Windows Hybrid Server Administration	3
CIST 2636	CLOUD Computing	3
	Credits	**12**
	Total Credits	**26**

Programming - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(21-23 credits)

NOTE: Students must complete all University certificate requirements to total at least 18 credits and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Technical Requirements		
CIST 2311	Database Concepts and Principles	3
CIST 2210	Introduction to SQL (Structured Query Language)	3
CTEC 152	JAVA Programming	3
or CIST 1261	JavaScript Web Programming	
CTEC 158	Visual Basic Programming	3
Electives - Choose two from the following:		6-8
CSCI 1110	Computer Science Principles	
CSCI 1720	Computer Science I	
CIST 1680	Linux Essentials	
CIST 2237	Android Application Development with Java and Kotlin	
BCIS 1160	Windows	3
or CIST 1611	Azure Fundamentals	
CIST 2251	Python Programming II	
Total Credits		**21-23**

(21-23 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must complete all University certificate requirements to total at least 21 credits and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
CIST 2311	Database Concepts and Principles	3
CTEC 152	JAVA Programming	3
or CIST 1261	or JavaScript Web Programming	
Choose one from the following:		3-4
CSCI 1110	Computer Science Principles	
BCIS 1160	Windows	3
or CIST 1611	or Azure Fundamentals	
CSCI 1720	Computer Science I	
CIST 1680	Linux Essentials	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2251	Python Programming II	
	Credits	**12-13**
Semester 2		
CIST 2210	Introduction to SQL (Structured Query Language)	3
CTEC 158	Visual Basic Programming	3
Choose one from the following:		3-4
CSCI 1110	Computer Science Principles	
CSCI 1720	Computer Science I	
CIST 1680	Linux Essentials	
CIST 2237	Android Application Development with Java and Kotlin	
CIST 2251	Python Programming II	
BCIS 1160	Windows	
or CIST 1611	or Azure Fundamentals	
	Credits	**9-10**
	Total Credits	**21-23**

System Administration - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(20 credits)

NOTE: Students must complete all University certificate requirements to total at least 20 credits.and must achieve a cumulative grade-point average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CIST courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Prefix	Title	Credits
Course Requirements		
CIST 1680	Linux Essentials	3
BCIS 1160	Windows	3
CIST 2636	CLOUD Computing	3
CIST 2611	Windows Hybrid Server Administration	3
CIST 1411	Introduction to Networks	4
CIST 1413	Network Administration Concepts	4
Total Credits		**20**

(20 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must complete all University certificate requirements to total at least 20 credits.and must achieve a cumulative grade-point

average of at least 2.0. Developmental coursework will not count towards the degree requirements and/or elective credits. If a student has no basic typing skills, OTEC 1101 Beginning Keyboarding is a prerequisite for all CIST courses. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		Credits
CIST 1680	Linux Essentials	3
BCIS 1160	Windows	3
CIST 1411	Introduction to Networks	4
	Credits	**10**
Semester 2		
CIST 2636	CLOUD Computing	3
CIST 2611	Windows Hybrid Server Administration	3
CIST 1413 or CIST 2811	Network Administration Concepts or Foundations of Security	4
	Credits	**10**
	Total Credits	**20**

Creative Media Technology

Associate of Applied Science Degrees

- Digital Film
- Digital Graphics Technology
- Game Development

Certificates of Completion

- Creative Media
- Commercial Photography
- Digital Audio
- Digital Graphics
- Digital Video
- Film Crew Training
- Game Design
- Graphics and Animation
- Web Design

Because we live in the age of information, there is an ever-growing need for trained specialists with a visual sophistication to design printed materials and web sites, produce videos and films, create animated scenes and characters, and participate in game design. Effective visual communication and interaction is essential in today's world.

The specializations in Film and Digital Media Arts (FDMA) have been developed in response to all of these needs. They provide a strong but versatile foundation by merging design and digital media into an exciting course of study. The offerings bring together various dynamic technologies, including game design, print media, web design, multimedia, digital photography, animation, and digital film. Because the field is extremely varied, the FDMA program offers a number of pathways:

- The Digital Film degree provides a foundation for students who are looking for professional opportunities in the areas of filmmaking, computer animation, digital video production, game design, and multimedia.
- The Digital Graphics degree emphasizes graphic design, print media, and web design, but also includes fundamentals in animation, multimedia, and digital film.
- The Game Development degree provides a foundation in game design, art, and animation technologies, including 3D modeling and sculpting, game engine technology and scripting, and asset development and management.
- The program also offers certificates in specialized areas such as commercial photography, digital audio, digital graphics, digital video, web design, graphics and animation, game design, and film-crew training.

The future is bright for graduates of the Film and Digital Media Arts program, whether they choose to enter the job market immediately or pursue a bachelor's degree. Several transfer tracks open the way for graduates of the Digital Film, Digital Graphics, and Game Development associate degree programs to continue their education at New Mexico State University or any institution of higher learning.

Employment will continue to increase for digital media specialists in advertising agencies, animation, game and film studios, web design companies, and other organizations throughout the business sector. Upon completion of one of the associate degrees, students will have designed and created a self-promotional package and professional electronic portfolio or demo reel.

High school students who are interested in a career in creative media are encouraged to take courses in Art, Photography, English, and Mathematics. Careers in Creative Media will require the ability to work with computers, communicate verbally and in writing, and participate in an online environment.

Program Learning Outcomes (PLOs) applicable to students pursuing degrees in Digital Graphics, Film, or Game Design at Doña Ana Community College (DACC):

1. **Creative & Technical Proficiency**: Demonstrate proficiency in industry-standard tools, software, and techniques for digital graphics, film production, and game design to create visually compelling and technically sound projects.
2. **Visual Storytelling & Narrative Development**: Apply principles of storytelling, cinematography, composition, and character development to produce engaging visual narratives across digital media platforms.
3. **Critical Analysis & Problem-Solving**: Evaluate and critique digital media projects, identifying strengths and areas for improvement in design, composition, pacing, interactivity, and user experience.
4. **Industry Collaboration & Professionalism**: Work effectively in collaborative production environments, demonstrating teamwork, communication, and project management skills relevant to the digital graphics, film, and game design industries.
5. **Adaptability & Emerging Technologies**: Demonstrate the ability to research, learn, and integrate emerging technologies and trends in digital media, including motion capture, virtual reality, AI-driven tools, and interactive design.
6. **Ethical & Cultural Awareness in Digital Media**: Illustrate and apply ethical considerations, cultural sensitivity, and intellectual property laws in digital graphics, filmmaking, and game development, ensuring responsible and inclusive creative practices.

These outcomes ensure students gain technical expertise, storytelling abilities, analytical thinking, collaboration skills, adaptability, and ethical awareness, preparing them for successful careers in their respective fields.

Digital Film - Associate of Applied Science (p. 222)

Digital Graphics Technology- Associate of Applied Science (p. 224)

Game Development - Associate of Applied Science (p. 225)

Commercial Photography - Certificate of Completion (p. 226)

Creative Media - Certificate of Achievement (p. 226)

Digital Audio - Certificate of Completion (p. 227)

Digital Graphics - Certificate of Completion (p. 227)

Digital Video - Certificate of Completion (p. 228)

Film Crew Training - Certificate of Completion (p. 228)

Game Design - Certificate of Completion (p. 229)

Graphics and Animation - Certificate of Completion (p. 230)

Web Design - Certificate of Completion (p. 230)

FDMA 1120. Desktop Publishing
3 Credits (2+2P)
This course is designed to teach introductory skills for designing and creating publications and presentations with layout software. The course will focus on graphics and typographic design, fonts, and other skills for print and web publishing.
Learning Outcomes
1. Demonstrate knowledge of fundamental features and navigation of desktop publishing software.
2. Combine text and images for effective communication.
3. Develop a balanced composition through use of color, contrast, and alignment.
4. Place images within a composition and wrap around text.
5. Produce documents with professional layout and typography skills.
6. Create attractive and effective designs.
7. Combine knowledge of typography, images, and design principles to produce professional print and web media.
8. Create or add to a professional design portfolio for future use.

FDMA 1210. Digital Video Production I
3 Credits (2+4P)
An introduction to digital video production. Students learn camera operation, lights and audio equipment. Hands-on production is completed in the studio and on location.
Learning Outcomes
1. Plan and produce a digital video project
2. Apply post-production workflow
3. Work in team and as individual to complete digital video projects.

FDMA 1220. Introduction to Digital Video Editing
3 Credits (3)
In this course, students learn the basics of the post-production process for non-linear video editing. Students work with multiple video formats and create short movies for multiple distribution platforms. Skills include media management and professional terminology. Sections on the Main Campus will be restricted to CMI students.
Learning Outcomes
1. Define concepts related to digital video editing.
2. Use non-linear video editing software for editing a short film
3. Enhance storytelling through the use of continuity, timing, cutaways, intercutting, compositing, transitioning, jump cutting, montaging and animating.
4. Use text, titles, transitions, video effects, sound effects, dialogue, and visual assets for digital video editing.

FDMA 1360. Web Design I
3 Credits (2+2P)
This course provides an introduction to web development techniques, theory, and design. Students will learn HTML, CSS application, and strategies for effective site navigation and design, along with industry standard web editing software to develop various websites. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): ARTS 1520 OR FDMA 1515.
Learning Outcomes
1. Acquire and utilize web design terminology.
2. Create basic web pages using HTML.
3. Demonstrate how to use industry-standard, web editing software.
4. Design professional pages that are easy to navigate and quick to load.
5. Develop a basic comprehension of CSS
6. Prepare and export a variety of graphics to be used online.
7. Compare and contrast designing for web media vs. print media.
8. Analyze the importance of web presence in today's business/social climate

FDMA 1410. Audio Production I
3 Credits (2+2P)
Students will learn about and apply essential tools and techniques in analog and digital audio production. Topics include acoustic science, microphones, recording and mixing techniques, analog and digital audio hardware and software, including, multi-track, computer-based recording and editing systems. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Apply tools and techniques in analog and digital audio production
2. Illustrate the fundamentals of acoustic science.
3. Model professional behavior used in audio recording.

FDMA 1415. Principles of Sound
3 Credits (2+2P)
The creation of a professional quality original media soundtrack is possible for relatively low production/post production cost. This class is designed to give the student and overview of creating sound for a variety of digital media. Topics include acoustic principles, sound design, audio hardware, recording techniques; and editing, processing, and multi-track mixing, using software applications. Restricted to: Community Colleges only.
Prerequisite(s)/Corequisite(s): FDMA 1220.
Learning Outcomes
1. Record and edit wild sound effects and synced dialogue
2. Discover, upload, and edit on-linemusic, ambience and sound effect loops
3. Implement audio design theories
4. Create an aesthetic soundtrack which incorporates multiple elements and dimensions
5. Design, edit, process, mix and master a synced multi-track soundtrack

6. Demonstrate capable use of digital audio production and post-production workflow
7. Produce short audio projects which meet media industry technical standards

FDMA 1510. Introduction to 3D Animation
3 Credits (3)
This course provides an overview of 3D animation production processes. Students will be introduced to basic story development and the creation of computer-generated assets and cinematic sequences. The course will survey specialty areas of digital animation and various software and techniques applied in entertainment and information media. Students will review and critique other's animation, as well as plan and produce original animation for review by classmates and as part of a CGI demo reel.
Prerequisite(s): FDMA 2382 or FDMA 2381 or consent of instructor.
Learning Outcomes
1. Demonstrate a fundamental understanding of 3D animation history and principles.
2. Analyze animation work of other artists.
3. Appropriately utilize the various media technologies for digital 3D animation.
4. Demonstrate and apply basic techniques of digital 3D animation.
5. Demonstrate and apply basic processes of creating CGI for a narrative. 6 .Apply some basic strategies for developing and creating a story visually, and create original animations.
6. Present original animations to instructor and classmates for critique.
7. Create a CGI demo reel of work completed during the course.

FDMA 1515. Introduction to Digital Image Editing - Photoshop
3 Credits (2+2P)
In this course, students will learn how to use the tools in Adobe Photoshop to create new images and edit existing images. Tools used will include selections, layers, and adjustments, among other pixel editing tools. Basic composition and output will be emphasized in all projects. May be repeated for a maximum of 6 credits.
Learning Outcomes
1. Make and refine selections
2. Adjust color and tone in an image
3. Eliminate unwanted objects in an image
4. Apply layers to organize and create effects
5. Create brushes, styles and vector shapes
6. Prepare image for print and screen output
7. Apply masking and layers to non-destructively edit an image
8. Effectively utilize blending modes and layer styles 1
9. Apply adjustment layers 1
10. Apply design principles including typography

FDMA 1531. Evolution of Electronic Games
3 Credits (2+2P)
Focus on the evolution of video games and how they have shaped mainstream entertainment. May be repeated up to 6 credits.
Learning Outcomes
1. Analyze the historical development of video games from early arcade machines to modern consoles and mobile platforms.
2. Evaluate the impact of technological advancements on video game design, graphics, and gameplay mechanics.
3. Identify key milestones, influential games, creators, and major companies that shaped the video game industry.
4. Examine how video games have influenced and been influenced by other forms of media and popular culture.
5. Assess the social, cultural, and economic impacts of video games as they evolved into a mainstream form of entertainment.
6. Discuss current trends and predict future directions in video game development and the gaming industry.

FDMA 1535. Introduction to Illustrator
3 Credits (2+2P)
Students receive instruction on vector graphics creation using vector illustration software. The students will create professional-quality artwork for print publishing and multimedia graphics. Instruction includes creating and manipulating basic shapes, drawing with the pen tool, using various brushes, working with type and preparing graphics for web, print, and digital publication. May be repeated for a maximum of 6 credits.
Learning Outcomes
1. Apply a variety of shape blending options
2. Create and apply new gradients
3. Apply Gradient Meshes and Envelopes
4. Create symbols, brushes and vector shapes
5. Apply Pathfinder and other effects
6. Effectively utilize the pen tool to draw and edit shapes
7. Effectively utilize Vector tools
8. Prepare image for print and screen output
9. Apply clipping masks 1
10. Prepare image for use in another program 1
11. Apply design principles including typography

FDMA 1536. Advanced Computer Illustration
3 Credits (2+2P)
Advanced techniques in 2D vector drawing and fundamentals of 3D illustration for use in print, web, and multimedia applications. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1535.
Learning Outcomes
1. Demonstrate proficiency in using advanced features of Illustrator.
2. Identify and create different illustrator/art styles using advanced techniques for shading, perspective, light, reflection.
3. Produce high quality digital imagery incorporating basic principles of composition.
4. Create a series of illustrations demonstrating a design competency in layout foundation and illustrative moods or client/project based solutions.
5. Create high quality portfolio pieces that demonstrate an advanced knowledge of design, composition and Illustrator techniques.
6. The students will produce finished printed portfolio pieces demonstrating a comprehensive knowledge of typographical, design, illustrative and layout skills

FDMA 1545. Introduction to Photography & Digital Imaging
3 Credits (2+2P)
This course is a study of the principles and techniques of photography using digital equipment, and discusses how digital cameras, imaging editing, and technology have changed the world of photography. Students will learn about studies in resolution, lighting, software, editing, printing, and web applications. They will gain fundamental knowledge in the rapidly expanding technology of photography and imaging, and be able to incorporate the knowledge into all areas of digital graphics.

Learning Outcomes

1. Exhibit proper usage of the principles and techniques of photography using digital equipment.
2. Utilize features and techniques of a digital camera with proper use of lenses, settings, and flashes.
3. Create photo collections that represent proper use of technical skills.
4. Demonstrate proficiency in planning, lighting, capturing, and distributing photographic projects which show ability to create photographs artistically and to tell a story or express an idea.
5. Utilize appropriate software to create original projects.
6. Demonstrate knowledge in post-production of photos as to sizing, sampling, resolution, and exporting.
7. Produce original projects which respect intellectual property of others.
8. Create a digital portfolio of work completed during the course.

FDMA 1555. Introduction to the Creative Media Industry
3 Credits (3)

This class is an introductory course for students who are beginning their understanding of Media and how it affects them and our society. It offers a broad-stroked view of the entire industry including Marketing, Production, History, Jobs, Design, Architecture, New Media Literacy, and industry standards. Students will listen to experts in the field, get involved in open discussions about the industry and use new information to complete hands-on individual & group assignments.

Learning Outcomes

1. The basic philosophies and methods that guide people working in the Creative Media industry.
2. Knowledge of a wide variety of different jobs, qualifications and paradigms used in the industry.
3. Marketing, Production, Budgets, History, New Media, Inspiration and other aspects of the industry.
4. An accurate view of the Creative Media field.

FDMA 1630. Principles of Design
3 Credits (2+2P)

This course will explore how we see and use visuals to communicate information. Students will develop critical 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, digital media, and web design. The business of design will also be covered with emphasis on client relations and networking Restricted to: Community Colleges only. Prerequisite(s): FDMA 1535

Learning Outcomes

1. Practice Creativity
2. Plan a Design project
3. Demonstrate the effective use of Emphasis Contrast
4. Demonstrate the effective use of Balance and Alignment
5. Demonstrate the effective use of Harmony and Repetition
6. Demonstrate the effective use of Flow, Movement, and Rhythm
7. Demonstrate the effective use of Simplicity and Economy
8. Effectively apply basic color theory
9. Demonstrate the effective use of Typography principles 1
10. Apply design principles to Screen Print Projects 1
11. Develop client relations

FDMA 1710. 2D Animation
3 Credits (2+2P)

Concepts and techniques in storyboarding and creating interactive 2D animations for web, multimedia and video.
Prerequisite(s): FDMA 1535.

Learning Outcomes

1. Be able to correctly storyboard an animation scene
2. Define and demonstrate basic animation terminology and principles.
3. Produce a complete hand drawn animation using industry standard software and processes.

FDMA 1715. 2-D Compositing & FX
3 Credits (3)

This course will familiarize students with the process of compositing and creating special effects for animation using industry standard software. Students will learn how to assemble an animated scene and use advanced 3D lighting, spacing, and digital effects to achieve a dynamic, professionally rendered look.
Prerequisite: FDMA 2710.

Learning Outcomes

1. The goal of this class is for students to learn how to use advanced compositing and effects tools in order to achieve a more dynamic and professional visual look for their animations or motion graphics.
2. By the end of the class, you should be proficient animation compositors that can assemble and synthesize a basic animation into a rendered, visually sophisticated piece.
3. Students who pass this class will have a basic to intermediate knowledge of Adobe After Effects

FDMA 1720. 3-D Character Design
3 Credits (2+4P)

Focus on designing a character and then taking that design and building it in 3D using intermediate modeling techniques. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1510 or FDMA 2530.

Learning Outcomes

1. Translate concept art into a low and high resolution 3D model using proper modeling techniques
2. Use Polygon modeling techniques to create a 3D character
3. Layout UVs and utilize Adobe Photoshop to texture a model.

FDMA 1996. Selected Topics
1-4 Credits (1-4)

Specific titles to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Varies

FDMA 2120. Film Crew I/ Introduction to Film and Media Workflow
9 Credits (9)

An introduction to the film industry. This class teaches film production processes, film crew hierarchy, film production set-safety and etiquette and provides hands-on training in industry standard film production equipment. Students complete the semester by participating as a below-the-line crew member on a short film. Restricted to: Community Colleges only.

Learning Outcomes

1. Explain film production processes; Interpret call sheets and deal memos, model basic on-set protocols and professional behavior
2. Assist producers and directors in completing a professional film project
3. Work effectively in production crew positions in a group environment.

4. Recognize and articulate specific film production structure, from original concept to final release

FDMA 2125. Film Crew II
9 Credits (9)
The second course designed to train students to become working members of film crews. It will be taught by working film professionals. Content will be lecture and hands-on. Students complete the semester by working as part of an actual film crew as below-the-line and above-the-line crew members. Restricted to: Community Colleges only.
Prerequisite(s): FDMA 2120.
Learning Outcomes
1. Understand film production processes used to produce a film
2. Manage craft area job functions
3. Model on-set protocols and professional behaviors
4. Assist producers and directors in completing a professional film project

FDMA 2144. Pre-production Management
3 Credits (2+2P)
Pre-production planning paperwork breakdowns, budgeting, and scheduling; taking a project from start to finish from a producers standpoint.
Prerequisite(s): FDMA 1210.
Learning Outcomes
1. Demonstrate proficiency in various areas of pre-production
2. Create a script breakdown, budget, production and post-production schedule, and management plan and timeline that are technically sound.
3. Use features of pre-production and project management software, to foresee and plan the pre-production, production, and post-production stages of a project
4. Demonstrate understanding of the processes of supporting and managing a project, through the pre-production, production, and post-production stages to completion
5. Work collaboratively and communicate effectively with the pre-production and management teams to produce the desired finished project.

FDMA 2150. Desktop Publishing II
3 Credits (2+2P)
This class will enhance and build upon student layout/design skills developed in the Introduction to Desktop Publishing course, incorporating intermediate to advanced concepts in typography and layout design. Upon completion of this course, students will be able to use page layout software to prepare a variety of documents for presentation and critique, including newsletters, instructional flyers, and other complex design/typographic pieces May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1120.
Learning Outcomes
1. Build upon knowledge of design and design terminology.
2. Exhibit intermediate to advanced design principles using type, layout, and color.
3. Demonstrate skill in intermediate to advanced concepts and features of page layout software.
4. Exhibit knowledge of styles, tables, images and clipping paths and interactive documents as well as printing preparations and procedures.
5. Create layouts for print, web, and other media that demonstrate an intermediate to advanced knowledge in typography and layout design.
6. Format and produce newsletters and instructional flyers, as well as larger, complex projects such as packaging mechanicals, multiple master page documents, and books.
7. Assess works of graphic design for quality and effectiveness.
8. Utilize produced material to create or add to a design portfolio for future use.

FDMA 2210. Digital Video Production II
3 Credits (2+2P)
Advanced techniques of the tools and application of professional film making. May be repeated for a maximum of 6 credits.
Prerequisite: FDMA 1210.
Learning Outcomes
1. Demonstrate the ability to produce and manage a video project: Produce a script, storyboard, and production schedule for a video project designed for a specific audience.
2. Demonstrate proficiency in producing quality digital video footage and audio tracks: Shoot to the script and storyboard using a variety of camera and lighting techniques; Produce a finished complex sound track including narration, music, and sound effect.
3. Demonstrate ability to produce and edit a professional quality video project: Integrate all production aspects of the project including video, audio, graphics, titles, transitions, and effects. Guide the project through the final production stages.
4. Develop competency in digital video distribution using various formats and techniques: Distribute project in various formats which could include DVD and web posting.

FDMA 2241. Advanced Camera Techniques
3 Credits (2+2P)
Professional camera techniques and training for electronic news gathering and studio filmmaking. Utilizes high-end handheld shooting techniques, cranes, dollies, and steadicam training. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1210.
Learning Outcomes
1. Students knowledge of high-end video camera operation and features.
2. Students must know all the working features of the video production equipment being used during the course in order to achieve the desired footage as required by the instructor.
3. Demonstrate proficiency in producing quality digital video footage.
4. Individuals must acquire the knowledge of different shooting styles in different productions situations and use those acquired skills to produce the appropriate video footage.
5. Using the proper lighting in different on location shooting styles.
6. Skill of each individual utilizing the usage of high-end camera equipment such as dollies, cranes and Steadicam.
7. Each individual must work as a team player to create professional style video footage.

FDMA 2285. Digital Video Production and Editing II
3 Credits (2+2P)
Advanced features of digital video, audio/music, and titling production software. Included are color correction, vector scopes, motion effects, and advanced editing techniques used by filmmakers. Restricted to

Community Colleges campuses only. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1220.
Learning Outcomes
1. intermediate to advanced video editing create short films and training videos, create TV quality commercials, direct a news broadcast, and work as a mentor to students on digital media equipment

FDMA 2287. Digital Design Studio
1-3 Credits
A design studio environment in which students obtain real-world experience while providing service to college and non-profit associations with faculty supervision using a variety of media. Can be used with permission to fulfill cooperative requirement. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1630 or ARTS 1712.
Learning Outcomes
1. Demonstrate competency in the use of InDesign software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio.

FDMA 2310. History of Cinema I
3 Credits (3)
This course surveys the history of cinema - investigating the process by which the original “cinema of attractions” evolved into a globally dominant form of visual storytelling. We will explore the development of cinema both as an art form and as an industry, and consider the technological, economic, cultural factors, as well as many key international movements that helped shape it. Restricted to: G-CMI, DFM, ANVE majors.
Learning Outcomes
1. Gain a greater appreciation for the history of cinema
2. Develop knowledge of the key eras in the history of U.S. cinema
3. Learn the characteristics of major movements in international cinema
4. Understand the various elements that go into telling a story in cinema: screenplay, narrative devices, director, producer, talent, production design, cinematography, editing, sound design
5. Learn how major genres in U.S. cinema have evolved in the past 100+ years
6. Gain a basic understanding of the operations and organization of the Hollywood film industry, from the studio system until today
7. Gain an awareness of the shifts inthe film industry that present new opportunities for independent filmmakers
8. Understand the importance of learning about the history of cinema to the process of becoming a filmmaker
9. Strengthen public speaking skills

FDMA 2311. History of Animation
3 Credits (3)
Explores the history of Animation as an art form and industry through readings, screenings, lecture and periodic guest speakers. Restricted to: G-CMI, ANVE, DFM majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. To expand your knowledge of the history of animation and its evolution to the modern day.
2. To expand your ability to view animation critically and to understand its early connections to cartooning as well as its ongoing cultural presence and relevance.
3. To expand your comfort with accessing information and completing assignments both online and independently. Canvas will be utilized for many of our readings and for some response assignments.

FDMA 2312. History of Media Design
3 Credits (3)
An introduction to the principles of design history and theory within a chronological framework of historical and emerging media.
Learning Outcomes
1. Introduction to visual communication: Defines design media; Discuss universal design principles and strengthen student basic design skills.
2. Historical technological development and design: Prehistoric communication; Beginnings of alphabet and written language; Movable type and the printing press; Industrial revolution; Digital Age; Designers and Trends; Personalities and their influence and contributions
3. Identify design styles and discuss the relevance of how design influences: Idea generation; Trend sources; Influences or appropriation; Propaganda and advertising.

FDMA 2325. Advanced Photoshop
3 Credits (2+2P)
This course expands on the Photoshop skill set to develop proficiency with selections, masking, channels, filters, color correction, painting tools, vector integration, video, special effects, and compositing techniques. The focus is 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 and students develop work suitable for portfolios. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1515.
Learning Outcomes
1. Create effects using advanced blending techniques
2. Effectively utilize advanced masking techniques
3. Refine Selections with advanced techniques
4. Assess Adjust color in an image
5. Utilize advanced photo enhancement techniques
6. Alter images using Photoshop painting techniques
7. Create brush presets
8. Create vector elements with paths
9. Add manipulate type on a path 1
10. Create advanced special effects 1
11. Apply vanishing point warping 1
12. Create a video clip 1
13. Apply color adjustments to video

FDMA 2326. Digital Photography and Imaging II
3 Credits (2+2P)
Provide understanding and skills needed for advanced digital capture, editing, optimizing and manipulating photographic images for print, web and multimedia applications. The course will prepare students to make more advanced technical and more refined aesthetic decisions relative to specific photographic applications. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus.
Prerequisite(s): FDMA 1545.

Learning Outcomes

1. Apply proper exposure techniques.
2. Practice effective composition techniques.
3. Demonstrate knowledge of working with Camera RAW files.
4. Demonstrate proper image adjustment and correction techniques.
5. Successfully apply the basics of HDR digital photography.
6. Apply techniques for modifying light.

FDMA 2360. Web Design II
3 Credits (2+2P)
In this course, students will refine their skills in coding and web graphic design as well as be introduced to methods in constructing sites that adhere to the standards of responsive web design. Students will expand their knowledge of HTML and CSS using a code editor, and they will both analyze existing websites and also construct an interactive website. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1360.
Learning Outcomes

1. Plan and produce web design mockups.
2. Demonstrate a proficiency in HTML/CSS coding.
3. Utilize basic web scripts.
4. Integrate animation into web design.
5. Create fully functional websites using one or more web editors.
6. Make a website “live.”
7. Evaluate web designs for aesthetics and functionality.
8. Demonstrate the utilization of responsive design.

FDMA 2365. Web Design for Small Business
3 Credits (2+2P)
Technology and techniques for designing and building a web presence for small business. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1360.
Learning Outcomes

1. Learning advanced tools and techniques for creating and maintaining complex Business web sites. We will be using CSS, PHP, HTML, Photoshop, and Wordpress.
2. design a complete and fully functional online web business.
3. understand and develop a plan to better manage a web store/ business.
4. review basic design guidelines in preparing a variety of web applications for business.
5. develop technical skills in using various web based solutions.
6. reinforce your knowledge of web design software.
7. introduce alternate sources of data, communication and financial solutions.

FDMA 2381. Storyboarding
3 Credits (3)
Examines effective writing principles to create storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Further, the purpose of this course is to introduce students to the principles of visual storytelling—in film--through the use of the storyboard. In other words, to show how storyboards are critical "architectural component" of the filmmaking process, used as a blueprint (or guide) to communicate the complex elemnts of a film story. Crosslisted with: ENGL 2381. Restricted to: DFM,ANVE, G-CMI majors. Restricted to Las Cruces campus only.
Learning Outcomes

1. Learn to conceive and draw original images.
2. Learn to use images to tell a story.
3. Design, develop, and order images (shots) into storyboarded scenes.
4. Understand how storyboarded sequences are a tool in the process of filmmaking.
5. Understand how the storyboard image is translated from the written page.
6. Build scenes from the scripted sequences into a storyboard.

FDMA 2382. Principles of Story Across the Media
3 Credits (3)
The purpose of this course is to help students understand the basic elements of narrative structure (e.g. character, dramatic conflict, theme, etc.) and how these elements may be used effectively in media expression. Crosslisted with: ENGL 2382. Restricted to: G-CMI, DFM, ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes

1. Identify the elements of storytelling in scripted text or improvised performance
2. Understand how these elements work together across different media
3. Apply these elements of storytelling in original work
4. Appreciate and master these elements for independent or collaborative work

FDMA 2410. Audio Production II
3 Credits (2+2P)
Students will use skills developed in the Audio Production I course to produce audio projects utilizing a variety of analog and digital audio hardware and software, including continued use of multi-track, computer-based recording and editing systems, as well as exploring more advanced audio techniques and concepts. Restricted to: Community Colleges only. May be repeated up to 6 credits.
Prerequisite: FDMA 1410.
Learning Outcomes

1. Apply analog and digital audio hardware and software in audio recording.
2. Apply common professional set-up practices of audio production facilities.
3. Produce audio projects, sync sound recordings, and audio dialogue replacement (ADR) demonstrating technical expertise.
4. Perform an audio mix and master for a final professional product.
5. Analyze and compare existing audio productions for quality.

FDMA 2510. Introduction to Sound Design for Film
3 Credits (3)
This couse is an introduction to the principles, techniques and applications of sound design and film scoring. Students learn how sound affects storytelling in a film, examine the role of sound from the script to screen, and the professional process of creating a soundtrack. Students learn how to use sound equipment in a production environment and execute basic techniques used to develop a soundtrack. Crosslisted with: FDMA 1415.
Prerequisite(s)/Corequisite(s): FDMA 2382. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes

1. Compare the properties and propagation of sound and importance of sound to the storytelling aspect of filmmaking
2. Learn the process of designing a soundtrack for film and recording live audio dialogue for use in post-production editing.

3. Learn methods of capturing sound including live audio recording, dialogue recording, foley, orchestration and audio dialogue replacement
4. Design a soundtrack for motion media project.

FDMA 2520. Introduction to Cinematography
3 Credits (3)
The Director of Photography (or Cinematographer), in close collaboration with the Director and Production Designer, helps determine the look of a film. This course is designed to intorduce students to the technical and aesthetic fundamentals of creating, developing, and collaborating on the visual elements of storytelling, using camera framing, lensing, and lighting fundamentals such as shadows, light and color. May be repeated up to 6 credits. only. Prerequisite(s)/Corequisite(s): FDMA 2382 (Las Cruces Campus) or FDMA 1210 (Community College Campus(es)
Learning Outcomes
1. Define and explain the fundamental concepts of cinematography, such as exposure, lighting solutions, and color temperature.
2. Understand how cinematography brings the Director's vision to reality.
3. Demonstrate proficiency in plotting and executing interior and exterior lighting solutions.

FDMA 2530. Introduction to 3D Modeling
3 Credits (3)
This course will introduce 3D modeling methods and current practices. Students will learn preliminary and detailed modeling techniques using industry standard software. Methods will emphasize formal and functional aspects of modeling as they apply to mechanical, organic, and sculpted topology for application in animation, games, and information media. May be repeated for a maximum of 6 credits.
Learning Outcomes
1. Identify the role of a 3D modeler in a production pipeline within various fields of digital animation.
2. Apply techniques in modeling mechanical and organic objects.
3. Utilize tools available in professional 3D modeling software.
4. Create simple animations and renders.
5. Present original animations to instructor and classmates for critique.
6. Create a demo reel of work completed during the course.

FDMA 2535. Digital Illustration Techniques
3 Credits (3)
Introductory course examining traditional artistic expressions and translating visual art experiences into a digital art medium to enhance visual storytelling. Students acquire basic principles of drawing and painting through hands-on experience manipulating tonal value, composition, form development, light and shadow, color theory, rendering realism, and graphic design. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Be familiar with the CMI computer system, facilities, equipment and policies.
2. Appropriately utilize the various media technologies available at CMI for digital illustration.
3. Understand the different roles and areas of digital illustration.
4. Understand and apply some basic techniques of digital illustration.
5. Understand and apply some basic processes of creating pleasing images based on knowledge of traditional art principles.
6. Begin to apply some basic strategies for developing and creating aesthetically pleasing images.

FDMA 2570. Creative Media Studio
3 Credits (2+2P)
A studio environment where students specialize in creating film-festival quality and portfolio-ready projects under the supervision of faculty. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1210 and FDMA 1220 or FDMA 2530.
Learning Outcomes
1. Students will work together to create portfolio-quality work in a studio environment.
2. Through classroom discussion and reporting the students will collaborate to produce a professional quality "vertical slice" game concept within a defined timeline and financial budget

FDMA 2710. Beginning 2-D Animation
3 Credits (3)
Students will learn the basics of digital 2D animation by working through a variety of exercises, creating an original storyboard, and animating five or more shots utilizing industry standard software. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. The student will demonstrate an overall knowledge of computers as a tool of the animation artist and be able to produce simple animations using the techniques learned in class.
2. Use major software tools with ease
3. Manage time lines through key frames
4. Build storyboards
5. Demonstrate knowledge of 2-D and animation terminology
6. Produce actions, set environments and constraints for 2-D animation
7. Render full animation.

FDMA 2715. Special Effects
3 Credits (2+4P)
Creating advanced virtual special effects for both rigid and soft bodies. Using MEL, dynamic principles, mixing nodes, and advanced particle systems. How to drive particles over surfaces, add texture to flow, create surface tensions, and use collision events to drive texture. Study of integrating computer-generated images with real-life video and audio.
Prerequisite(s): FDMA 2530 or FDMA 2765.

FDMA 2720. 3D Animation
3 Credits (3)
Overview of the essentials and principles of 3D animation; creative methods for using industry standard tools to produce the illusion of movement for storytelling and creating 3D effects. Topics include, keyframe and curve animation, kinematics, cycle animation, camera animation, deformers, dynamics and constraints.
Prerequisite: FDMA 1510, FDMA 2710 or consent of instructor.
Learning Outcomes
1. Clearly describe the role of an animator in cinema, gaming and related fields.
2. Recognize leading animators and their methods.
3. Demonstrate knowledge of advances in contemporary animation.
4. Utilize current industry standard animation tools.
5. Apply fundamental animation processes and techniques

FDMA 2725. Rigging for 3D Animation
3 Credits (3)

This course will introduce principles and practices of current 3D animation rigging. Students will develop fundamental methods necessary to create character rigs. Students will learn aesthetic, technical, and optimization concepts as they apply to organic and mechanical designs. Topics will include: hierarchies, constraints, deformation rigging, skeleton creation, skinning, forward and inverse kinematics, controls, body and facial rigging. Restricted to: DFM, ANVE majors.
Prerequisite(s): FDMA 1510.
Learning Outcomes
1. Understand what Rigging is and the role it plays in the world of cinema and video games.
2. Be familiar with industry professionals and their techniques and approaches to rigging.
3. Understand and be able to apply the fundamentals of rigging to industry standard applications.
4. Demonstrate ability to rig basic to intermediate machines, bipeds and quadrapeds

FDMA 2730. Advanced Character Animation
3 Credits (2+2P)
Focus on complex rigging techniques as well as utilizing advanced animation functions to blend multiple animations into complex animations. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.
Prerequisite(s): FDMA 2530.
Learning Outcomes
1. Create skeletal riggings for use with a 3D model
2. Attach riggings to a 3D model using Smooth and rigid binding and refine the bindings so that they are properly weighted
3. Animate a 3D model using skeletal and vertex animation techniques

FDMA 2745. Light, Shade, Render
3 Credits (3)
This course will explore the theory and practice of 3D lighting and rendering methodologies. Techniques covered will implement cameras, lighting sources, textures, surface-mapping and algorithmic rendering to produce stylized and photo realistic images. Topics covered will include direct and indirect lighting, shaders that simulate physical substances and effects, rendering multiple passes and simulating physical lens effects. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Prerequisite: FDMA 1510 OR FDMA 2530, or Consent of Instructor.
Learning Outcomes
1. Understand the role of lighting and surfacing to tell a story.
2. Be familiar with leading lighting artist and their approaches.
3. Utilize the software implemented in the entertainment industry.
4. Understand and apply fundamental lighting and rendering techniques.
5. Demonstrate ability to create successfully rendered scenes from concept through production.

FDMA 2750. Digital Sculpting
3 Credits (3)
Introduce students to the 3D Sculpting programs which are the industry standard sculpting programs. Students will learn how to create complex high polygon sculpts and normal maps and transfer the models into 3D studio Max and Autodesk Maya. May be repeated up to 6 credits. Restricted to: Community Colleges only.
Prerequisite(s): FDMA 2530.
Learning Outcomes
1. Demonstrate communication skills through written critiques and explanations
2. Students will demonstrate visual communication skills through critiques, written explanations, and storyboarding
3. Demonstrate a working knowledge of Zbrush's interface
4. Demonstrate a working knowledge of Zpheres and how they are best used to create sculpts
5. Demonstrate a working knowledge of painting a mesh using Spotlight
6. Demonstrate a working knowledge of retopologizing and exporting the mesh
7. Demonstrate a working knowledge of integrating the full Zbrush pipeline into Unity and Unreal

FDMA 2755. Drawing for Animation
3 Credits (3)
Introductory study of the human and animal form in relation to animation. Students learn fundamentals and exaggeration of the figure, as related to proportion, rhythm, mechanics, and motion. Areas of focus are: basic form, proportion, shape, contour, gesture, anatomy, portraiture, perspective, clothing effects and drawing from observation. Restricted to: CMT,DFM,ANVE majors.
Learning Outcomes
1. Students will have an opportunity to gain hands on experience using industry standard state of the art animation software.
2. Understand what the basics of drawing the human form.
3. Have a general understanding of human anatomy as needed for the artist.
4. Be able to design the human form from imagination.

FDMA 2770. Critical Game Studies
3 Credits (2+2P)
Focus on creating a complete design document utilizing techniques and standards used in the industry today. May be repeated up to 6 credits.
Learning Outcomes
1. Develop a comprehensive game design document that adheres to industry standards, incorporating elements such as gameplay mechanics, narrative structure, and user interface design.
2. Critically analyze existing game design documents to identify strengths, weaknesses, and areas for improvement.
3. Apply advanced game design techniques to create innovative and engaging game concepts.
4. Evaluate the ethical and cultural implications of game design choices and their impact on diverse audiences.
5. Collaborate effectively in a team setting to produce a cohesive and well-documented game design project.
6. Present and defend game design concepts and documents to peers and industry professionals, demonstrating clear communication and critical thinking skills.

FDMA 2775. Game Tools and Techniques
3 Credits (2+2P)
Focus on the different engines and gaming technologies that power the games of today. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 2770.

Learning Outcomes

1. Students will develop rapid prototyping techniques.
2. Through classroom exercises the students will gain competency in industry-standard game creation engines and tools, and learn to work together in groups to create rapid prototypes.
3. This includes creating art, sound and music, and creating basic scripts within an engine.

FDMA 2785. Level Design Concepts
3 Credits (2+2P)
Focus on the design and creation of video game levels. Dealing with the challenges and pitfalls of different video game genres. May be repeated for a maximum of 6 credits. Prerequisite(s): FDMA 2770
Learning Outcomes

1. Students will develop level design skills.
2. Through classroom exercises the students will gain a comfortable competency with designing levels both on paper and digitally.
3. This includes creating first person shooter levels, third person levels, multiplayer level design, and more.

FDMA 2993. Workshops (Advanced Photography)
1 Credit (1)
This is a series of 1-credit workshops offering specialized and intense advanced skill training and upgrading applications of photography for commercial purposes and training in photographic skills and styles presented by a variety of professional lecturers. May be repeated up to 7 credits. Restricted to Community Colleges only.
Prerequisite(s): FDMA 1545.
Learning Outcomes

1. Varies

FDMA 2994. Portfolio Design & Development
1-3 Credits
Personalized design and creation of the student's professional portfolio including hard-copy, demo reel, and online. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.
Learning Outcomes

1. Varies

FDMA 2995. Film Crew Cooperative Experience
3-6 Credits (3-6)
Industry production experience in specific craft areas for film crew technicians who have successfully completed two semesters of FTTP. Restricted to: Dona Ana campus, Carlsbad campus.
Prerequisite(s): FDMA 2125.
Learning Outcomes

1. Varies

FDMA 2996. Special Topics
1-4 Credits
Specific topics to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits.
Learning Outcomes

1. Varies

FDMA 2997. Independent Study
1-3 Credits
Individual studies directed by consenting faculty with prior approval of department head. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): Minimum GPA of 3.0 and sophomore standing.
Learning Outcomes

1. Varies

FDMA 2998. Internship
1-3 Credits
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 9 credits. Consent of Instructor required. Graded: S/U Grading (S/U, Audit). Restricted to Community Colleges campuses only. Consent of instructor required.
Learning Outcomes

1. Varies

Name: Matt Byrnes, Department Chair

Office Location: DAFA 104 - Cholla Hall - 2400 Film Street, Las Cruces NM 88001

Phone: (575) 528-7310

Website: (https://dacc.nmsu.edu/academics/programs/creative-media-technology/creative-media-technology.html) Creative Media Technology (https://dacc.nmsu.edu/academics/programs/creative-media-technology/)

Digital Film - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0**.** A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		
This degree requires courses from Areas I, IV, V, and VI; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I [3]	
Area IV: Social/Behavioral Sciences - Select any course from New Mexico General Education Requirements Area IV Social/Behavioral Sciences. [2, 3]		3
Area V: Humanities		3
ENGL 2520G	Film as Literature [3]	
Area VI: Creative and Fine Arts		3
ARTS 1145G	Visual Concepts [3]	
General Education Elective - Area I: Communications - Oral Communications		3

COMM 1130G	Public Speaking [3]	
or COMM 1115G	Introduction to Communication	
Major Requirements		
Technical Requirements		
ENGL 2381	Storyboarding [3]	3
or ENGL 2382	Narrative: Principles of Story Across the Media	
FDMA 1210	Digital Video Production I	3
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1415	Principles of Sound	3
FDMA 1545	Introduction to Photography & Digital Imaging	3
FDMA 2144	Pre-production Management	3
FDMA 2210	Digital Video Production II	3
or FDMA 1710	2D Animation	
or FDMA 2530	Introduction to 3D Modeling	
FDMA 2285	Digital Video Production and Editing II	3
FDMA 2287	Digital Design Studio	3
FDMA 2520	Introduction to Cinematography	3
or FDMA 1710	2D Animation	
or FDMA 2530	Introduction to 3D Modeling	
FDMA 2570	Creative Media Studio	3
FDMA 2994	Portfolio Design & Development	3
Electives - Choose at least 8 credits from the following:		8
ARTS 1610	Drawing I	
FDMA 2241	Advanced Camera Techniques	
FDMA 2993	Workshops (Advanced Photography-Subtitle)	
FDMA 2995	Film Crew Cooperative Experience	
FDMA 2996	Special Topics	
THEA 1210G	Acting for Non-Majors	
Total Credits		**60**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
FALL		
Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
or COMM 1130G	or Public Speaking	
Area VI: Creative and Fine Arts		3
ARTS 1145G	Visual Concepts	
FDMA 1210	Digital Video Production I	3
FDMA 1220	Introduction to Digital Video Editing	3
ENGL 2381	Storyboarding	3
or ENGL 2382	or Narrative: Principles of Story Across the Media	
	Credits	**15**
Semester 2		
SPRING		
Area I: Oral Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area V: Humanities		3
ENGL 2520G	Film as Literature	
FDMA 1415	Principles of Sound	3
FDMA 2144	Pre-production Management	3
FDMA 2520	Introduction to Cinematography	3
	Credits	**16**
Semester 3		
Area IV: Social/Behavioral Sciences - Select one course from Area IV of the NM General Education requirements.		3
FDMA 2210	Digital Video Production II [2]	3
FDMA 2285	Digital Video Production and Editing II [2]	3
Elective - Choose one from the following:		3
ARTS 1610	Drawing I	
FDMA 2241	Advanced Camera Techniques	
FDMA 2993	Workshops (Advanced Photography-Subtitle)	
FDMA 2995	Film Crew Cooperative Experience	
FDMA 2996	Special Topics	
THEA 1221	Beginning Acting	
FDMA 1545	Introduction to Photography & Digital Imaging	3
	Credits	**15**
Semester 4		
SPRING		
FDMA 2287	Digital Design Studio	3
FDMA 2570	Creative Media Studio	3
FDMA 2994	Portfolio Design & Development	3
Elective - A list of elective courses can be found in Semester 3.		5
	Credits	**14**
	Total Credits	**60**

1 It is HIGHLY recommended to take FDMA 1220 Introduction to Digital Video Editing FIRST.

2 Can be substituted with either FDMA 1710 2D Animation or FDMA 2530 Introduction to 3D Modeling for the Animation Track.

Digital Graphics Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, and VI; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
Any Area II MATH G course (3-4 credits) [3]		
Area III: Laboratory Sciences		
Area IV: Social/Behavioral Sciences		
Area V: Humanities		
Area VI: Creative and Fine Arts		
ARTS 1145G	Visual Concepts [3]	
General Education Elective - Area I: Communications - Oral Communications		
COMM 1130G	Public Speaking [3]	3
or COMM 1115G	Introduction to Communication	
Core Requirements		
Related Requirements		
FDMA 2998	Internship	3
or FDMA 2287	Digital Design Studio	
Major Requirements		
Technical Requirements		
FDMA 1120	Desktop Publishing	3
FDMA 1360	Web Design I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
FDMA 1536	Advanced Computer Illustration	3
FDMA 1545	Introduction to Photography & Digital Imaging	3
FDMA 1630	Principles of Design	3
FDMA 2150	Desktop Publishing II	3
FDMA 2312	History of Media Design	3
FDMA 2325	Advanced Photoshop	3
FDMA 2360	Web Design II	3
or FDMA 2365	Web Design for Small Business	
FDMA 2994	Portfolio Design & Development	3
Electives, to bring the total credits to 60		
Any FDMA, ARTS, DRFT		5
Total Credits		**60-61**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area VI: Creative and Fine Arts		3
ARTS 1145G	Visual Concepts	
FDMA 1120	Desktop Publishing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
	Credits	**16**
Semester 2		
Area II: Mathematics		3
Any Area II MATH G course		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
FDMA 1360	Web Design I	3
FDMA 1545	Introduction to Photography & Digital Imaging	3
FDMA 1630	Principles of Design	3
	Credits	**15**
Semester 3		
General Education - Choose one course from NM General Education Areas III, IV, or V in the NMSU/DACC Catalog.		3-4
FDMA 1536	Advanced Computer Illustration	3
FDMA 2312	History of Media Design	3
FDMA 2325	Advanced Photoshop	3

FDMA 2360	Web Design II	3
or FDMA 2365	or Web Design for Small Business	
	Credits	**15-16**
Semester 4		
FDMA 2150	Desktop Publishing II	3
FDMA 2994	Portfolio Design & Development	3
FDMA 2998	Internship	3
or FDMA 2287	or Digital Design Studio	
FDMA Electives - Any ARTS, FDMA, or DRFT to make up electives		5
	Credits	**14**
	Total Credits	**60-61**

Game Development - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Core Requirements		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, III, and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
Any New Mexico General Education Requirements Area II Course with a "G" (3 credits) [2]		
Area III: Laboratory Sciences		
Any New Mexico General Education Requirements Area III Course with a "G" (4 credits) [2]		
Area IV: Social/Behavioral Sciences		
Any New Mexico General Education Requirements Area IV or V Course with a "G" (3 credits) [2]		
General Education Elective - Area I: Communications - Oral Communications		
COMM 1130G	Public Speaking [3]	3
or COMM 1115G	Introduction to Communication	
Core Requirements		
ARTS 1610	Drawing I [3]	3
Technical/Related Requirements		**22**
FDMA 1515	Introduction to Digital Image Editing - Photoshop	
FDMA 1531	Evolution of Electronic Games	
FDMA 1630	Principles of Design	
FDMA 1996	Selected Topics	
FDMA 2530	Introduction to 3D Modeling	
FDMA 2570	Creative Media Studio	
FDMA 2785	Level Design Concepts	
FDMA 2994	Portfolio Design & Development	
Electives Based on Focus		**18**
Arts & Animation		
ENGL 2381	Storyboarding	
FDMA 1710	2D Animation	
FDMA 1720	3-D Character Design	
FDMA 2750	Digital Sculpting	
Electives (6 credits) - Advisor approved electives (ENGL, MATH, C S, ARTS/ARTH, OECS, BMGT, FDMA, ARCH, DRFT, MUSC, THEA)		
Game Design		
ENGL 2381	Storyboarding	
FDMA 2770	Critical Game Studies	
FDMA 2775	Game Tools and Techniques	
Electives (9 credits) - Advisor approved electives (ENGL, MATH, C S, ARTS/ARTH, OECS, BMGT, FDMA, ARCH, DRFT, MUSC, THEA)		
Programming		
FDMA 2775	Game Tools and Techniques	
Electives (15 credits) - Advisor approved electives (ENGL, MATH, C S, OECS, BMGT, FDMA, ARCH, DRFT, MUSC)		
Total Credits		**60**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. MATH 1130G Survey of Mathematics is required for the degree but students may need to take any prerequisites needed to enter MATH 1130G first.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
ARTS 1610	Drawing I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3

FDMA 1531	Evolution of Electronic Games	3
FDMA 1996	Selected Topics	1
	Credits	**14**
Semester 2		
Area II: Mathematics		3
Any New Mexico General Education Requirements Area II Course with a "G" (3 credits)		
FDMA 1630	Principles of Design	3
FDMA 2530	Introduction to 3D Modeling	3
FDMA 2570	Creative Media Studio	3
FDMA 2785	Level Design Concepts	3
	Credits	**15**
Semester 3		
Area III: Laboratory Sciences - Choose one course from NM General Education Area III in the NMSU/DACC Catalog.		4
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Electives Based on Focus Area (9 credits) - Advisor approved electives (ARCH, ARTS/ARTH, BMGT, C S, DRFT, ENGL, FDMA, MATH, MUSC, OECS, THEA)		9
	Credits	**16**
Semester 4		
Area IV: Social/Behavioral Sciences OR Area V: Humanities course. A complete list can be found in the current NMSU/DACC Catalog		3
FDMA 2994	Portfolio Design & Development	3
Electives Based on Focus Area (9 credits) - Advisor approved electives (ARCH, ARTS/ARTH, BMGT, C S, DRFT, ENGL, FDMA, MATH, MUSC, OECS, THEA)		9
	Credits	**15**
	Total Credits	**60**

Commercial Photography - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(24 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 24 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
FDMA 1210	Digital Video Production I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1545	Introduction to Photography & Digital Imaging	3
FDMA 2325	Advanced Photoshop	3
FDMA 2326	Digital Photography and Imaging II	3
FDMA 2993	Workshops (Advanced Photography-Subtitle) (Take 6 - Each workshop is worth 1 credit.)	6
Choose one from the following:		3
FDMA 2210	Digital Video Production II	
FDMA 2241	Advanced Camera Techniques	
FDMA 2520	Introduction to Cinematography	
Total Credits		**24**

(24 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 24 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1210	Digital Video Production I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1545	Introduction to Photography & Digital Imaging	3
FDMA 2993	Workshops (Advanced Photography-Subtitle) (Take 3 - Each workshop is worth 1 credit.)	3
	Credits	**12**
Semester 2		
FDMA 2325	Advanced Photoshop	3
FDMA 2326	Digital Photography and Imaging II	3
FDMA 2993	Workshops (Advanced Photography-Subtitle) (Take 3 - Each workshop is worth 1 credit.)	3
Choose one from the following:		3
FDMA 2210	Digital Video Production II	
FDMA 2241	Advanced Camera Techniques	
FDMA 2520	Introduction to Cinematography	
	Credits	**12**
	Total Credits	**24**

Creative Media - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(15 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 15 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1545	Introduction to Photography & Digital Imaging	3
FDMA 1535	Introduction to Illustrator	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
Choose two from the following:		6
FDMA 1120	Desktop Publishing	
FDMA 1210	Digital Video Production I	
FDMA 1710	2D Animation	
Total Credits		**15**

(15 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 15 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
FDMA 1545	Introduction to Photography & Digital Imaging	3
Choose two from the following:		6
FDMA 1120	Desktop Publishing	
FDMA 1710	2D Animation	
FDMA 1210	Digital Video Production I	
	Credits	**15**
	Total Credits	**15**

Digital Audio - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1415	Principles of Sound	3
FDMA 1410	Audio Production I	3
Choose 9 credits from the following:		9
FDMA 2410	Audio Production II	
FDMA 2998	Internship	
FDMA 2570	Creative Media Studio	
Other Approved Electives		
Total Credits		**18**

(18 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1415	Principles of Sound	3
FDMA 1410	Audio Production I	3
	Credits	**9**
Semester 2		
Choose 9 credits from the following:		9
FDMA 2410	Audio Production II	
FDMA 2998	Internship	
FDMA 2570	Creative Media Studio	
Or other approved FDMA Elective		
	Credits	**9**
	Total Credits	**18**

Digital Graphics - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the

degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1120	Desktop Publishing	3
FDMA 1360	Web Design I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
FDMA 1630	Principles of Design	3
FDMA 2150	Desktop Publishing II	3
or FDMA 1536	Advanced Computer Illustration	
Total Credits		**18**

(18 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1120	Desktop Publishing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
	Credits	**9**
Semester 2		
FDMA 1360	Web Design I	3
FDMA 1630	Principles of Design	3
FDMA 2150 or FDMA 1536	Desktop Publishing II or Advanced Computer Illustration	3
	Credits	**9**
	Total Credits	**18**

Digital Video - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(21 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 21 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1210	Digital Video Production I	3
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1360	Web Design I	3
FDMA 1415	Principles of Sound	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1630	Principles of Design	3
FDMA 2210	Digital Video Production II	3
Total Credits		**21**

(21 credits)

A Suggested Plan of Study

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Students must complete all University certificate requirements to total at least 21 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1210	Digital Video Production I	3
FDMA 1360	Web Design I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1630	Principles of Design	3
	Credits	**12**
Semester 2		
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1415	Principles of Sound	3
FDMA 2210	Digital Video Production II	3
	Credits	**9**
	Total Credits	**21**

Film Crew Training - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(24 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative

grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 24 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 2120	Film Crew I/ Introduction to Film and Media Workflow	9
FDMA 2125	Film Crew II	9
Approved Electives in a Specialized Area - Consult with Academic Advisor regarding electives.		6
Total Credits		**24**

(24 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 24 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 2120	Film Crew I/ Introduction to Film and Media Workflow	9
Approved Electives in a Specialized Area - Consult with Academic Advisor regarding electives.		3
	Credits	**12**
Semester 2		
FDMA 2125	Film Crew II	9
Approved Electives in a Specialized Area - Consult with Academic Advisor regarding electives.		3
	Credits	**12**
	Total Credits	**24**

Game Design - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(30 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
FDMA 1531	Evolution of Electronic Games	3
FDMA 1720	3-D Character Design	3
FDMA 2715	Special Effects	3
FDMA 2530	Introduction to 3D Modeling	3
FDMA 2770	Critical Game Studies	3
FDMA 2775	Game Tools and Techniques	3
FDMA 2785	Level Design Concepts	3
Choose 3 credits from the following:		3
FDMA 2730	Advanced Character Animation	
FDMA 2996	Special Topics	
or Approved Media-Related Elective		
Total Credits		**30**

(30 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1531	Evolution of Electronic Games	3
FDMA 2530	Introduction to 3D Modeling	3
FDMA 2770	Critical Game Studies	3
	Credits	**12**
Semester 2		
FDMA 1720	3-D Character Design	3
Choose 3 credits from the following:		3
FDMA 2730	Advanced Character Animation	
FDMA 2996	Special Topics	
Approved Media-Related Elective		
FDMA 2785	Level Design Concepts	3
FDMA 2775	Game Tools and Techniques	3
	Credits	**12**
Semester 3		
FDMA 1535	Introduction to Illustrator	3

FDMA 2715	Special Effects	3
	Credits	**6**
	Total Credits	**30**

Graphics and Animation - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(24 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 24 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 2530	Introduction to 3D Modeling	3
Tracks		
Creative or Technical Track (courses listed below).		15
Total Credits		**24**

Creative Track

Prefix	Title	Credits
FDMA 1535	Introduction to Illustrator	3
FDMA 1710	2D Animation	3
FDMA 1720	3-D Character Design	3
FDMA 2715	Special Effects	3
FDMA 2730	Advanced Character Animation	3
Total Credits		**15**

Technical Track

Prefix	Title	Credits
DRFT 109	Computer Drafting Fundamentals	3
DRFT 114	Introduction to Solid Modeling	3
DRFT 165	Introduction to Building Information Modeling	3
Any Drafting Course		3
Approved related elective(s)		3
Total Credits		**15**

(24 credits)

A Suggested Plan of Study

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Graphics & Animation - Creative Track

Semester 1		Credits
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1535	Introduction to Illustrator	3
FDMA 2530	Introduction to 3D Modeling	3
	Credits	**12**
Semester 2		
FDMA 1710	2D Animation	3
FDMA 1720	3-D Character Design	3
FDMA 2730	Advanced Character Animation	3
FDMA 2715	Special Effects	3
	Credits	**12**
	Total Credits	**24**

Graphics & Animation - Technical Track

Semester 1		Credits
DRFT 109	Computer Drafting Fundamentals	3
FDMA 1220	Introduction to Digital Video Editing	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 2530	Introduction to 3D Modeling	3
	Credits	**12**
Semester 2		
DRFT 114	Introduction to Solid Modeling	3
DRFT 165	Introduction to Building Information Modeling	3
ANY DRFT course as an elective		3
Approved Related Elective - Choose one from the following:		3
DRFT 214	Advanced Solid Modeling	
FDMA 1710	2D Animation	
FDMA 1720	3-D Character Design	
FDMA 2730	Advanced Character Animation	
FDMA 2715	Special Effects	
	Credits	**12**
	Total Credits	**24**

Web Design - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(21 credits)

NOTE: Students must earn a final grade of C- or better in all required General Education and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 21 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
FDMA 1360	Web Design I	3
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1630	Principles of Design	3
FDMA 2360	Web Design II	3
FDMA 2365	Web Design for Small Business	3
FDMA 2325	Advanced Photoshop	3
Choose 3 credits from the following:		3
FDMA 1535	Introduction to Illustrator	
FDMA 1220	Introduction to Digital Video Editing	
FDMA 2285	Digital Video Production and Editing II	
FDMA 2150	Desktop Publishing II	
FDMA 1536	Advanced Computer Illustration	
OECS 128	Operating Systems Linux/Unix	
OECS 220	Database Application and Design	
Approved Web-Related Elective		
Total Credits		**21**

(21 credits)

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Students must complete all University certificate requirements to total at least 21 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FDMA 1515	Introduction to Digital Image Editing - Photoshop	3
FDMA 1360	Web Design I	3
FDMA 1630	Principles of Design	3
Choose one from the following:		3
FDMA 1220	Introduction to Digital Video Editing	
FDMA 1535	Introduction to Illustrator	
FDMA 1536	Advanced Computer Illustration	
FDMA 2150	Desktop Publishing II	
FDMA 2285	Digital Video Production and Editing II	
OECS 128	Operating Systems Linux/Unix	
OECS 220	Database Application and Design	
Approved Web-Related Elective		
	Credits	**12**

Semester 2		
FDMA 2325	Advanced Photoshop	3
FDMA 2360	Web Design II	3
FDMA 2365	Web Design for Small Business	3
	Credits	**9**
	Total Credits	**21**

Criminal Justice and Law Enforcement

Associate of Applied Science Degrees

- Corrections
- Law Enforcement

Associate of Criminal Justice Degree

The Corrections and Law Enforcement programs provide classroom instruction leading to an associate of applied science degree in the fields of corrections or law enforcement. These programs provide courses to prepare for entry-level careers in agencies at the local, state, and federal levels, as well as private agencies. Some of the career areas available to graduates are law enforcement, private security and related services, adult and juvenile corrections, probation and parole, law, and others.

Those currently working as career officers in corrections and law enforcement can also benefit from the program, which can provide them with a better understanding of their roles in the criminal justice system while helping them prepare for higher level positions within their organizations.

Required Skills and Abilities

Physical Abilities

This program requires that the student be able to—

- lift, carry and balance up to 125 pounds (250 pounds with assistance)
- assume a variety of postural positions and be capable of physical maneuvers ranging from crawling, kneeling, squatting, twisting, turning, and bending, to climbing stairs and ladders
- withstand varied environmental conditions such as extreme heat, cold, and moisture.

Technology Competencies

In an effort to assist students with adequate preparation for their coursework at DACC, technology competencies have been identified and established. These competencies are in effect for all courses taken in the Corrections, Law Enforcement and Criminal Justice programs. Students must possess the following minimum competencies. Additional competencies may be required for particular courses/programs:

- Access course and program material on the Web using Mozilla Firefox and/or MS Internet Explorer
- Correspond with DACC students and faculty using e-mail and the Web
- Read/print e-mail and attachments/files from students and faculty
- Complete, send, and receive assignments using e-mail and attachments/files
- Use the DACC Library e-books, e-journals, databases, or credible World Wide Web resources for research and completion of course assignments

- Prepare and conduct presentations in the classroom using presentation equipment as required.
- Use the appropriate software for a given course (DACC uses as standards Microsoft products, including MS Word, MS Project, MS Excel, and MS PowerPoint)
- Use CD-ROMs when required as part of course assignments
- Use an appropriate anti-virus application to insure the files transmitted and received are virus free
- Use recommended plagiarism review software to insure work is not plagiarized

Private Security Background Checks for Corrections and Law Enforcement Majors

Every student focusing on the related career fields of fire, law enforcement, Homeland Security, private security, corrections, parole or probation will at some point be subject to a background and criminal history check.

A background check requires that a student complete a multi-part background questionnaire identifying most of the following:

- All names and aliases used; marriages and divorces
- Previous home and work addresses, names of employers, teachers, and schools, including dates of work and attendance and or transcripts
- Medical history including any mental health or drug use
- Credit history
- Criminal history to include arrests, traffic and infraction tickets (Juvenile arrest histories may not be shielded from background checks even if the juvenile record has been sealed.)
- Military service record
- Driving record, suspensions, tickets and possession of a current driver's license
- Citizenship and/or immigration status to include birth certificate and valid social security number
- And any other background informational requirements unique to each agency
- Current and past Internet social networking information, profiles, postings, e-mail addresses, and cyber-vetting

NOTE: The following categories will eliminate a person from access to internships, training academies, off-site law enforcement related work-study opportunities, and most criminal justice related jobs:

- Arrest for domestic violence, DUI/DWI, drug use and possession, felony crimes, and misdemeanor crimes (agency dependent)
- Mental impairment based on mental illness and/or drug-alcohol abuse
- False statements on an application or background check
- Social networking or Internet postings deemed inappropriate or damaging to a candidate's reputation or reputation of potential hiring entities; also, any postings, images, etc., demonstrating a lack of moral turpitude
- Violations of laws involving moral turpitude
- Bad credit
- Objectionable visible body art, body modifications or piercings (tattoos on the neck may also disqualify if visible while participating/working)
- Failure to pass any job-related testing process, including, but not limited to, the following: written examination, oral interview board, physical fitness exam, background check, polygraph examination, psychological examination, medical examination

Degrees

Associate of Applied Science Degree in Corrections

The associate of applied science degree in corrections emphasizes the correctional aspect of the criminal justice systems and offers a broad understanding of correctional institutions and alternatives. General studies are offered to students seeking employment in confinement facilities, institutional security, and other similar programs. The student also is prepared to work in adult and juvenile correctional agencies at the local, state, and federal levels.

Workers in the corrections field are responsible for overseeing individuals who have been arrested and are awaiting trial or who have been convicted of a crime and sentenced to serve time in a jail, reformatory, or penitentiary. The majority of officers are employed by local, county, state, and federal institutions.

While the primary mission of corrections is protection of the public, many officers are involved in the treatment, education, and reintegration of offenders. These officers may find employment as wardens, jail administrators, program coordinators and counselors, public information officers, correctional trainers, case managers, probation/parole officers, corrections officers, detention officers or other related careers.

NOTE: An articulation agreement exists with the New Mexico Corrections Department that makes it possible to receive college credit for experience and/or training.

Associate of Applied Science Degree in Law Enforcement

The associate of applied science degree in law enforcement emphasizes the law enforcement aspect of the criminal justice system. This degree offers the law enforcement student a general understanding of the police officer's multifaceted role in the United States. It also prepares the student with the basic foundations of police work for possible employment opportunities with local, state and federal governments, and private industry.

Most law enforcement officers are employed by the security industry and local, county, and state governments. They have duties that range from providing security to controlling traffic to preventing and investigating crimes. They maintain order, enforce laws and ordinances, issue traffic summonses, investigate accidents, present evidence in court, serve legal documents for the court system, and apprehend, arrest and process prisoners. Career opportunities include positions as private investigators, security officers, loss-prevention officers, police officers, sheriff and deputy officers, criminal investigators, game wardens, private detectives, and bailiffs.

Many law enforcement agencies encourage the applicants to take post-secondary school training in law enforcement-related subjects. Many entry-level applicants for police jobs have completed some formal post-secondary education and a significant number are college graduates. Knowledge of a foreign language is an asset in many federal agencies and urban departments.

Additional information on professional requirements and qualifications may be obtained from the U.S. Department of Labor, Bureau of Labor Statistics, at www.bls.gov (https://www.bls.gov).

NOTE: An articulation agreement exists with the New Mexico Department of Public Safety that makes it possible to receive college credit for experience and/or training.

The Associate Degree in Criminal Justice

The associate of criminal justice introduces students to three facets of the criminal justice system: police, courts, and corrections. Broadly interdisciplinary—embracing the study of law, the humanities, and the natural, behavioral, and social sciences—the curriculum prepares students to transfer into the NMSU bachelor's degree program in criminal justice, or the bachelor of applied studies, at the junior level.

Corrections - Associate of Applied Science (p. 237)

Criminal Justice - Associate of Criminal Justice (p. 238)

Law Enforcement - Associate of Applied Science (p. 239)

Public Safety First Line Supervisor - Certificate of Achievement (p. 240)

CJUS 1110G. Introduction to Criminal Justice
3 Credits (3)
This course provides an overall exploration of the historical development and structure of the United States criminal justice system, with emphasis on how the varied components of the justice system intertwine to protect and preserve individual rights. The course covers critical analysis of criminal justice processes and the ethical, legal, and political factors affecting the exercise of discretion by criminal justice professionals.
Learning Outcomes
1. Describe the history, structure and function of the criminal justice system in the United States.
2. Discuss the role of law enforcement, court systems, corrections, and security in maintaining social order.
3. Identify and describe crime causation theories, various measures of crime and their reliability and victimization theories.
4. Relate fundamental principles, concepts and terminology used in criminal justice to current events.
5. Apply basic analytical and critical thinking skills in evaluating criminal justice issues, policies, trends and disparities.

CJUS 1120. Criminal Law
3 Credits (3)
This course covers basic principles of substantive criminal law including elements of crimes against persons, property, public order,public morality, defenses to crimes, and parties to crime. May be repeated up to 3 credits.
Learning Outcomes
1. Explain the concepts of substantive criminal liability in the United States, including actus reas, mens rea, causation, concurrence, and parties to crime.
2. Define the differences between criminal law and civil law in the United States.
3. Demonstrate basic knowledge of legal terminology as it relates to criminal law.
4. Identify the elements of crimes against persons, property, public order and the administration of justice, public morality, and the inchoate crimes.
5. Describe the various defenses to crimes.

CJUS 1996. Special Topics in Criminal Justice
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. May be repeated under different topics for a maximum of 6 credits.
Learning Outcomes
1. Varies

CJUS 2120. Criminal Courts and Procedure
3 Credits (3)
This course covers the structures and functions of American trial and appellate courts, including the roles of attorneys, judges, and other court personnel, the formal and informal process of applying constitutional law, rules of evidence, case law and an understanding of the logic used by the courts.
Learning Outcomes
1. Explain the application of the Constitutional Amendments that apply to criminal justice.
2. Explain and describe the dual court system in the U.S. and how courts enforce the rule of law.
3. Identify and list the duties and requirements of the courtroom workgroup.
4. Describe courtroom procedures, rules of the court, and due process of law.
5. Articulate basic knowledge of the U.S. criminal court system.
6. Define legal terms.
7. Explain the use of discretion in criminal procedure.
8. Differentiate the role of courts of limited jurisdiction, courts of general jurisdiction, and the appellate courts in the processing of criminal cases.

CJUS 2140. Criminal Investigations
3 Credits (3)
This course introduces criminal investigations with in the various local, state, and federal law enforcement agencies. Emphasis is given to the theory, techniques, aids, technology, collection, and preservation procedures which insure the evidentiary integrity. Courtroom evidentiary procedures and techniques will be introduced. Community Colleges only. (Note: students completing CJUS 2140 may not take CJUS 321.)
Learning Outcomes
1. Identify developments in investigation technology.
2. Identify common types of criminal investigations and their key components.
3. Apply proper crime scene investigative protocols.
4. Explain proper evidentiary gathering and handing procedures, and utilize various interviewing techniques.
5. Identify and compare different law enforcement agencies and the role they play in criminal investigations.
6. Describe proper collection, evidence preservation, documentation, and court presentation.
7. Develop effective search authorization.

CJUS 2150. Corrections System
3 Credits (3)
This course introduces the corrections system in the United States, including the processing of an offender in the system and the responsibilities and duties of correctional professionals. The course covers the historical development, theory, and practice, as well as the institutional and community-based alternatives available in the corrections process.

Learning Outcomes

1. Describe the purposes of the corrections system and the issues facing the corrections system.
2. Explain the components of the corrections system and describe their functions.
3. Compare and contrast the different forms of correction practices.
4. Explain the goals of corrections, the different factors affecting the sentencing process, the legal rights of prisoners, and the issues concerning prison violence.
5. Explain the impact of reentry into society.
6. Identify the issues concerning capital punishment.
7. Describe the effectiveness of various correction programs on offenders.

CJUS 2160. Field Experience in Criminal Justice
3-6 Credits

This course is designed to provide actual experience working for a criminal justice agency and the opportunity to apply criminal justice concepts and theory to a field situation. Students already working in an agency will complete an approved learning project while on the job. **Prerequisites:** CJUS 1110G, prior arrangement and consent of instructor and a GPA of 2.0 or better in major.

Learning Outcomes

1. Obtain practical experience by observing, researching, and working in a criminal justice agency.
2. Apply the knowledge of principles, theories, and methods that were learned in the classroom to situation in which field experience will be devoted
3. Instill an understanding for general and specific problems that criminal justice agencies encounter on a daily basis.
4. Develop a professional work ethic and attitudes, including reliability, professional responsibility, and the ability to work cooperatively with others.

CJUS 2220. The American Law Enforcement System
3 Credits (3)

This course covers the historical and philosophical foundations of law and order, with an in-depth examination of the various local, state, ad federal law enforcement agencies and how they interact within the criminal justice system.

Learning Outcomes

1. Discuss, evaluate, and analyze the role of police in the democratic society today, and the historical development of modern day law enforcement
2. Define and explain the different types of community policing and the valid reasons behind their application within a community
3. List and discuss the ways to overcome the barriers to change within a police organization, good recruitment, screening, and retention of employees
4. Analyze and discuss the history of and the different types of police patrol, as well as the use of force and deadly force, and methods used for controlling police behavior
5. Describe and discuss the different types of police behavior, potential oversight, and remedy and their limitations
6. List and discuss the benefits of higher and continued education, along with the minimum educational requirements for police officers
7. Evaluate and discuss the reasons for police stress and the methods of dealing with stressors
8. Interpret current court cases, both state and federal, that affect police procedures

LAWE 180. Public Safety First Line Supervisor
3-6 Credits (3-6)

This course is designed to enhance public safety personnel's human resource management and reduce organizational liability. Consent of Instructor required. Restricted to Community Colleges campuses

Learning Outcomes

1. Describe and explain police administration.
2. Explain and discuss the various leadership and management theories.
3. Define and discuss the various types of leadership skills and management styles.
4. Express and discuss the role of the police administrator and police administration.
5. Explain the leadership required of police administrators for an effective Law Enforcement administration.
6. Describe and interpret the "quality approach to managing community relations"
7. Explain and discuss the necessities of introducing organizational change.
8. Explain and discuss the planning, programming and budgetary process including: variables that affect the decision-making process.
9. Analyze and discuss the role of effective communications in a police organization including negotiations and conflict resolution. 1
10. Explain and analyze the role of human resources in the organization including: their role in the recruitment and selection process; training; performance evaluations; promotions; and assessment centers. K) Discuss the role of police unions and explain their significance in labor relations.

LAWE 201. Introduction to Juvenile Delinquency
3 Credits (3)

An introductory overview of the juvenile justice system of due process, custody, detention and release. Note: course does not meet upper division requirements towards completion of Bachelor of Science in Criminal Justice. Restricted to: Community Colleges Only.

Learning Outcomes

1. Explain the foundations of today's juvenile justice system - including the history and philosophy behind contemporary practices.
2. Identify and explain theories of juvenile offending and victimization.
3. Communicate what risk and protective factors contribute to juvenile victimization and offending.
4. Describe juvenile involvement with police, courts, and corrections.
5. Compare and contrast the effectiveness of interventions that can prevent delinquency or decrease recidivism rates.
6. Articulate and analyze potential avenues for reforming the juvenile justice system.
7. Exhibit familiarity and comfort with original source materials in the field of juvenile delinquency.
8. Demonstrate competency in writing about juvenile delinquency, utilizing original source materials.

LAWE 202. Police Patrol Procedures
3 Credits (3)

A critical review of police procedures and the influences on police behavior; policy development, including the police role; discretion; police

community interaction and arrest, search and seizure. Restricted to: Community Colleges only.

Learning Outcomes

1. Define and discuss the definition of police patrol and operations including their significance within the criminal justice system.
2. Identify and discuss the special proceedings in the criminal law process including detention, arrest, as well as search and seizure.
3. Explain and discuss the exceptions to search warrant requirements including stop and frisk, search incident to arrest, consent searches, plain view doctrine, search and seizure of vehicles, and containers, as well as abandoned property.
4. Identify and explain the police patrol functions and responsibilities and the need for building credibility by maintaining ethics and integrity in the application of law.
5. Identify and discuss the most frequent incidents encountered by the law enforcement officer and the suggested method for handling.
6. List and discuss the methods, modes and techniques of conducting police patrol including goals of crime detection, keeping the peace, maintenance of equipment, and their impact on the community.
7. Review and discuss the New Mexico Uniform Traffic Laws including apprehension methods of citation, and traffic investigations.

LAWE 203. Introduction to Police Supervision
3 Credits (3)

An introductory overview of police supervision and concerns as it applies to law enforcement. (Note: Course does not meet upper division requirements toward completion of Bachelor of Science in Criminal Justice.) Restricted to: Community Colleges only.

Learning Outcomes

1. Describe and explain police administration.
2. Explain and discuss the various leadership and management theories.
3. Define and discuss the various types of leadership skills and management styles.
4. Express and discuss the role of the police administrator and police administration.
5. Explain the leadership required of police administrators for an effective law enforcement administration.
6. Describe and interpret the "quality approach to managing community relations".
7. Explain and discuss the necessities of introducing organizational change.
8. Explain and discuss the planning, programming and budgetary process including variables affecting the decision-making process.
9. Analyze and discuss the role of effective communications in a police organization including negotiations and conflict resolution. 1
10. Explain and analyze the role of Human Resources in the organization including their role in the recruitment and selection process, training, performance and evaluations, promotions, and assessment centers. 1
11. Discuss the role of police unions and explain their significance in labor relations.

LAWE 204. Introduction to Homeland Security
3 Credits (3)

A historical perspective of international and domestic terrorist threats and the need to develop cohesive response policies and practices in the interest of National Security. Course does not meet requirements towards completion of Bachelor of Science in Criminal Justice. Restricted to: Community Colleges only.

Learning Outcomes

1. Describe the rationale for the creation of the Department of Homeland Security.
2. Analyze the purpose of the DHS, its component agencies, and their specific function and role.
3. Understand and discuss the politico-social ramifications of DHS, including legal complications and issues.
4. Discuss terrorist organizations - their rationale, motivation, methodology, and its impact on DHS.
5. Discuss intelligence efforts, to include counter-intelligence, both within the United States and internationally.
6. Describe and analyze the creation of the United States Department of Homeland Security in its proper historical context.
7. Describe and analyze methodologies utilized by DHS to achieve its goals.
8. Describe and analyze the impact of security measures on American politics, culture, and international relations.

LAWE 206. Traffic Enforcement and Crash Investigations
3 Credits (3)

History and development of traffic laws and regulations, including basic elements of traffic violations, detection, apprehension, impaired drivers and guidelines and procedures for effective crash investigations and reporting. Restricted to: Community Colleges only.

Learning Outcomes

1. Students will analyze the application of the constitutional case studies and their relationships to due process.
2. Students will analyze the relationship between ethics and morality in relation to Criminal Justice and Law Enforcement practices.
3. Students will demonstrate how to conduct a traffic stop and felony stop.
4. Students will be able to perform a standardized field sobriety test.
5. Students will demonstrate how to take measurements at a crash scene and draw a field sketch.
6. Students will research online for medi and department of motor vehicle documents and present to the class.
7. Students will complete a FEMA online class.

LAWE 207. Legal Aspects of Law Enforcement
3 Credits (3)

An evaluation of police authority including responsibilities, civil liability, liability implications, legal obligations, legal restraints, laws of arrest, and search and seizure. Restricted to: Community Colleges only.

Learning Outcomes

1. Explain what constitutes evidence, including rules of evidence and role of the prosecution and defense.
2. Analyze the sequence of events in a typical criminal trial, from arrest through pretrial including the use of witnesses and types of questioning allowed during trial.
3. Identify and explain the basic concepts of evidence used in the American legal system.
4. Explain the general concepts involving witnesses' competency and privileged communications.
5. Analyze the basic elements including credibility and impeachment as it relates to serving as both a lay and expert witness.
6. Explain the rules and exceptions to hearsay testimony.
7. Discuss and explain the law of evidence as it relates to statements including admissions and confessions made by the accused in a criminal case.

8. Analyze the Fourth Amendment as it relates to the law of search and seizure, and the exclusionary rule as it relates to lineups and other identification procedures.
9. Discuss and explain the rules surrounding circumstantial evidence and admissibility of other crimes, acts, or wrongs.

LAWE 221. Law Enforcement Internship
3 Credits (3)
Application of knowledge, skills and abilities, in an agency as an intern and integrated member of a law enforcement affiliated agency.
Prerequisite: consent of instructor.

LAWE 233. Practical Approach to Terrorism
3 Credits (3)
Gives responders an overall safety approach in recognizing and responding to incidents involving terrorism. Presents an overview in types of harm, explosive weapons, chemical weapons, biological weapons and radiological weapons. Restricted to: Community Colleges only.
Learning Outcomes
1. Define Terrorism.
2. Explain the various harm threats that pose a significant risk to response personnel.
3. Define the response challenges terrorism acts pose to response personnel.
4. Explain the management of terrorism incidents.
5. Describe the various materials used in criminal/terrorist acts.
6. Explain the importance of developing in-depth response plans.
7. Explain the importance of preparing for terrorist acts.
8. Describe the various locations that may be subject to terrorist acts.
9. Describe the warning signs that may indicate a terrorist attack. 1
10. Explain the consideration that responders face during crime scene management. 1
11. Discuss the self-protective measures used by response personnel. 1
12. Explain the decontamination process involving weapons of mass destruction.

LAWE 255. Special Topics
1-3 Credits (1-3)
Introductory special topics of lower division level work that provides a variety of timely subjects and content material. Specific subjects to be announced in the Schedule of Classes. A passing grade of C- or better is required. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses
Learning Outcomes
1. Obtaining foundational skills in the administration of justice by differentiating the role of police and corrections in contemporary America.
2. Competence in the legal elements of constitutional, criminal, and substantive law, rules of evidence, search and seizure, and the role of the courts in the adjudication of the law in America.
3. Ability to identify, analyze, and synthesize knowledge from discipline-specific courses in criminalistics, legal aspects, homeland security, terrorism, and patrol operations to effectively conduct a practical field investigation and traffic crash investigation.
4. Ability to develop a criminal justice ethical perspective consistent with 21st century America to, effectively and ethically, perform a criminal justice role in law enforcement or corrections.
5. Basic crime scene management, crime scene note-taking techniques, collection of evidence, and case presentations.
6. An application of knowledge, skills, and abilities, as an intern or integrated member of a criminal justice affiliated agency.

LAWE 298. Independent Study
3 Credits (3)
Individual studies directed by the consenting faculty with prior approval of the department chair. A passing grade of C- or better is required. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses
Prerequisite(s): Sophomore standing with a 3.0 or better GPA.
Learning Outcomes
1. Obtaining foundational skills in the administration of justice by differentiating the role of police and corrections in contemporary America.
2. Competence in the legal elements of constitutional, criminal, and substantive law, rules of evidence, search and seizure, and the role of the courts in the adjudication of the law in America.
3. Ability to identify, analyze, and synthesize knowledge from discipline-specific courses in criminalistics, legal aspects, homeland security, terrorism, and patrol operations to effectively conduct a practical fietd investigation and traffic crash investigation.
4. Ability to develop a criminal justice ethical perspective consistent with 21 st century America to, effectively and ethically, perform a criminal justice role in law enforcement or corrections.
5. Basic crime scene management, crime scene note-taking techniques, collection of evidence, and case presentations.
6. An application of knowledge, skills, and abilities, as an intern or integrated member of a criminal justice affiliated agency.
7. Effective communication, orally and in writing, using appropriate references and technologies.
8. Analytical and critical thinking skills when solving complex issues in criminology and the criminal justice system.
9. Competence using and applying appropriate criminological theories on crime causation. 1
10. Competence in understanding and describing how gender, race, ethnicity, age, social class, and sexuality contribute to differing experiences in the criminal justice system. 1
11. Competence in understanding how the inter-dependence of the major components of the criminal justice system (i.e., police, courts, correctional agencies) affect victims, offenders, justice professionals, and society. 1
12. Competence in understanding and applying the fundamental elements of both criminal and constitutional law. 1
13. Competence in the legal foundation of criminal justice and the importance of due process.

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Website: https://dacc.nmsu.edu/academics/programs/criminal-justice-and-law-enforcement/index.html (https://dacc.nmsu.edu/academics/programs/criminal-justice-and-law-enforcement/)

Corrections - Associate of Applied Science

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Corrections

The Corrections degree emphasizes the correctional aspect of the criminal justice systems and offers a broad understanding of correctional institutions and alternatives.

Workers in the corrections field are responsible for overseeing individuals who have been arrested and are awaiting trial or who have been convicted of a crime and sentenced to serve time in a jail, reformatory, or penitentiary. The majority of officers are employed by local, county, state, and federal institutions.

While the primary mission of corrections is protection of the public, many officers are involved in the treatment, education, and reintegration of offenders. These officers may find employment as wardens, jail administrators, program coordinators and counselors, public information officers, correctional trainers, case managers, probation/parole officers, corrections officers, detention officers or other related careers.

NOTE: An articulation agreement exists with the New Mexico Corrections Department that makes it possible to receive college credit for experience and/or training.

NOTE: All courses in this program may be applied toward a Bachelor of Applied Studies of Individualized Studies degree at NMSU.

(60 credits)

NOTE: Students must earn a final grade of C- or better in all Criminal Justice (CJUS) and Law Enforcement (LAWE) courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV, and V; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
Select one mathematics/algebra course from Area II of the New Mexico General Education Requirements [2]		
Area IV: Social/Behavioral Sciences		
POLS 1120G	American National Government [3]	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy [3]	
General Education Elective		
COMM 1130G	Public Speaking [3]	3
or COMM 1115G	Introduction to Communication	
Core Requirements (6 Credits)		
PSYC 1110G	Introduction to Psychology [3]	3
SOCI 1110G	Introduction to Sociology [3]	3
Major Requirements		
Technical Requirements (28 Credits)		
CJUS 1110G	Introduction to Criminal Justice [3]	3
CJUS 1120	Criminal Law [3]	3
CJUS 2120	Criminal Courts and Procedure [3]	3
CJUS 2150	Corrections System [3]	3
CJUS 2160	Field Experience in Criminal Justice [3]	3
or LAWE 204	Introduction to Homeland Security	
LAWE 201	Introduction to Juvenile Delinquency	3
LAWE 207	Legal Aspects of Law Enforcement	3
LAWE 233	Practical Approach to Terrorism	3
Electives, to bring the total credits to 60		
Electives chosen in consultation with advisor		14
Total Credits		**60**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

NOTE: All courses in this program may be applied toward a Bachelor of Applied Studies of Individualized Studies degree at NMSU.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Criminal Justice (CJUS) and Law Enforcement (LAWE) courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		3
POLS 1120G	American National Government	
LAWE 201	Introduction to Juvenile Delinquency	3
CJUS 1110G	Introduction to Criminal Justice	3
Elective Course - chosen in consultation with academic advisor		3
	Credits	**16**

Semester 2		
Area II: Mathematics - Choose one course from NM General Education Area III		3
SOCI 1110G	Introduction to Sociology	3
CJUS 1120	Criminal Law	3
CJUS 2120	Criminal Courts and Procedure	3
Elective Course - Chosen in consultation with academic advisor		3
	Credits	**15**
Semester 3		
General Education Elective		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
CJUS 2150	Corrections System	3
LAWE 207	Legal Aspects of Law Enforcement	3
LAWE 233	Practical Approach to Terrorism	3
Area V: Humanities		3
PHIL 1115G	Introduction to Philosophy	
	Credits	**15**
Semester 4		
PSYC 1110G	Introduction to Psychology	3
CJUS 2160	Field Experience in Criminal Justice	3
Elective Course - Chosen in consultation with academic advisor		8
	Credits	**14**
	Total Credits	**60**

Criminal Justice - Associate in Criminal Justice

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NOTE: All courses listed under "General Education" and "Major Requirements" may be applied toward a bachelor's degree in criminal justice at NMSU. Students must earn a final grade of C- or better in ENGL 1110G Composition I, the Mathematics requirement(s), all Major requirements, and achieve a cumulative GPA of 2.0.

(60-61 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I	4
English Composition - Level 2		
Choose one from the following:		3
ENGL 2210G	Professional and Technical Communication Honors	
ENGL 2221G	Writing in the Humanities and Social Science	
Oral Communication		
COMM 1130G	Public Speaking	3
or COMM 1115G	Introduction to Communication	
Area II: Mathematics [1]		*3-4*
Area III/IV: Laboratory Science and Social/Behavioral Sciences [1]		*10*
CJUS 1110G	Introduction to Criminal Justice	
Area III: Laboratory Science [1]		
The courses below are recommended options for the second Area IV requirement. Any other Area IV courses are also acceptable.		
ECON 1110G	Survey of Economics	
or SOCI 1110G	Introduction to Sociology	
Area V: Humanities [1]		*3*
One of the following courses is recommended: Any other area V courses are also acceptable		
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
Area VI: Creative and Fine Arts [1]		*3*
Select one course from Area VI - Creative/Fine Arts [1]		
General Education Elective		
An additional Area IV: Social/Behavioral Sciences course is recommended [1]		3
Major Requirements		
CJUS 1110G is required for this degree and will count towards both General Education and Major Requirements		
CJUS 1120	Criminal Law [2]	3
CJUS 2120	Criminal Courts and Procedure [2]	3
CJUS 2140	Criminal Investigations [2]	3
CJUS 2150	Corrections System [2]	3
CJUS 2220	The American Law Enforcement System [2]	3
Electives, to bring the total credits to 60 [3]		13
Total Credits		**60-61**

1. See the General Education (p. 56) section of the catalog for a full list of courses
2. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
3. Electives should be selected in consultation with an academic advisor, the NMSU Catalog and the bachelor's degree requirements to ensure course transfer. Second language courses are recommended if they are required by the intended bachelor's degree.

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: All courses listed under "Core Requirements" and "Major Requirements" may be applied toward a bachelor's degree in criminal justice at NMSU. Students must earn a final grade of C- or better in ENGL 1110G Composition I, the Mathematics requirement(s), all Major requirements, and achieve a cumulative GPA of 2.0.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area II: Mathematics - Choose course in consultation with academic advisor.		3-4
Area IV: Social/Behavioral Sciences		3
CJUS 1110G	Introduction to Criminal Justice	
Area VI: Creative and Fine Arts - Choose one course from NM General Education Area VI. A list of courses can be found in the NMSU/DACC Catalog.		3
	Credits	**13-14**
Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication Honors or Writing in the Humanities and Social Science	
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area III: Laboratory Sciences - Choose one course from NM General Education Area III. A list of courses can be found in the NMSU/DACC Catalog.		4
CJUS 1120	Criminal Law	3
Elective - Choose elective in consultation with academic advisor. If student desires a bachelor in CJUS degree, Spanish or another language is recommended to meet the NMSU 2nd year fluency in a foreign language requirement. Reaching this level of proficiency can require up to 14 credits of coursework depending on student's language placement.		3
	Credits	**16**
Semester 3		
Elective Course		4
Area V: Humanities - PHIL 1120G, PHIL 1145G, PHIL 2110G, or PHIL 2230G recommended; however, any NM General Education Area V course is acceptable.		3
CJUS 2140	Criminal Investigations	3
CJUS 2220	The American Law Enforcement System	3
Elective - Choose elective in consultation with academic advisor. If student desires a bachelor in CJUS degree, Spanish or another language is recommended to meet the NMSU 2nd year fluency in a foreign language requirement. Reaching this level of proficiency can require up to 14 credits of coursework depending on student's language placement.		3
	Credits	**16**
Semester 4		
General Education Elective - An additional Area IV: Social/Behavioral Sciences course is recommended.		3
CJUS 2120	Criminal Courts and Procedure	3
CJUS 2150	Corrections System	3
ECON 1110G or SOCI 1110G	Survey of Economics or Introduction to Sociology	3
Elective - Choose elective in consultation with academic advisor. If student desires a bachelor in CJUS degree, Spanish or another language is recommended to meet the NMSU 2nd year fluency in a foreign language requirement. Reaching this level of proficiency can require up to 14 credits of coursework depending on student's language placement.		3
	Credits	**15**
	Total Credits	**60-61**

Law Enforcement - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

Law Enforcement

The Law Enforcement degree emphasizes the law enforcement aspect of the criminal justice system. This degree offers the law enforcement student a general understanding of the police officer's multifaceted role in the United States. It also prepares the student with the basic foundations of police work for possible employment opportunities with local, state and federal governments, and private industry.

Most law enforcement officers are employed by the security industry and local, county, and state governments. They have duties that range from providing security to controlling traffic to preventing and investigating crimes. They maintain order, enforce laws and ordinances, issue traffic summonses, investigate accidents, present evidence in court, serve legal documents for the court system, and apprehend, arrest and process prisoners. Career opportunities include positions as private investigators, security officers, loss-prevention officers, police officers, sheriff and deputy officers, criminal investigators, game wardens, private detectives, and bailiffs.

Many law enforcement agencies encourage the applicants to take post-secondary school training in law enforcement-related subjects. Many entry-level applicants for police jobs have completed some formal post-secondary education and a significant number are college graduates. Knowledge of a foreign language is an asset in many federal agencies and urban departments.

Additional information on professional requirements and qualifications may be obtained from the U.S. Department of Labor, Bureau of Labor Statistics, at www.bls.gov (https://www.bls.gov).

NOTE: An articulation agreement exists with the New Mexico Department of Public Safety that makes it possible to receive college credit for experience and/or training.

NOTE: All courses in this program may be applied toward a Bachelor of Applied Studies or Individualized Studies degree at NMSU.

(60 credits)

NOTE: Students must earn a final grade of C- or better in all Criminal Justice (CJUS) and Law Enforcement (LAWE) courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV, and V; students do not need to take additional courses to complete the General Education requirements.		

Area I: Communications- English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
One mathematics/algebra course selected from Area II of the New Mexico General Education Requirements [2]		
Area IV: Social/Behavioral Sciences		
POLS 1120G	American National Government [3]	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy [3]	
General Education Elective - Area I: Communications - Oral Communications		
COMM 1130G	Public Speaking [3]	3
or COMM 1115G	Introduction to Communication	
Core Requirements (6 Credits)		
PSYC 1110G	Introduction to Psychology [3]	3
SOCI 1110G	Introduction to Sociology [3]	3
Technical Requirements (30 Credits)		
CJUS 1110G	Introduction to Criminal Justice [3]	3
CJUS 1120	Criminal Law [3]	3
CJUS 2120	Criminal Courts and Procedure [3]	3
CJUS 2140	Criminal Investigations [3]	3
LAWE 201	Introduction to Juvenile Delinquency	3
LAWE 202	Police Patrol Procedures	3
LAWE 204	Introduction to Homeland Security	3
LAWE 206	Traffic Enforcement and Crash Investigations	3
LAWE 207	Legal Aspects of Law Enforcement	3
LAWE 233	Practical Approach to Terrorism	3
Electives, to bring the total to 60		
Electives - Chosen in consultation with academic advisor [4]		8
Total Credits		**60**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. Elective credit may vary based on prerequisites, dual credit, AP credit, and/or certificate coursework. The amount indicated in the requirements list is the amount needed to bring the total to 60 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

NOTE: All courses in this program may be applied toward a Bachelor of Applied Studies or Individualized Studies degree at NMSU.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in Criminal Justice (CJUS) and Law Enforcement (LAWE) courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		6
CJUS 1110G	Introduction to Criminal Justice	
POLS 1120G	American National Government	
LAWE 201	Introduction to Juvenile Delinquency	3
	Credits	**13**
Semester 2		
Area II: Mathematics - Choose one course from NM General Education Area II.		3
Area V: Humanities		3
PHIL 1115G	Introduction to Philosophy	
CJUS 1120	Criminal Law	3
CJUS 2120	Criminal Courts and Procedure	3
Elective - Chosen in consultation with academic advisor.		4
	Credits	**16**
Semester 3		
Area IV: Social/Behavioral Sciences		3
SOCI 1110G	Introduction to Sociology	
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
CJUS 2140	Criminal Investigations	3
LAWE 202	Police Patrol Procedures	3
LAWE 233	Practical Approach to Terrorism	3
	Credits	**15**
Semester 4		
Area IV: Social/Behavioral Sciences		3
PSYC 1110G	Introduction to Psychology	
LAWE 204	Introduction to Homeland Security	3
LAWE 206	Traffic Enforcement and Crash Investigations	3
LAWE 207	Legal Aspects of Law Enforcement	3
Elective - Chosen in consultation with academic advisor.		4
	Credits	**16**
	Total Credits	**60**

Public Safety First Line Supervisor - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(3 credits)

Students must complete all University certificate of achievement requirements to total at least 3 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but

may be needed in order to take the necessary English and Mathematics coursework.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Prefix	Title	Credits
Core Requirements		
LAWE 180	Public Safety First Line Supervisor	3

(3 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete all University certificate of achievement requirements to total at least 3 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 2.0.

Semester 1		Credits
LAWE 180	Public Safety First Line Supervisor	3
	Credits	**3**
	Total Credits	**3**

Culinary Arts

Culinary Arts - Associate of Applied Science Degree

Culinary Arts - Baking and Pastry - Certificate of Completion

Culinary Arts - Savory - Certificate of Completion

The Culinary Arts program trains chefs, pastry chefs, cooks, and bakers for positions in restaurants, resorts, institutions, cruise lines, hotels, and any venue where quality food is prepared. Working in state-of-the-art culinary laboratories, students learn, experiment, create, and define the future of gastronomy in our region.

The program leads to a Certificate of Completion in Culinary Arts in either Savory or Baking and Pastry specialties or an Associate of Applied Science (AAS) degree in a dynamic and in-demand profession that directly relates to the workforce needs of this region, while establishing the student's credentials to work in the food service industry. It is designed for students entering the culinary arts field, as well as those with previous experience who want to upgrade their professional skills.

A DACC Culinary Arts Certificate of Completion assures employers that graduates possess the knowledge and skills needed in the industry. The program has been designed to meet the requirements of the American Culinary Federation.

A DACC Culinary Arts AAS degree assures employers that graduates possess the knowledge and skills needed in the industry. The program has been designed to meet the requirements of the American Culinary Federation.

Culinary Arts degree students are required to provide their own tools (knives, etc.) and uniforms (specific uniform requirements are available from instructors).

NOTE: Because it is comprised primarily of vocational/technical courses, this Career and Technical Education program is not intended for transfer to a four-year institution. Students will be required to provide their own approved uniforms and equipment for laboratory courses. There may be a fee assessed for certain laboratory courses.

Special Admissions Criteria

Culinary Arts is a competitive-entry program. Prior to applying to the program, students will have completed, and passed with a C- or better, the courses required to be taken in their initial semester

Prefix	Title	Credits
CHEF 101	Culinary Arts Kitchen Orientation	3
CHEF 165	Math for Kitchen Operations	3

Students must have received their New Mexico Food Handler's Card prior to admission to the Culinary Arts program. Students may apply for entry into the cohort at the end of their first semester by preparing an essay detailing their career goals and reasons for seeking admission into the Culinary Arts program, participating in an oral interview with Culinary Arts instructors, and completing the admissions application documents.

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Culinary Arts - Baking & Pastry - Certificate of Completion (p. 248)

Culinary Arts - Savory - Certificate of Completion (p. 249)

CHEF 101. Culinary Arts Kitchen Orientation
3 Credits (3)
Provides students with basic information and skills necessary for success in the Culinary Arts program. Students learn basic kitchen routines, safety and sanitation, professional conduct and deportment, standard kitchen calculations, knife handling, and are introduced to the laboratories for initial cooking experiences. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Be able to discuss the appropriate wearing of the chef uniform and the safety reasons for it.
2. Demonstrate appropriate sanitation in the professional kitchen.
3. Demonstrate proper hand-washing techniques.
4. Demonstrate proper kitchen equipment use and layout.
5. Explain professional kitchen safety practices.
6. Demonstrate basic kitchen math skills.
7. Explain the purchasing cycle in a professional kitchen.
8. Discuss appropriate behavior in the kitchen.
9. Demonstrate basic knife skills. 1
10. Discuss basic sauce preparation and uses. 1
11. Understand real life issues in professional kitchens and variety of opportunities. 1
12. Explain the importance of culinary history.

CHEF 125. Introductory Cake Decorating
1 Credit (2P)

Introduction to the professional cake decorating techniques used by pastry chefs. Basic skills of piping a variety of icings into different patterns are taught. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Demonstrate understanding of basic cake decorating principles and techniques.
2. Identify and describe basic methods for cake decoration.
3. Understand methods of production for borders, flowers, colorflow methods, and basic figure piping.
4. Demonstrate understanding of frosting types and the advantages of each.
5. List the need for and uses of various types of specialty decorating equipment.
6. Identify types of labor-saving products that specifically relate to cake decorating.

CHEF 126. Intermediate Cake Decorating
1 Credit (2P)

Introduction to more advanced professional cake decorating techniques used by pastry chefs. Fondant work and more complex decorating schemes are taught.

Prerequisite: Grade of C- or better in CHEF 125.

Learning Outcomes

1. Demonstrate understanding of advanced cake decorating principles and techniques.
2. Identify and describe advanced methods for cake decoration.
3. Understand methods of production for borders, flowers, ribbons, bows, and various 3-dimensional techniques with fondant.
4. Demonstrate understanding of creating and working with fondant.
5. List the need for and uses of various types of specialty decorating equipment.
6. Identify types of labor-saving products that specifically relate to cake decorating.

CHEF 127. Chocolate Work
1 Credit (2P)

Introduction to working with chocolate utilizing a variety of methods. Tempering, forming, molding, and other professional techniques will be taught. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Name the physical properties of chocolate and the ingredients used in its preparation.
2. List the common equipment used in chocolate and confectionary preparation.
3. Explain the production of chocolate from the cacao pod to the finished product.
4. Identify a variety of chocolate products.
5. Explain the various procedures for tempering chocolate.
6. Prepare simple chocolate decorations and candies.

CHEF 128. Advanced Chocolate Work
1 Credit (2P)

More advanced treatments of chocolate are explored and professional techniques for the chocolatier are developed.

Prerequisite: Grade of C- or better in CHEF 127.

Learning Outcomes

1. Apply the various procedures for tempering chocolate.
2. Demonstrate understanding of physical properties of chocolate and the ingredients used in its preparation.
3. Construct elaborate chocolate sculptures and candies.
4. Inventory the common equipment used in chocolate and confectionary preparation.
5. Design and outline a sculpture incorporating a variety of chocolate and confectionary techniques.

CHEF 129. Wedding Cake Design and Construction
1 Credit (2P)

Basic skills in designing wedding (or other specialty event) cakes. Includes shaping, icing selection, decorating scheme, presentation, transportation, and remote set up. Restricted to Community Colleges campuses only.

Prerequisite: Grade of C- or better in CHEF 125 and CHEF 126.

Learning Outcomes

1. Apply the techniques of wedding cake decorating philosophies.
2. Combine the methods from Basic and Advanced Cake and incorporate it into creating a wedding cake.
3. Use previously learned methods of production of flowers, ribbons, bows and various other techniques to complete a wedding cake.
4. Identify types of labor-saving products that specifically relate to wedding cakes.
5. Formulate the proper techniques in delivering cakes to clients.

CHEF 155. Special Topics
1-3 Credits (1-3)

Specific subjects to be announced in the Schedule of Classes. May be repeated up to 6 credits.

Learning Outcomes

1. Competencies are based on the subject matter of the Special Topic.

CHEF 156. Sugar Work
1 Credit (1)

This course provides students with a comprehensive exploration of the principles, techniques, and artistic applications of sugar-based confectionery. The course begins with thread, then moves on to soft ball, firm ball, hard ball, then soft crack, hard crack and finally caramel. While students are learning these different stages, they are creating recipes that require using the different stages. This is a pre-requisite for Advanced Sugar Work. May be repeated up to 3 credits.

Learning Outcomes

1. Name the physical properties of sugar and the ingredients used in its preparation.
2. List the common equipment used in sugar and confectionary preparation.
3. Explain the production of sugar from the farm to the finished product.
4. Identify a variety of sugar stages and products.
5. Explain the various procedures for sugar preparations and their applications.
6. Prepare simple sugar decorations and candies.

CHEF 157. Advanced Sugar Work
1 Credit (1)

This advanced-level course delves into the intricacies of advanced sugar manipulation, focusing on techniques such as blown sugar, pulled sugar, and intricate sugar sculptures. Through a rigorous exploration of the chemical and physical properties of sugar, students will gain a profound comprehension of temperature control, crystallization, and the nuanced interplay of ingredients. The course places a strong emphasis on honing precision and innovation in sugar craftsmanship, ensuring that students

not only develop technical expertise but also cultivate a discerning eye for design and presentation. May be repeated up to 3 credits.
Prerequisite: Grade of C- or better in CHEF 156.
Learning Outcomes

1. Apply the various procedures for sugar confectionery.
2. Demonstrate understanding of the physical properties of sugar and the ingredients used in its preparation.
3. Construct elaborate sugar sculptures and candies.
4. Inventory the common equipment used in sugar and confectionery preparation.
5. Design and outline a sculpture incorporating a variety of sugar and confectionery techniques.

CHEF 158. Gum Paste
1 Credit (1)
This course offers a comprehensive exploration of the specialized artistry and techniques associated with the use of gum paste in pastry and confectionery. Tailored for students seeking an in-depth understanding of advanced sugar crafting, the curriculum focuses on the fabrication and manipulation of gum paste to create intricate and lifelike decorative elements. Students will delve into the scientific properties of gum paste, examining its pliability, drying characteristics, and color absorption, while gaining proficiency in crafting flowers, figurines, and ornate embellishments. The course places a strong emphasis on precision, attention to detail, and artistic expression in gum paste work. Through practical exercises, students will learn to design and construct elaborate cake decorations, showpieces, and other edible works of art. May be repeated up to 3 credits.
Learning Outcomes

1. Demonstrate understanding of gum paste flower-making principles and techniques.
2. Identify and describe advanced methods for gum paste flower making.
3. Understand methods of production for peonies, roses, and sunflower techniques with gum paste.
4. Demonstrate understanding of creating and working with gum paste.
5. List the need for and uses of various types of specialty decorating equipment.
6. Identify types of labor-saving products that specifically relate to gum paste flowers.

CHEF 159. Sculpted Cakes
1 Credit (1)
This course is designed to provide students with a comprehensive understanding and mastery of the intricate artistry involved in crafting three-dimensional and visually stunning cake sculptures. Participants will delve into the principles of structural engineering, cake carving, and fondant application to create edible masterpieces that push the boundaries of traditional cake design. The curriculum focuses on both the theoretical and practical aspects of sculpted cake creation, covering topics such as conceptualization, planning, and execution of complex designs. Students will develop proficiency in utilizing a variety of tools and techniques, including internal support structures, modeling chocolate, and edible paints. Through hands-on projects and collaborative exercises, students will refine their sculpting skills and gain the expertise required to transform cakes into visually captivating works of art. May be repeated up to 3 credits.
Learning Outcomes

1. Discuss the physical properties of cakes and the ingredients used in their preparation.
2. Describe the common equipment used in cake sculpting and confectionary preparation.
3. Identify a variety of ways to sculpt cakes into realistic shapes.
4. Explain the various procedures for working with cake and decorating tools.
5. Identify types of labor-saving products that specifically relate to sculpting cake.

CHEF 160. Asian Cookery
1 Credit (1)
This course offers an immersive exploration of the diverse and rich culinary traditions of Asia. The curriculum covers essential techniques, ingredients, and flavor profiles unique to each region, fostering an appreciation for the artistry and balance inherent in Asian cooking. Through hands-on experiences in the kitchen, students will develop the ability to execute traditional dishes while also exploring innovative and contemporary interpretations. Special attention is given to ingredient sourcing, flavor layering, and mastering the diverse cooking methods characteristic of Asian cuisine. May be repeated up to 6 credits.
Learning Outcomes

1. Identify the basic ingredients and palette of flavors of China, Korea, Japan, Vietnam, Thailand, Indonesia, and India.
2. Identify the cooking techniques of the major regions of Asia.
3. Describe unique cooking equipment or vessels used in these regions.
4. Apply basic cooking fundamentals to a variety of dishes from these regions.
5. Demonstrate previously learned principles of food safety and sanitation through professional work habits.
6. Accurately apply previously learned principles of culinary mathematics to a written project.

CHEF 161. Experimental Cookery
1 Credit (1)
This course in Experimental Cookery offers an innovative and intellectually stimulating exploration into the avant-garde realms of culinary creation. The curriculum transcends conventional boundaries to foster a deep understanding of experimental techniques, molecular gastronomy, and cutting-edge culinary trends. Students will engage in theoretical discussions on the principles of flavor pairing, texture manipulation, and creative plating, while also gaining hands-on experience in the kitchen to apply these concepts. The course encourages students to push the boundaries of traditional culinary practices, experiment with novel ingredients, and leverage modern technology to transform familiar dishes into gastronomic marvels. Emphasis is placed on developing a discerning palate, critical thinking skills, and the ability to adapt and innovate in response to evolving culinary landscapes. May be repeated up to 3 credits.
Learning Outcomes

1. Implement various cooking techniques such as sous-vide, molecular gastronomy, and infusion, to create innovative and experimental dishes.
2. Show food science principles and how they impact the cooking process to experiment with texture, taste, and presentation.
3. Analyze and adapt recipes to critically evaluate traditional experimenting with ingredient substitutions, flavor.
4. Collaborate on experimental menus in teams to showcase their collective skills and creativity.
5. Create fusion cuisine to explore the art of fusion cooking.

CHEF 162. Not So Traditional Holiday Cookery
1 Credit (1)
This course is tailored for students seeking a unique exploration of festive cuisines that break away from conventional holiday traditions. Delving into the global spectrum of celebratory dishes, this course aims to broaden students' culinary perspectives by introducing innovative and culturally diverse approaches to holiday cooking. The curriculum encompasses theoretical discussions on the historical, social, and cultural influences shaping non-traditional holiday cuisines, providing a context for the exploration of ingredients and techniques. Through hands-on experiences in the kitchen, students will learn to craft unconventional yet delectable holiday menus that reflect a fusion of flavors and culinary traditions. Emphasis will be placed on creativity, adaptability, and the development of well-balanced and aesthetically pleasing dishes. May be repeated up to 3 credits.
Learning Outcomes
1. Explore global culinary traditions by discussing diverse cultures and cuisines from around the world to discover non-traditional holiday dishes.
2. Create holiday-inspired dishes by adapting traditional holiday ingredients and concepts into modern and innovative dishes.
3. Incorporate seasonal and locally available ingredients to create non-traditional holiday dishes.
4. Develop a deeper knowledge and appreciation for cultural diversity by exploring the historical and social significance of non-traditional holiday dishes.
5. Design a non-traditional holiday menu collaborating to design a cohesive non-traditional holiday menu that showcases their culinary skills and creativity.

CHEF 165. Math for Kitchen Operations
3 Credits (3)
Fundamental mathematical concepts and computations, including measurement, recipe scaling and conversions, metric unit conversion, ingredient yield calculations, ratios and cost extensions are covered. Examples of basic mathematical calculations use kitchen and food service functions, as well as situations to demonstrate principles.
Learning Outcomes
1. Demonstrate mastery of basic math functions.
2. Calculate percentages when given data by which they may be derived.
3. Demonstrate accurate measurement calculations both in English and Metric systems.
4. Convert English to Metric measurements and vice versa with accuracy.
5. Demonstrate the ability to scale a recipe – expanding and reducing portions prepared.
6. Calculate recipe cost accurately.
7. Using standard yield factors for ingredients determine the required purchase amounts of the ingredients for a given recipe.
8. Using published baking recipe ratios, determine the quantities of ingredients required for baked goods.
9. Calculate inventory value and order quantities based on par stock and other systems.

CHEF 211. Food Production Management I
3 Credits (2+2P)
Introduction to kitchen design, workflow, and commercial equipment. Techniques, methods, and application of basic food production principles. Practical experience in cooking processes from a managerial viewpoint. Taught with: HOST 211. Restricted to Community Colleges only.
Learning Outcomes
1. Demonstrate understanding of workflow concept.
2. Understand basic principles of kitchen design/layout.
3. Identify and discuss use of commercial kitchen equipment.
4. Demonstrate safe working techniques in kitchen settings.
5. Observe and demonstrate comprehension of basic preparation techniques.
6. Apply knowledge of varied and appropriate methods of cooking.
7. Identify and describe physical and chemical change occurring during the cooking process.
8. Describe the flow of products through the operation from order to use.
9. Prepares a production order for meal service. 1
10. Explains the basic organization of typical restaurant kitchens. 1
11. Prepares a staffing chart for a hypothetical kitchen. 1
12. Discuss and identify trends in cooking and food preparation. 1
13. Show understanding concerning infusion of ideas and ingredients into cooking styles and technologies. 1
14. Demonstrate understanding of the link between customers and creativity by developing regional recipes.

CHEF 212. Food Production Management II
3 Credits (2+2P)
Selection and use of ingredients. Demonstration and application of classical and modern cooking and preparation techniques. Management techniques for kitchen personnel. Recipe design and analysis. Taught with: HOST 212. Restricted to Community Colleges only. May be repeated up to 3 credits.
Prerequisite: Grade of C- or above in CHEF 211 or consent of instructor.
Learning Outcomes
1. Demonstrate understanding of ingredient variety and availability.
2. Describe base sauces, mother sauces and derivations – both classical and modern.
3. Understand methods of preparation for protein products and application of varied cooking techniques.
4. Identify methods of preparation for side dishes, starches and vegetables.
5. Understand garde-manger functions and demonstrate knowledge of cold food preparation techniques.
6. Demonstrate understanding of buffet layout and design.
7. Understand the importance of appearance and demonstrate the ability to prepare appropriate garnish.
8. Apply elements of design, color, texture and structure as they relate to the presentation of food items.
9. Demonstrates understanding of recipe layout, structure and design. 1
10. Analyze recipes for functionality. 1
11. Understand rationale for standardized recipes and demonstrate ability to develop the same.

CHEF 213. Bakery Management I
3 Credits (2+2P)
Fundamentals of baking from a supervisory/management perspective. Exposure to commercial equipment and processes. Introduction to commercial alternatives to scratch-preparation methods. Crosslisted with: HOST 213. Restricted to Community Colleges only. May be repeated up to 3 credits.

Learning Outcomes

1. Identify and explain at least five common baking ingredients and demonstrate their use.
2. Describe and analyze the biological and chemical reactions that occur during baking.
3. Identify and describe Danish pastry production methods and individual sweet roll construction.
4. Recognize methods of bread production for both yeast and quick bread varieties.
5. Demonstrate various production techniques for pies, pastries, and cookies.
6. Identify different types of ovens and evaluate the advantages of each.
7. Identify and evaluate the necessity and functionality of various specialty baking equipment.
8. Identify types of labor-saving products that specifically relate to baking operations.
9. Demonstrate knowledge of value in using proof and bake products. 1
10. Demonstrate the application and proper utilization of convenience production items. 1
11. Explain need and rationale for use of mixes and pre-made products. 1
12. Demonstrate development of a baking formula. 1
13. Explain the importance of planning production times and products. 1
14. Discuss the challenges of staffing in baking operations.

CHEF 214. Bakery Management II
3 Credits (2+2P)
Advanced techniques and management of bakery operations are explored. Students learn classical forms and techniques. Modern methods of preparing traditional pastry and baked goods are introduced. Taught with: HOST218. Restricted to Community Colleges only. May be repeated up to 3 credits.
Prerequisite: Grade of C- or above in CHEF 213 or consent of instructor.
Learning Outcomes

1. Accurately calculates labor cost for hypothetical bakery operation.
2. Explains the importance and challenges of equipment scheduling in a bakery.
3. Uses appropriate baking ingredients for advanced baking processes.
4. Connects the biological and chemical reactions occurring during the baking process with the anticipated outcomes and products.
5. Demonstrates the production methods used in advanced baking processes.
6. Demonstrates artisan bread production for yeast bread varieties.
7. Produces torts, pastries and cakes.
8. Familiar with the specialty equipment used in advanced baking techniques.
9. Rationalizes the value of producing high-end bakery items. 1
10. Identify types of labor-saving products that specifically relate to production of high-end products. 1
11. Utilize the specialty convenience production items that support up-scale bakery products.

CHEF 233. Culinary Arts Fundamentals I
4 Credits (1+9P)
Introduction to the basics of culinary arts, including ingredients recognition, cooking methods and techniques, knife usage, preparation of basic stocks, mother sauces, starches and vegetables. Students will participate in laboratory work designed to create an understanding of the professional role of the culinarian. Preparation and production of food products integral to service to guests is incorporated in the course. Restricted to: CHEF, HOST majors. Restricted to Community Colleges Campuses only. May be repeated up to 4 credits.
Learning Outcomes

1. Describe the meaning and function of the mise en place concept.
2. Demonstrate knowledge of how kitchen equipment operates and ability to utilize equipment in safe and sanitary manner.
3. Identify ingredients for use in differing recipes and processes.
4. Discuss basic stocks and sauce preparation and their uses.
5. Apply principles of starch, vegetable and various egg cookery methods.
6. Utilize techniques for proper preparation of fruits, salads and dressings.
7. Demonstrate basic meat cookery methods and techniques.

CHEF 234. Culinary Arts Fundamentals II
4 Credits (1+9P)
Continuation of introductory course focusing on meat cookery, daughter sauces, cold food preparation, poultry and seafood. Safe use of equipment is emphasized while experiencing differing methods of preparation and cooking. Preparation and production of food products integral to service of guests is incorporated in this course. Restricted to: HOST,HSMG,CHEF majors. Restricted to Community Colleges campuses only.
Prerequisite: Grade of C- or better in CHEF 233.
Learning Outcomes

1. Demonstrate the ability to properly, and safely, operate all kitchen equipment.
2. Identify and explain the five major cooking techniques and their application to different foods.
3. Prepare basic dishes using one or more of the major cooking techniques.
4. Demonstrate the ability to accurately and safely perform basic knife cuts.
5. Evaluate the flavor and quality of cooked meat, poultry, fish, vegetables, starches, and legumes, as well as specialty soups.

CHEF 235. Advanced Culinary Arts I
4 Credits (1+9P)
Exploration and experience in preparation techniques beyond the basic level. Nutritional components of food are discussed, as in the application of good nutrition practices in recipe design. Students are encouraged to use creative methods to expand the individual's culinary expressions. Prepares food products for service to guests in both bulk feeding and individual service settings. Plans, prepares, serves and critiques meals provided for students, faculty and staff. May be repeated up to 4 credits.
Prerequisite/Corequisite: Grade of C- or better in CHEF 234 if course has been previously taken. Restricted to: CHEF majors. Restricted to Community Colleges campuses only.
Learning Outcomes

1. Create and compose menus for small meals and menu service.
2. Practice and prepare advanced dishes using the five major cooking techniques.
3. Demonstrate the ability to Perform basic and advanced knife cuts with accuracy, safety, and speed.
4. Manage and organize peers to produce a full menu for service.
5. Prepare and asses the flavor and quality of produce, meat, poultry and seafoods, and legumes.

CHEF 236. Advanced Culinary Arts II
4 Credits (1+9P)
Advanced techniques and experimental use of food combinations to enhance the student's repertoire of skills and abilities. Utilizes knowledge to develop recipes for unique products. Plans, prepares, serves and critiques meals provided for students, faculty and staff. May be repeated up to 4 credits.
Prerequisite: Grade of C- or better in CHEF 235.
Learning Outcomes
1. Create a diverse à la carte menu that features a wide variety of dishes, including appetizers, main courses, side dishes, and desserts.
2. Produce staffing plans for back of house and front of house.
3. Implement advanced culinary techniques to refine their culinary skills by mastering advanced cooking techniques of dishes to meet the standards of à la carte dining.
4. Develop expertise in food plating and presentation focused on the art of food plating and presentation to create visually stunning dishes.
5. Practice effective table service and hospitality.
6. Manage a simulated restaurant service experiencing the challenges and responsibilities of running a restaurant kitchen and dining area.
7. Evaluates meal service and critiques positive and negative aspects.

CHEF 237. Banquet/Catering Production
3 Credits (1+6P)
Planning and implementation of the culinary aspects of catered functions. Development of time schedules, work assignments and service plans for catered events and banquet functions. Production of food items in appropriate quantities for catered events. Costing and control functions are covered. May be repeated up to 6 credits.
Prerequisite: Grade of C- or better in CHEF 233.
Learning Outcomes
1. Evaluates event contract for requirements and restrictions.
2. Coordinates efforts of sales and production staffs to meet customer needs.
3. Develops menus for events within price / quality constraints of contract.
4. Plans event staffing, food production, and service organization.
5. Prepares food, stages and serves food products.
6. Evaluates production, service, and cost efficacy.

CHEF 240. Baking Fundamentals I
4 Credits (1+9P)
Introduction to baking techniques, measurement and use of ingredients; equipment use and chemical reactions inherent in the baking process. Production of simple desserts and baked goods. Introduction to working with bread doughs. May be repeated up to 4 credits.
Corequisite: Grade of C- or better in CHEF 233.
Learning Outcomes
1. Identify quality characteristics of a wide range of ingredients and baked products.
2. Describe the five major ingredients and their functions in baked products.
3. Demonstrate proficiency in scaling and measuring of ingredients.
4. Explain and demonstrate the basic fundamental techniques of baking and pastry.
5. Demonstrate the ability to properly, and safely, operate all bakeshop equipment.
6. Identify and describe basic formula of, custards, creams and batters.
7. Demonstrate principles of food safety and sanitation through professional work habits.

CHEF 241. Baking Fundamentals II
4 Credits (1+9P)
More advanced baking and bread making techniques are covered in this course with emphasis on the more advanced elements of quantity production. Students work with a variety of products and ingredients. May be repeated up to 4 credits.
Prerequisite: Grade of C- or better in CHEF 240.
Learning Outcomes
1. Construct complex desserts, pastries and cakes.
2. Apply the basic formulas of custards creams and batters.
3. Identify the function of yeast and other leaveners in breads.
4. Demonstrate the ability to produce enriched and specialty bread products.
5. Experiment with the differences in fundamental techniques of baking and pastry.

CHEF 242. Intermediate Baking I
4 Credits (1+9P)
More advanced baking and pastry techniques are covered in this course with emphasis on the basic elements of patisserie production. Focus is on preparing students to work in a pastry kitchen. May be repeated up to 4 credits.
Prerequisite: Grade of C- or better in CHEF 241.
Learning Outcomes
1. Produces acceptable quality cake items using standardized recipes.
2. Prepares tarts and pies as assigned, meeting quality standards.
3. Demonstrates use of puff pastry in a variety of advanced dessert items.
4. Prepares and utilizes frostings and icings appropriate to the item being produced.
5. Designs and decorates dessert items creatively.
6. Prepares baked custards and chilled mousse items that meet quality standards.
7. Produces high quality yeast bread products.

CHEF 243. Intermediate Baking II
4 Credits (1+9P)
Continuation of work with basic elements of patisserie products including laminated doughs and filled products. Students prepare creams, custards, fillings and are introduced to cake assembly procedures.
Prerequisite: Grade of C- or better in CHEF 242.
Learning Outcomes
1. Demonstrates ability to weigh/measure ingredients based on formula.
2. Explains the differences between recipes and formulas.
3. Discusses the different ingredients used in commercial baking and their uses.
4. Demonstrates the processes for making yeast doughs.
5. Demonstrates the making of sweet doughs.
6. Explains the use of the commercial equipment found in bakeries.
7. Explains how the chemical reactions in baked products effects the product.
8. Calculates the effect of heat of friction on the product.
9. Demonstrates scaling of large batch production into useable units.

CHEF 255. Special Topics
3 Credits (3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 6 credits. Restricted to: CULI, HOST, HSMG majors. Restricted to Community Colleges campuses only.

CHEF 256. International Cuisine
3 Credits (1+6P)
Exploration into a variety of international cuisines is undertaken, including the cultural and historical backgrounds of the foods being prepared. Students work on developing themed menus and production plans for meals utilizing a single international cuisine. May be repeated up to 6 credits.
Prerequisite: Grade of C- or better in CHEF 233.
Learning Outcomes
1. Develops menus as appropriate for assignment.
2. Writes recipes for items following standard procedures.
3. Prepares order lists for assignment.
4. Develops budget for assignment.
5. Cost National Dish recipes.
6. Designs a production list / station workload plan for assignment.
7. Under guidance, explores advanced cooking techniques.
8. Develop a palate of various ingredients.
9. Serves meals to guests following appropriate protocols. 1
10. Evaluates meal service and critiques positive and negative aspects.

CHEF 257. Garde Manger
3 Credits (1+6P)
Traditional garde manger skills are taught, including plated salads, cold foods, entrements, pates, forcemeat, terrines, charcuterie and chaud froid work. The art and craft of food design, preparation and service are emphasized. May be repeated up to 3 credits. Restricted to: CHEF, HOST majors. Restricted to Community Colleges campuses only.
Prerequisite: Grade of "C" or above in CHEF 233.
Learning Outcomes
1. Demonstrates preparation and presentation of plated salads.
2. Prepares sandwiches and other cold items as assigned that meet standards.
3. Develops, designs and prepares entremets and palate refreshers.
4. Prepares classical and modern patés and forcemeats as assigned.
5. Designs and prepares terrines and galatines following recipes and directions.
6. Prepares charcuterie products as assigned following recipes and directions.
7. Designs, prepares, and decorates products with chaud froid as appropriate.

CHEF 260. Nutrition for Chefs
3 Credits (3)
Aspects of basic human nutritional requirements are covered as are the applications of the standards to the cooking and baking. Meeting the USDA nutrient guidelines while preparing good tasting food is discussed, calorie, fat and sodium reduction techniques are explored. May be repeated up to 3 credits.
Learning Outcomes
1. Describes the functions of the various nutrients and their importance in human nutrition.
2. Explains how hydration impacts health.
3. Discusses the concept of balance and moderation in eating choices.
4. Explains how lifestyle choices impacts nutrition.
5. Discusses food fads and their challenge to the culinarian.
6. Catalogs the nutritional guidelines promoted by the USDA.
7. From the restaurant's perspective discusses the importance of being aware of customers' allergies and dietary restrictions.

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Culinary Arts - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

NOTE: Students must earn a final grade of C- or better in all designated CHEF courses and Major Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV, and VI		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I (or ENGL2210G, grade C- or higher) [3, 4]	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH, grade C- or higher) [5]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON)	
Area VI: Creative and Fine Arts		
ARTS 1145G	Visual Concepts (or any other Area VI course)	
General Education Elective [2]		*3-4*
Students need to take ONE additional course to complete the General Education requirement		
Core Requirements (6 Credits)		
CHEF 101	Culinary Arts Kitchen Orientation [3,4]	3

CHEF 165	Math for Kitchen Operations [3]	3
Major Requirements (29 Credits)		
HOST 203	Hospitality Operations Cost Control [4]	3
HOST 214	Purchasing and Kitchen Management [4]	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations [3,4]	3
CHEF 233	Culinary Arts Fundamentals I [4]	4
CHEF 234	Culinary Arts Fundamentals II [4]	4
CHEF 235	Advanced Culinary Arts I [4]	4
CHEF 236	Advanced Culinary Arts II [4]	4
CHEF 240	Baking Fundamentals I [4]	4
Electives, to bring the total credits to 60-61		
Select a minimum of 9 credits from any CHEF courses not listed above.		9
Total Credits		**60-61**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.
2 See the General Education (p. 56) section of the catalog for a full list of courses.
3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4 A grade of C– or better is required.
5 MATH 1130G Survey of Mathematics is required for the degree but students may need to take any prerequisites needed to enter MATH 1130G first.

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all designated CHEF courses and Major Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Summer		**Credits**
ECON 1110G	Survey of Economics (or higher ECON)	3
GEN Ed approved elective from any area		3-4
	Credits	**6-7**
Semester 1		
CHEF 101	Culinary Arts Kitchen Orientation	3
CHEF 165	Math for Kitchen Operations	3
CHEF 240	Baking Fundamentals I	4
CHEF 233	Culinary Arts Fundamentals I	4
	Credits	**14**
Semester 2		
MATH 1130G	Survey of Mathematics (or higher MATH, C- required)	3
ARTS 1145G	Visual Concepts (or any other Area VI Course)	3
CHEF 234	Culinary Arts Fundamentals II	4
CHEF Approved Elective - Any CHEF course not listed in requirements may be used.		3
	Credits	**13**
Semester 3		
HOST 203	Hospitality Operations Cost Control	3
ENGL 1110G	Composition I	4
CHEF 235	Advanced Culinary Arts I	4
CHEF Approved Elective - Any CHEF course not listed in requirements may be used.		3
	Credits	**14**
Semester 4		
HOST 214	Purchasing and Kitchen Management	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
CHEF Approved Elective - Any CHEF course not listed in requirements may be used.		3
CHEF 236	Advanced Culinary Arts II	4
	Credits	**13**
	Total Credits	**60-61**

Culinary Arts - Baking & Pastry - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(43 credits)

NOTE: Students must earn a final grade of C- or better in all Foundation, Major, and Elective Courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 43 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
Foundation Courses (12 Credits)		
CHEF 101	Culinary Arts Kitchen Orientation	3
CHEF 165	Math for Kitchen Operations	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
BCIS 1215	Introduction to MS Excel I	3
Major Courses (25 Credits)		
CHEF 125	Introductory Cake Decorating	1
CHEF 127	Chocolate Work	1
CHEF 156	Sugar Work	1
CHEF 240	Baking Fundamentals I	4
CHEF 241	Baking Fundamentals II	4
CHEF 242	Intermediate Baking I	4
CHEF 243	Intermediate Baking II	4
HOST 203	Hospitality Operations Cost Control	3
HOST 214	Purchasing and Kitchen Management	3
Elective Courses (6 Credits)		6
CHEF 126	Intermediate Cake Decorating	
CHEF 128	Advanced Chocolate Work	
CHEF 129	Wedding Cake Design and Construction	

CHEF 157	Advanced Sugar Work	
CHEF 158	Gum Paste	
CHEF 159	Sculpted Cakes	
Total Credits		**43**

(43 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Foundation, Major, and Elective Courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 43 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
CHEF 101	Culinary Arts Kitchen Orientation	3
CHEF 125	Introductory Cake Decorating	1
CHEF 165	Math for Kitchen Operations	3
CHEF 240	Baking Fundamentals I	4
CHEF 241	Baking Fundamentals II	4
	Credits	**15**
Semester 2		
CHEF 156	Sugar Work	1
CHEF 242	Intermediate Baking I	4
CHEF 243	Intermediate Baking II	4
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
BCIS 1215	Introduction to MS Excel I	3
	Credits	**15**
Semester 3		
CHEF 127	Chocolate Work	1
HOST 203	Hospitality Operations Cost Control	3
HOST 214	Purchasing and Kitchen Management	3
Electives - Chosen in coordination with faculty advisor.		6
	Credits	**13**
	Total Credits	**43**

Culinary Arts - Savory - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(37 credits)

NOTE: Students must earn a final grade of C- or better in all required Foundation, Major and Elective Requirement courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 37 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
Foundation Courses		
CHEF 101	Culinary Arts Kitchen Orientation	3
CHEF 165	Math for Kitchen Operations (or MATH 1130G or higher)	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
Core Elements		
CHEF 233	Culinary Arts Fundamentals I	4
CHEF 234	Culinary Arts Fundamentals II	4
CHEF 235	Advanced Culinary Arts I	4
CHEF 236	Advanced Culinary Arts II	4
HOST 203	Hospitality Operations Cost Control	3
Elective Courses (9 credits total required)		**9**
CHEF 237	Banquet/Catering Production	
CHEF 256	International Cuisine	
CHEF 257	Garde Manger	
CHEF 260	Nutrition for Chefs	
HOST 214	Purchasing and Kitchen Management	
Total Credits		**37**

(37 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Foundation, Major and Elective Requirement courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 37 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
CHEF 101	Culinary Arts Kitchen Orientation	3
CHEF 165	Math for Kitchen Operations (or MATH 1130G or higher)	3
CHEF 233	Culinary Arts Fundamentals I	4
CHEF 234	Culinary Arts Fundamentals II	4
	Credits	**14**
Semester 2		
CHEF 235	Advanced Culinary Arts I	4
CHEF 236	Advanced Culinary Arts II	4
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
	Credits	**11**
Semester 3		
HOST 203	Hospitality Operations Cost Control	3

Electives - Chosen in coordination with faculty advisor.	9
Credits	**12**
Total Credits	**37**

Dental Assistant

Dental Assisting Mission Statement

It is our mission to promote the educational advancement of dental assistants and the dental assisting profession. The program aims to enhance quality dental health care delivery to our diverse community through credentialing and professional activities. The program seeks to provide dental assisting students with the most recent advances in technology, materials, techniques, and equipment to be prepared when entering or being employed in the workforce system as dental assistants.

Goals

Goal 1:

Prepare students to successfully challenge the Dental Assisting National Board Radiation Health and Safety Examination

Goal 2:

Prepare students to successfully challenge the New Mexico Board of Dental Health Care (NMBODHC) Radiology Certification.

Goal 3:

Provide students with the knowledge and skills necessary to gain employment in the dental assisting field within 6 months of graduation.

Certificate of Completion

Dental assisting is a rewarding profession. Dental assistants like helping others and enjoy working closely with patients and other dental team members. Dental assistants are frequently relied on as the dentist's "other set of hands." Thus constantly challenging the dental assistant to expand and grow their knowledge and skill sets.

There is no lack of variety in the types of tasks that dental assistants perform. Some of the skills dental assistants perform include:

- prepare equipment, materials, and instruments for patient care;
- perform sterilization and disinfection procedures;
- provide patients with instructions both before and after dental procedures ;
- create temporary crowns, bleaching trays, custom trays, & custom fitted sport mouth guards;
- provide coronal polishing and fluoride treatments
- place pit & fissure sealants;
- take impressions of teeth;
- take patient vital signs, record or review medical histories and medications;
- provide individualized oral hygiene instruction for patients and/or parents:
- create study casts (molds);
- expose, develop, and mount dental radiographs;
- anticipate dental provider needs for patient procedure
- perform a variety of other duties surrounding patient care, infection control, and radiology

They may also be responsible for administrative tasks, such as billing, patient verification, scheduling various treatment appointments, ordering, and material inventory.

Assistants may work in a general practice office where a dentist provides multiple types of treatment, including restorative/operative work (fillings), prosthetics (crowns, bridges, and dentures), and perhaps some surgery. They may want to specialize in assisting periodontics, oral and maxillofacial surgery, endodontics, pedodontics, or orthodontics.

In the state of New Mexico, dental assistants can become certified to perform the following expanded duties:

- radiology (taking x-rays),
- coronal polishing (polishing of teeth and removal of stains),
- fluoride treatments (the act of placing fluoride on a patient's teeth) and
- sealant placement (used to prevent decay).

These certifications are obtained through the State Dental Board and are part of the Dental Assisting National Board Certification Exam.

Important Facts About This Certificate Program

Course Fees

In addition to tuition, a course fee of $250 is charged for DAST 1123 (https://catalogs.nmsu.edu/search/?P=DAS%20115) Dental Radiology.

Effective July 1, 2024, the Commission on Dental Accreditation (CODA) does not accredit this program.

Students who graduate from this program can apply for licensure in the State of New Mexico after completing the program and completing their DANB or New Mexico Board Approved Radiation Health and Safety Exam. For additional details regarding licensure in New Mexico, students must contact the New Mexico Board of Dental Health Care (https://www.rld.nm.gov/boards-and-commissions/individual-boards-and-commissions/dental-health-care/)

Students must check the licensure requirements in other states.

Required Skills and Abilities

- Students will need to demonstrate good oral expression (speech clarity) and written comprehension in English, critical thinking skills, near vision, and physical stamina (e.g., the ability to stand for long periods of time).
- Students must be able to manipulate dental/medical equipment, move/lift patients and equipment up to 60 pounds without assistance, and perform patient care procedures with manual dexterity.
- Successful applicants usually have a GPA of 3.0 or higher
- Must be able to operate dental X-ray units to expose radiographs.
- Must be able to participate in program-required events, including student club activities, community service learning, meetings, etc.
- Must understand and be aware of potential exposure to blood-borne pathogens in the dental environment and be aware that immunizations against blood-borne pathogens are highly recommended and or required for all dental professionals due to the risk of exposure.
- Must be able to assist with, and or perform CPR as needed.

- Must be able to participate in classroom, clinical, laboratory, and practicum activities according to program guidelines and requirements.
- Must adhere to all program guidelines and policies at all times.

Program Admission Special Requirements

The Dental Assistant program is a limited-entry, special-application program. When a candidate is considered for acceptance into the program, the following factors are taken into account:

- High school and/or college transcripts and a minimum GPA of 2.8; however, most admitted candidates have a 3.0 or higher.
- Proof of county residency
- Essay (following rubric and instructions included in the online application)
- Copy of current healthcare provider CPR card and proof of current immunizations
- Completing all program admission requirements as outlined in the program application.
- Complete the program application (submitted by deadline).
- Must participate in all program-required activities for admitted students.

Website:https://dacc.nmsu.edu/academics/programs/dental-programs/index.html (https://dacc.nmsu.edu/academics/programs/dental-programs/)

Dental Assistant - Certificate of Completion (p. 252)

Dental Assisting

DAST 1111. Dental Materials
2 Credits (2)
Covers the composition, properties, classifications, uses, and manipulation of materials commonly used in dentistry. Topics also include legal, ethical, and safety issues related to the use of dental materials. May be repeated up to 2 credits.
Learning Outcomes
1. Explain the properties, composition, handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Describe the legal and ethical considerations for using dental materials in a safe and responsible manner.
3. Describe the role of the dental auxiliary in the selection, preparation, and placement of dental materials.

DAST 1111L. Dental Materials Laboratory
1 Credit (1P)
The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.
Prerequisite: DAST 1111.
Learning Outcomes
1. Demonstrate the handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Demonstrate the role of the dental auxiliary in the legal, ethical, and safe use of dental materials.

DAST 1123. Dental Radiology
3 Credits (3)
This course focuses on the principles and techniques of dental radiography. Students will study radiation physics, hygiene, and safety protocols. Emphasis is placed on the fundamentals of intraoral and extraoral radiographic techniques, including exposure, quality assurance, and interpretation of radiographs. The course also covers patient selection criteria and explores other ancillary radiographic techniques.
Learning Outcomes
1. Explain the principles of radiation physics in the production of x-rays.
2. Discuss the effects of ionizing radiation on living tissues and implement appropriate safety measures.
3. Recognize appropriate receptors and exposure factors.
4. Differentiate intraoral and extraoral radiographic techniques including landmarks and interpretation.
5. Explain infection control protocols during all radiographic procedures.
6. Recognize legal and ethical considerations related to dental radiography.
7. Develop communication strategies as related to dental radiology.

DAST 1123L. Dental Radiology Laboratory
1 Credit (1P)
The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.
Corequisite: DAST 1123.
Learning Outcomes
1. Produce high-quality dental radiographs in a safe, legal and ethical manner.
2. Effectively communicate with and manage patients during radiographic procedures.

DAST 1515. Bio-Dental Science III
4 Credits (4)
An introduction to biomedical and dental sciences with emphasis on head and neck anatomy and tooth morphology. Includes microbiology, general anatomy and physiology, histology and embryology of the oral cavity, pathology and pharmacology as they relate to dentistry.
Learning Outcomes
1. Demonstrate the ability to express the history of dentistry, important contributions of historical figures to dentistry, and the importance of professional organizations.
2. Discuss how the study of microbiology relates to dentistry.
3. Utilize and demonstrate the ability to use basic anatomic terms to describe and identify structures of general human anatomy and physiology.
4. Identify and describe the structures associated with head and neck anatomy.
5. Identify, locate, and describe bones muscles, and major vessels of head and neck.
6. Summarize function and location of bones, muscles, and major vessels of the head and neck.
7. Differentiate between primary and permanent dentition by nomenclature, development, eruption patterns, and crown/root morphology.
8. Explain location, function, and dysfunctions of major salivary glands.
9. Summarize normal and abnormal actions of the temporomandibular joint. 1
10. Identify major areas and function of lymph nodes in the head and neck region. 1
11. Differentiate extra oral and intra oral landmarks. 1
12. Describe normal prenatal, embryonic and histological development with emphasis on face, neck, oro-facial structures and dentition. 1

13. Demonstrate the ability to be able to distinguish between normal and pathological abnormalities of the oral structures. 1
14. Describe the use/effect of pharmacological agents in dentistry.

DAST 1519. Clinical Procedures I
3 Credits (3)
This foundational course introduces essential chairside assisting skills and knowledge including patient care, infection control, safety, legal and ethical considerations. May be repeated up to 5 credits.
Learning Outcomes
1. Describe essential chairside assisting skills.
2. Explain patient care procedures while considering infection control and safety protocols.
3. Outline the legal and ethical implications of expanded functions.
4. Interpret the ethical and professional standards of conduct.

DAST 1519L. Clinical Procedures I Laboratory
2 Credits (2P)
Application of essential chairside assisting skills and knowledge including patient care, infection control, safety, legal and ethical considerations.
Learning Outcomes
1. Perform essential chairside assisting skills.
2. Demonstrate patient care procedures while considering infection control and safety protocols.
3. Apply the legal and ethical implications of expanded functions.

DAST 2222. Community Dental Health
2 Credits (2)
This course introduces the principles and practices of dental public health. Students will explore epidemiology and biostatistics, disease prevention and control, health promotion, and healthcare delivery. May be repeated up to 2 credits.
Learning Outcomes
1. Define the purpose and scope of dental public health.
2. Discuss the epidemiology and biostatistics of oral diseases.
3. Identify and analyze factors influencing oral health within communities.
4. Develop and implement community-based oral health education programs.
5. Provide Oral Health Education and Counseling.
6. Analyze and apply principles of research as related to public health.

DAST 2990. Dental Assisting Practicum
6 Credits (2+4P)
This course is the clinical component of the program that combines general practice and experiences in the work place. Seminar topics focus on the practicum experiences and critique of performance. May be repeated up to 6 credits.
Learning Outcomes
1. Assist the dentist chairside in general and specialty practices with procedures such as oral evacuation, instrument transfer, dental material preparation, various infection control procedures, and charting.
2. Perform various chairside, lab, and front office duties.
3. Work independently, but with direct supervision from licensed/certified dental assistant, hygienist or dentist in placement of rubber dam, coronal polishing, pit and fissure sealants, and topical fluoride and receive dental/medical information and take vital signs.
4. Expose, process, and duplicate radiographs in accordance with New Mexico Dental Regulations.
5. Educate patients about dental disease, plaque control, oral hygiene and the role of proper nutrition in managing dental disease and organize and participate a community project included in this objective.
6. Identify and manage medical emergencies in the dental environment.
7. Create study models, temporary crowns, custom trays, and mix a wide variety of dental materials.
8. Maintain aseptic and safe environment through proper disinfection and sterilization techniques with adherence to safety and OSHA guidelines.
9. Recognize and Adhere to HIPAA. 1
10. Manage the business/financial aspects of a dental practice (preparing insurance forms, appointment scheduling, answering telephone, bookkeeping, and inventory control). 1
11. Demonstrate ethical and professional behavior in the clinical setting. 1
12. Demonstrate competency in skills needed to function as a dental assistant, to include confidence in patient management, positive attitude about self, members of the dental team, and the dental profession. 1
13. Display professional dependability and ability to promote teamwork. 1
14. Demonstrate ethical decision making processes. 1
15. Define oral pathology and identify the dental assistant's role in this specialty.

Admissions information can be found on our webpage

Website: https://dacc.nmsu.edu/academics/programs/dental-programs/index.html (https://dacc.nmsu.edu/academics/programs/dental-programs/)

Admission questions must be directed to the following e-mail: dentalprogramsadmissions@dacc.nmsu.edu

Department Chair Contact Information:

Elmer E. Gonzalez, MBA, Ph.D., RDH, CDA.

Department Chair - Dental Programs

Office Location: DASH 84F

Phone: (575) 528-7216

E Mail: dentalprograms@dacc.nmsu.edu

Dental Assistant - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(28 credits)

NOTE: Students must earn a final grade of C or better in all required courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at

least 28 credits. Developmental coursework will not count toward the degree requirements and/or elective credits.

Prefix	Title	Credits
Core Requirements		
COMM 1130G	Public Speaking [1]	3
or COMM 1115G	Introduction to Communication	
or ENGL 1110G	Composition I	
BIOL 1130G	Introductory Anatomy & Physiology (non-majors) [1]	4
or BIOL 2210	Human Anatomy and Physiology I	
or BIOL 2225	Human Anatomy and Physiology II	
or BIOL 353	Pre-Professional Human Anatomy	
or BIOL 354	Physiology of Humans	
or SPMD 2225	Anatomy and Physiology II	
Technical Requirements		
DAST 1515	Bio-Dental Science III	4
or DHYG 2213 & DHYG 2214 & DHYG 2215 & DHYG 2223	Oral Histology and Embryology and Head and Neck Anatomy and Tooth Anatomy and Morphology and General and Oral Pathology	
DAST 1519	Clinical Procedures I	2
or DHYG 2210 & DHYG 2220	Preclinical Dental Hygiene Seminar and Clinical Dental Hygiene Seminar I	
DAST 1519L	Clinical Procedures I Laboratory	3
or DHYG 2212 & DHYG 2222	Preclinical Dental Hygiene and Clinical Dental Hygiene I	
DAST 1123	Dental Radiology	2
or DHYG 2216	Dental Radiology	
DAST 1123L	Dental Radiology Laboratory	1
or DHYG 2216L	Dental Radiology Lab	
DAST 1111	Dental Materials	2
or DHYG 2225	Dental Materials	
DAST 1111L	Dental Materials Laboratory	1
or DHYG 2225L	Dental Materials Laboratory	
DAST 2990	Dental Assisting Practicum	4
or DHYG 2232 & DHYG 2996	Clinical Dental Hygiene III and Special Topics in Dental Hygiene	
DAST 2222	Community Dental Health	2
or DHYG 2234	Research Methodology	
Total Credits		**28**

[1] Must be completed before a student can apply to the Dental Assistant program.

(28 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C or better in all required courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 28 credits. Developmental coursework will not count toward the degree requirements and/or elective credits.

Semester 1		Credits
SPRING		
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G or ENGL 1110G	Introduction to Communication or Public Speaking or Composition I	
BIOL 1130G or BIOL 2210 or BIOL 2225 or BIOL 353 or BIOL 354 or SPMD 2225	Introductory Anatomy & Physiology (non-majors) or Human Anatomy and Physiology I or Human Anatomy and Physiology II or Pre-Professional Human Anatomy or Physiology of Humans or Anatomy and Physiology II	4
	Credits	**7**
Semester 2		
SUMMER		
DAST 1515 or DHYG 2213 ***and*** DHYG 2214 ***and*** DHYG 2215 ***and*** DHYG 2223	Bio-Dental Science III or Oral Histology and Embryology ***and*** Head and Neck Anatomy ***and*** Tooth Anatomy and Morphology ***and*** General and Oral Pathology	4
DAST 1519 or DHYG 2210 ***and*** DHYG 2220	Clinical Procedures I or Preclinical Dental Hygiene Seminar ***and*** Clinical Dental Hygiene Seminar I	2
DAST 1519L or DHYG 2212 ***and*** DHYG 2222	Clinical Procedures I Laboratory or Preclinical Dental Hygiene ***and*** Clinical Dental Hygiene I	3
DAST 1123 or DHYG 2216	Dental Radiology or Dental Radiology	2
DAST 1123L or DHYG 2216L	Dental Radiology Laboratory or Dental Radiology Lab	1
	Credits	**12**
Semester 3		
FALL		
DAST 1111 or DHYG 2225	Dental Materials or Dental Materials	1
DAST 1111L or DHYG 2225L	Dental Materials Laboratory or Dental Materials Laboratory	2
DAST 2222 or DHYG 2234	Community Dental Health or Research Methodology	2
DAST 2990 or DHYG 2232 ***and*** DHYG 2996	Dental Assisting Practicum or Clinical Dental Hygiene III ***and*** Special Topics in Dental Hygiene	4
	Credits	**9**
	Total Credits	**28**

Dental Hygiene

Associate of Applied Science Degree

A dental hygienist is a vital member of a team of dental professionals dedicated to improving oral health and supporting the general health of individuals and groups. As licensed professionals, dental hygienists provide educational, clinical, and therapeutic services and may be involved in research, administration, client/patient advocacy, marketing, or consulting. Dental hygienists may practice in a variety of settings such as private dental offices, public health facilities, schools, nursing homes,

and hospitals. They may also work in correctional facilities, business and industry, and other settings.

Dental hygienists in a clinical setting perform oral and general health assessments and provide oral health instruction, as well as counseling regarding nutrition and healthy lifestyle and their impact on oral and general health. Dental hygienists take and interpret radiographs and provide many types of preventive services such as removing deposits from teeth, applying fluoride, placing sealants, and more. Infection control and emergency management are also important functions. Dental hygienists may be certified to provide local anesthesia in New Mexico and other states.

Dental hygienists enjoy working with people, have good manual dexterity, and enjoy working with their hands. They possess the maturity and critical thinking skills to provide current, quality, professional care. They have strong interpersonal skills to motivate and educate patients of all ages. Dental hygienists are lifelong learners and are dedicated to continuing education, enhancing the profession, and practicing ethical decision-making and behavior.

Dental hygienists are generally well-paid and are respected professionals in their communities. Job opportunities in the field are expected to grow 7 percent from 2022 to 2032. (U.S. Bureau of Labor Statistics). Graduation from this program qualifies students to take national and state examinations to become licensed dental hygienists anywhere in the country, and there are international employment opportunities for dental hygienists educated in the U.S.

Students wishing to pursue a Bachelor's degree should consult with an advisor regarding the transferability of courses in the prerequisite list as well as the dental hygiene curriculum.

The Dental Hygiene Program at Doña Ana Community College is accredited by the Commission on Dental Accreditation (CODA). For more information about accreditation, you can contact the Commission on Dental Accreditation (CODA) (https://coda.ada.org/)

Graduates of this program are eligible to apply for licensure in any State of The United States after completion of the program and successful completion of all required board examinations. Applicants must contact the licensing board of the state in which the graduate wants to obtain licensure, for more information on specific requirements.

Webpage: https://dacc.nmsu.edu/academics/programs/dental-programs/index.html (https://dacc.nmsu.edu/academics/programs/dental-programs/)

Required Skills and Abilities

- Students will need to demonstrate good oral expression (speech clarity) and written comprehension in English, critical thinking skills, near vision, and physical stamina (e.g., the ability to sit for long periods and move about freely).
- Applicants offered admission to the program usually have a GPA of 3.0 or better and a 3.3 or better in Science Courses such as Chemistry, and Biology.
- Be able to manipulate dental/medical equipment, move/lift equipment up to 30 pounds without assistance, and perform patient care procedures with manual precision.
- Must be able to expose radiographs and administer local anesthetics and nitrous oxide.
- Must be able to participate in all program-related activities, including, serving as a student partner during clinical practice and learning, student club activities, and required program community service learning events.
- Be able to assist with and or provide CPR as needed
- Must be able to clearly distinguish and see all colors to accurately identify pathology based on color.

Program Admission Special Requirements

- This is a limited-entry program.
- Faculty-student ratio in the clinical setting is 1-to-5. All science courses must be taken within 5 years before admission to the program. The application can be found on the program's webpage as well as a prospective student handbook outlining important information for new applicants to familiarize with.
- Applicants must be aware that although the program has a patient pool, applicants are responsible for securing patients to meet their clinical/graduation requirements.
- All applicants must be aware of exposure to bloodborne pathogens in the dental environment and the need to be immunized for the prevention of bloodborne diseases as a result of exposure in the dental environment.
- Applicants must also be certified in CPR annually and comply with training requirements set by the program once offered admission.
- Applicants must submit a completed application and all application requirements no later than the specified date on the application packet.

Core Requirements

General education and related classes are required prior to applying to the Dental Hygiene Program and are identical to those offered at New Mexico State University Las Cruces (main) Campus (26 credits) in addition to Comm 1115G, Psych 1110G & Soci 1110G (9 Credits) for a total of 38 Credits.

Prefix	Title	Credits
BIOL 2310 & 2310L	Microbiology and Microbiology Lab [1]	4
BIOL 2210	Human Anatomy and Physiology I for the Health Sciences [1]	4
BIOL 2225	Human Anatomy and Physiology II [1]	4
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	4
CHEM 2120	Integrated Organic Chemistry and Biochemistry [1]	3
ENGL 1110G	Composition I [1]	4
MATH 1220G	College Algebra [1]	3
Total Credits		**26**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

Course Fees

In addition to tuition, a fee of $400 is charged for each of the following courses:

Prefix	Title	Credits
DHYG 2222	Clinical Dental Hygiene I	4
DHYG 2227	Clinical Dental Hygiene II	2

DHYG 2232	Clinical Dental Hygiene III	5
DHYG 2242	Clinical Dental Hygiene IV	5

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DHYG 2210. Preclinical Dental Hygiene Seminar
3 Credits (3)
This foundational course provides dental hygiene students with the introductory knowledge, skills, and attitudes essential for success in the clinical setting emphasizing scientific principles, current theory, prevention of disease transmission, ethical and professional patient treatment and clinical preparation for comprehensive patient care.
Learning Outcomes
1. Describe infection control protocols for safe dental hygiene practice.
2. Identify equipment and materials for sterilization and disinfection.
3. Explain ergonomics and positioning strategies for safe patient and operator interaction.
4. Discuss time and motion management principles for clinical efficiency.
5. Describe protocols for medical emergency prevention and management.
6. Demonstrate the ability to obtain and record a comprehensive health history.
7. Identify key anatomical landmarks for patient assessment and charting.
8. Describe the properties and applications of preventive pharmacological agents.
9. List diagnostic and screening tools used in clinical examinations. 1
10. Recognize the importance of consistent patient assessment based on professional standards.

DHYG 2212. Preclinical Dental Hygiene
3 Credits (3P)
The Preclinical Dental Hygiene course introduces students to the fundamental principles of patient care, infection control, and clinical techniques. Students will develop foundational skills in instrumentation, patient assessment, and treatment planning, preparing them for direct patient care in future clinical courses. Specific clinical requirements are set for this program and may not be transferrable to other programs.
Learning Outcomes
1. Demonstrate universal precautions in clinical practice.
2. Apply methods of sterilization and disinfection.
3. Show proper patient/operator positioning techniques.
4. Demonstrate basic strategies for preventing medical emergencies.
5. Perform comprehensive patient assessments.
6. Apply fundamental principles of treatment planning.
7. Demonstrate proper instrumentation techniques for clinical care.
8. Practice ethical and professional behavior in patient interactions.

DHYG 2213. Oral Histology and Embryology
2 Credits (2)
This course provides a comprehensive introduction to the microscopic structures of the oral tissues and their embryological formation.
Learning Outcomes
1. Define and explain the concepts of dental histology and embryology.
2. Describe the embryological development, morphology, and histology of the human dentition and its associated structures.

DHYG 2214. Head and Neck Anatomy
3 Credits (3)
This course provides a comprehensive study of the anatomy and physiology of the head and neck regions with a specific emphasis on oral structures and their functions.
Learning Outcomes
1. Discuss the clinical applications of the study of head and neck anatomy by dental professionals.
2. Identify the anatomical structures of the head and neck.
3. Discuss normal anatomic variation and how it applies to different structures of the head and neck.
4. Identify deviations from normal, and how it applies to different structures of the head and neck.
5. Integrate the knowledge of head and neck anatomy into clinical practice of patient examination, dental radiology, and the future use of local anesthetics.

DHYG 2215. Tooth Anatomy and Morphology
2 Credits (2+1P)
This course provides a comprehensive study of human dentition, including their development and relationships within the oral cavity. Key areas of focus include universal charting, numbering systems, cavity classification, and laboratory activities enhance observational and clinical skills. May be repeated up to 2 credits.
Learning Outcomes
1. Describe the anatomy, physiology and stages of the human dentitions.
2. Explain the concept of occlusion and malocclusion.
3. Describe dental numbering systems and tooth identification.
4. Explain the eruption process and the eruption schedule for primary and permanent dentitions.

DHYG 2216. Dental Radiology
3 Credits (3)
This course focuses on the principles and techniques of dental radiography. Students will study radiation physics, hygiene, and safety protocols. Emphasis is placed on the fundamentals of intraoral and extraoral radiographic techniques, including exposure, quality assurance, and interpretation of radiographs. The course also covers patient selection criteria and explores other ancillary radiographic techniques.
Learning Outcomes
1. Explain the principles of radiation physics in the production of x-rays.
2. Discuss the effects of ionizing radiation on living tissues and implement appropriate safety measures.
3. Recognize appropriate receptors and exposure factors.
4. Differentiate intraoral and extraoral radiographic techniques including landmarks and interpretation.
5. Explain infection control protocols during all radiographic procedures.
6. Recognize legal and ethical considerations related to dental radiography.
7. Develop communication strategies as related to dental radiology.

DHYG 2216L. Dental Radiology Lab
1 Credit (1P)
The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course. May be repeated up to 1 credit.
Learning Outcomes
1. Produce high-quality dental radiographs in a safe, legal and ethical manner.

2. Effectively communicate with and manage patients during radiographic procedures.

DHYG 2220. Clinical Dental Hygiene Seminar I
3 Credits (3)
A continuation of clinical skills, patient assessment, treatment, scheduling, preventive techniques and application of dental hygiene procedures at the intermediate level. Work-based instruction that helps students synthesize new knowledge, apply previous knowledge or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical faculty.
Learning Outcomes
1. Explain fundamental principles of infection control and patient safety.
2. Describe methods for assessing oral health conditions.
3. Discuss strategies for ensuring efficiency and safety in clinical practice.
4. Analyze techniques used in preventive dental care.
5. Identify factors that influence patient health and treatment considerations.
6. Interpret patient assessment data for informed decision-making.
7. Discuss protocols for referrals and emergency management.
8. Evaluate approaches to patient education and communication.
9. Examine ethical and professional responsibilities in dental care. 1
10. Integrate evidence-based concepts into dental hygiene practice.

DHYG 2222. Clinical Dental Hygiene I
4 Credits (4P)
Building upon the foundational skills acquired in Preclinical Dental Hygiene, this course transitions students into the clinical setting where they begin providing care to patients. Emphasis is placed on applying infection control protocols, conducting comprehensive assessments, and implementing basic treatment plans with close faculty supervision. Specific clinical requirements are set for this program and may not be transferrable to other programs.
Learning Outcomes
1. Apply universal precautions in clinical care.
2. Perform effective sterilization and disinfection procedures.
3. Show proper patient/operator positioning during treatment.
4. Demonstrate emergency prevention strategies in patient care.
5. Conduct thorough patient assessments.
6. Implement treatment plans based on patient assessment.
7. Apply instrumentation techniques to remove deposits effectively.
8. Demonstrate ethical reasoning in clinical decision-making.

DHYG 2223. General and Oral Pathology
3 Credits (3)
Introduction to general pathology with focused study of diseases and disorders of the oral cavity and their interrelationship with body systems; developmental anomalies of the teeth and jaws; manifestations of disease in the oral cavity, head and neck.
Learning Outcomes
1. Describe pathological processes and their effects on the immune system and body organ systems.
2. Differentiate oral conditions based on clinical and radiographic characteristics for accurate diagnosis.
3. Assess oral lesions to determine their significance and the need for referral.
4. Communicate effectively about oral disease manifestations with healthcare professionals and patients.
5. Integrate oral pathology knowledge into treatment planning, patient education, and evidence-based care.

DHYG 2224. Periodontology
3 Credits (3)
Study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, evaluation of disease, treatment modalities, and therapeutic and preventative periodontics relative to the hygienist's role as a co-therapist in a contemporary practice setting.
Learning Outcomes
1. Describe the characteristics of healthy and diseased periodontium to support accurate diagnosis.
2. Classify periodontal diseases to guide treatment planning.
3. Explain the causes and progression of periodontal diseases and their impact on the periodontium.
4. Identify key considerations for periodontal surgical and nonsurgical treatments.
5. Discuss the influence of systemic health factors on periodontal disease progression and management.

DHYG 2225. Dental Materials
2 Credits (2)
Covers the composition, properties, classifications, uses, and manipulation of materials commonly used in dentistry. Topics also include legal, ethical, and safety issues related to the use of dental materials. May be repeated up to 2 credits.
Learning Outcomes
1. Explain the properties, composition, handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Describe the legal and ethical considerations for using dental materials in a safe and responsible manner.
3. Describe the role of the dental auxiliary in the selection, preparation, and placement of dental materials.

DHYG 2225L. Dental Materials Laboratory
1 Credit (1P)
The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course. May be repeated up to 1 credit.
Learning Outcomes
1. Demonstrate the handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Demonstrate the role of the dental auxiliary in the legal, ethical, and safe use of dental materials.

DHYG 2226. Medical and Dental Emergencies
2 Credits (2)
This course provides an overview of medical and dental emergencies encountered most frequently in the dental setting. The course also focuses on the recognition, prevention, preparation and management of these emergencies. It also provides the student with knowledge and techniques on how to address those emergencies should they occur.
Learning Outcomes
1. Describe the components and purpose of an emergency kit in managing medical emergencies in a dental setting.
2. Apply treatment protocols for managing medical emergencies during dental care.

3. Recognize abnormal vital signs and their implications for emergency intervention.
4. Explain the key steps in preparing a dental office for effective emergency management.
5. Demonstrate techniques for managing airway obstructions and foreign body aspirations in emergencies.

DHYG 2227. Clinical Dental Hygiene II
2 Credits (2)
Clinic II advances students' clinical competencies by refining their instrumentation techniques, treatment planning, and patient management skills. With increased independence, students will provide care for patients with varying oral health needs while learning to evaluate treatment effectiveness and make appropriate modifications. Specific clinical requirements are set for this program and may not be transferrable to other programs.
Learning Outcomes
1. Maintain universal precautions in all patient interactions.
2. Demonstrate adherence to sterilization and disinfection standards.
3. Apply patient/operator positioning to optimize clinical efficiency.
4. Assess patient risk factors to prevent medical emergencies.
5. Perform individualized treatment procedures.
6. Demonstrate precision in instrumentation techniques.
7. Evaluate patient responses and adjust treatment accordingly.
8. Apply ethical and professional standards to clinical practice.

DHYG 2228. Pain and Anxiety Management
2 Credits (2)
Study of the application of various physical, chemical, and psychological modalities to the prevention and treatment of preoperative and postoperative patient anxiety and pain. Emphasis on administration of local anesthesia and nitrous oxide.
Learning Outcomes
1. Explain the anatomy and physiology of nerve conduction, including pain transmission mechanisms and how they are influenced by local anesthetics.
2. Discuss the pharmacological properties, actions, contraindications, and potential adverse reactions of local anesthetic agents, vasoconstrictors, and nitrous oxide.
3. Evaluate the effects of local anesthetics on the central nervous system (CNS) and cardiovascular system (CVS), including recognition and management of adverse reactions.
4. Describe the biotransformation processes of esters and amides, the concept of drug half-life, and the clinical relevance of pKa and pH in anesthesia.
5. Identify clinical signs and symptoms of adverse reactions to local anesthetics and vasoconstrictors, and describe appropriate management protocols for these reactions.
6. List and explain the maximum recommended doses for local anesthetics and vasoconstrictors, and discuss dose modifications for children, adults, and patients with compromised health
7. Describe the steps to recognize and manage medical emergencies related to anesthesia administration, including syncope, allergic reactions, and cardiovascular complications.
8. Evaluate patient medical and dental histories to identify risk factors that may influence the selection of anesthetic agents and necessitate medical consultation.
9. Discuss proper protocols for handling sharps, preventing cross-contamination, and managing equipment used in local anesthesia. 1
10. Explain the importance of emergency preparedness in the dental office, including recognizing symptoms of undiagnosed medical conditions, responding to adverse drug reactions, and implementing emergency protocols to ensure patient safety.

DHYG 2228L. Pain and Anxiety Management Clinical
1 Credit (1P)
Clinical application of concepts learned in Pain and Anxiety Management. Emphasis on the administration and techniques of local anesthesia and monitoring nitrous oxide.
Prerequisite: C or better in DHYG 2228.
Learning Outcomes
1. Demonstrate the proper technique for administering local anesthetic injections, including infiltrations and nerve blocks, to ensure effective pain control and patient comfort.
2. Apply knowledge of intraoral landmarks to accurately and safely perform various local anesthetic injections, such as the ASA, PSA, IA, and mental nerve blocks.
3. Evaluate a patient's medical and dental history to identify contraindications and determine the appropriate anesthetic agents, vasoconstrictors, and techniques for treatment.
4. Administer nitrous oxide-oxygen sedation safely and effectively, monitoring the patient's physiological and psychological responses throughout the procedure.
5. Identify and manage adverse reactions or medical emergencies associated with the administration of local anesthetics, vasoconstrictors, or nitrous oxide, including syncope, allergic reactions, or toxicity.
6. Calculate and adjust dosages of local anesthetics, vasoconstrictors, and nitrous oxide based on patient factors such as age, weight, medical history, and health status.
7. Ensure proper handling and disposal of sharps and other equipment to maintain infection control and safety during anesthetic administration.
8. Educate patients about the procedure, expected outcomes, dosage safety, and post-operative considerations associated with local anesthesia and nitrous oxide sedation.

DHYG 2230. Clinical Dental Hygiene Seminar III
2 Credits (2)
Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on special needs patients. May be repeated up to 2 credits.
Learning Outcomes
1. Discuss advanced concepts in periodontal therapy and patient care.
2. Apply pharmacological principles to dental hygiene treatment.
3. Evaluate patient outcomes to guide treatment decisions.
4. Explore interdisciplinary approaches to comprehensive patient care.
5. Develop strategies for managing medical emergencies in a clinical setting.
6. Assess risk factors affecting oral and systemic health.
7. Discuss approaches to patient education and disease prevention.
8. Analyze patient documentation and follow-up care planning.
9. Examine strategies for long-term patient management and referrals. 1

10. Recognize the importance of self-assessment and ongoing professional development.

DHYG 2232. Clinical Dental Hygiene III
5 Credits (5P)
Clinic III, students manage more complex cases, requiring advanced critical thinking and problem-solving skills. They will integrate diagnostic tools, adapt treatment strategies, and demonstrate greater autonomy in decision-making. Emphasis is placed on professional judgment, ethical considerations, and comprehensive patient care. Specific clinical requirements are set for this program and may not be transferrable to other programs.
Learning Outcomes
1. Implement universal precautions.
2. Evaluate sterilization and disinfection protocols for effectiveness.
3. Demonstrate advanced patient/operator positioning techniques.
4. Develop strategies for managing medical emergencies.
5. Integrate diagnostic and assessment techniques into treatment planning.
6. Demonstrate critical thinking in managing complex patient cases.
7. Assess the effectiveness of treatment outcomes.
8. Apply ethical reasoning and professionalism in clinical decision-making.

DHYG 2233. Pharmacology
3 Credits (3)
Study of the pharmacologic aspects of drugs and drug groups with which the dentist and dental hygienist are directly and indirectly concerned. Emphasis is placed on nomenclature, origin, physical and chemical properties, preparation, modes of administration and effects of drugs upon the body systems.
Learning Outcomes
1. Identify the effects of commonly used drugs on dental treatment.
2. Describe strategies for managing drug interactions, medical emergencies, and oral manifestations related to drug use in dental practice.
3. Apply pharmacological principles to the management of patient care in a clinical dental setting.
4. Explain approaches to ensuring safe dental care for patients with complex medical histories.
5. Incorporate pharmacological knowledge and ethical considerations into dental care practices.

DHYG 2234. Research Methodology
2 Credits (2)
This course provides an introduction to the principles and application of research methods in social, behavioral and medical research.
Learning Outcomes
1. Explain how oral health research and the process of scientific inquiry knowledge development and daily practice.
2. Explain how an evidence-based decision-making approach enhances critical thinking and professional decision-making regarding patient care.
3. Describe the scientific method and research process.
4. Use the Internet and electronic resources in research and understand how they relate to dental hygiene education, practice and research.
5. Conduct an effective literature search using electronic databases (such as PubMed, MEDLINE, and CINAHL), professional journals, government documents, product literature and other print publications, video and other forms of multimedia.
6. Develop a PICO (or equivalent) research question to address an identified practice problem.
7. Discuss different research designs and when each is appropriate to use.
8. Explain the elements necessary to obtain valid and reliable results for observational, exploratory and experimental research.
9. Evaluate oral health research articles applying concepts of research design and methodology. 1
10. Interpret oral health data by proper application of statistical principles and tests. 1
11. Critically analyze different print and electronic information sources and apply to the practice of dental hygiene. 1
12. Gain an appreciation for the role of research in evidence-based dental hygiene practice.

DHYG 2240. Clinical Dental Hygiene Seminar IV
3 Credits (3)
A continuation of information to prepare the student for advanced clinical practice. Provides an in-depth study of dental hygiene care for diverse patient populations and provides a forum for evaluation of the service project from Dental Public Health, and synthesis of all dental hygiene knowledge, skills and attitudes into a case presentation.
Learning Outcomes
1. Explore advanced concepts in dental hygiene care and patient management.
2. Discuss strategies for handling medical emergencies in a clinical setting.
3. Analyze patient assessment data to support interdisciplinary treatment planning.
4. Evaluate the effectiveness of dental hygiene interventions for long-term patient outcomes.
5. Examine professional responsibilities in mentoring and education within the field.
6. Develop strategies for addressing barriers to oral health care in diverse populations.
7. Explore approaches to collaborative, patient-centered care in dental hygiene practice.
8. Assess clinical practices using evidence-based research to support continuous improvement.
9. Discuss the legal, ethical, and professional considerations in patient documentation. 1
10. Recognize the role of dental hygienists in leadership, research, and advocacy for oral health.

DHYG 2242. Clinical Dental Hygiene IV
5 Credits (16P)
As the final clinical course, Clinic 4 prepares students for professional practice by refining their ability to manage diverse and complex patient cases with confidence and competence. Students will demonstrate mastery of clinical skills, collaborate with healthcare professionals, and develop strategies for lifelong learning and ethical practice in dental hygiene. Specific clinical requirements are set for this program and may not be transferrable to other programs.
Learning Outcomes
1. Implement universal precautions across all clinical settings.
2. Develop an evidence-based approach to sterilization and disinfection.
3. Demonstrate mastery of patient/operator positioning.

4. Create a risk management plan for emergency prevention and response.
5. Synthesize patient data to develop comprehensive treatment plans.
6. Lead interprofessional collaboration to enhance patient care.
7. Design a system for evaluating treatment effectiveness.
8. Advocate for ethical and professional excellence in clinical practice.

DHYG 2243. Principles of Practice
2 Credits (2)
Examination of the dental hygienist's role in both traditional and non-traditional employment settings. Career planning, resume preparation and interviewing are practices. An understanding of the law, professional ethics of dental hygiene and the need for lifelong learning are emphasized. Future roles of the dental hygienist and emerging issues in dental hygiene will be explored.
Learning Outcomes
1. Analyze the core values found in the Codes of Ethics of professional dental organizations and their application to dental hygiene practice.
2. Compare the ethical theories.
3. Demonstrate an ethical decision-making framework by applying it to case-based scenarios and defending the chosen course of action.
4. Evaluate the differences between different legal frameworks for the licensing and practice of dental hygienists.
5. Create a protocol for addressing cultural competence and sensitivity in patient care delivery, including strategies to overcome health literacy challenges.

DHYG 2244. Dental Public Health Education
3 Credits (3)
Study of principles and concepts of community public health and dental health education. Emphasis on dental epidemiology and statistical methods, community assessment, educational planning, implementation, and evaluation, scientific review of literature, and classroom presentation.
Learning Outcomes
1. Participate in community programs to prevent oral diseases and promote health.
2. Deliver evidence-based oral health care and education to diverse populations.
3. Develop strategies for implementing and evaluating oral health programs.
4. Advocate for oral health promotion through collaboration with various stakeholders.
5. Apply scientific research to evaluate dental products, techniques, and policies for informed decision-making.

DHYG 2996. Special Topics in Dental Hygiene
1 Credit (4P)
Varies. May be repeated up to 2 credits.
Learning Outcomes
1. Varies.

Admissions Information

Website: https://dacc.nmsu.edu/academics/programs/dental-programs/index.html (https://dacc.nmsu.edu/academics/programs/dental-programs/)

Email: dentalprogramsadmissions@dacc.nmsu.edu (dentalprogramsadmissions@dacc.nmsu.edu)

Name: Elmer Gonzalez, MBA, Ph.D. RDH, CDA.

Department Chair - Dental Programs

Office Location: DASH 84F

e-mail: Dentalprograms@dacc.nmsu.edu

Dental Hygiene - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(102 credits)

Note: Students must earn a final grade of C- or better in ENGL 1110G Composition I and MATH 1220G College Algebra per DACC guidelines; however, the Dental Hygiene program strongly recommends students earn a C or better in those courses. Students must earn a C or better in all other required General Education and Core Requirements. In addition, students admitted to the program must receive a final grade of 77% or higher to remain in the program. Clinical courses have additional requirements that must be met in addition to the minimum grade of 77%.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 101 credits. (See footnote 6) Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed to take the necessary English and Mathematics coursework.

All General Education and Core Requirements must be met before formally applying to the program.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1,2]		
This degree requires courses from Areas I, II, III and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	4
or ENGL 2130G	Advanced Composition	
or ENGL 2221G	Writing in the Humanities and Social Science	
Area II: Mathematics		
MATH 1220G	College Algebra (or Higher (Core Requirement)) [3]	3
or MATH 1350G	Introduction to Statistics	
or MATH 1250G	Trigonometry & Pre-Calculus	
Area III: Laboratory Sciences		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) (Core Requirement) [3]	4
or CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
or CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Area IV: Social/Behavioral Sciences		
PSYC 1110G	Introduction to Psychology (Core Requirement) [3]	3
General Education Elective		
COMM 1130G	Public Speaking (Core Requirement (either)) [3]	3
or COMM 1115G	Introduction to Communication	

or ACOM 1130G	Effective Leadership and Communication in Agriculture	
Core Requirements		
SOCI 1110G	Introduction to Sociology	3
BIOL 2310 & 2310L	Microbiology and Microbiology Lab [3]	4
or BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory	
or BIOL 2320 & BIOL 2310L	Public Health Microbiology and Microbiology Lab	
or BIOL 479 & 479 L	Medical Microbiology and Medical Microbiology Laboratory	
BIOL 2210	Human Anatomy and Physiology I [3]	4
or BIOL 353 & 353 L & BIOL 354 & BIOL 354 L	Pre-Professional Human Anatomy and Pre-Professional Human Anatomy Laboratory and Physiology of Humans and Laboratory of Human Physiology	
or SPMD 2210	Anatomy and Physiology I	
BIOL 2225	Human Anatomy and Physiology II [3]	4
or BIOL 353 & 353 L & BIOL 354 & BIOL 354 L	Pre-Professional Human Anatomy and Pre-Professional Human Anatomy Laboratory and Physiology of Humans and Laboratory of Human Physiology	
or SPMD 2225	Anatomy and Physiology II	
CHEM 2120	Integrated Organic Chemistry and Biochemistry [3]	3
or CHEM 313 & BCHE 395	Organic Chemistry I and Biochemistry I	
or CHEM 314 & BCHE 396	Organic Chemistry II and Biochemistry II, Lecture and Laboratory	
Major Requirements		
Technical Requirements [4]		
DHYG 2210	Preclinical Dental Hygiene Seminar	3
DHYG 2212	Preclinical Dental Hygiene	3
DHYG 2213	Oral Histology and Embryology	2
DHYG 2214	Head and Neck Anatomy	3
DHYG 2215	Tooth Anatomy and Morphology	2
DHYG 2216	Dental Radiology [5]	2
or DAST 1123	Dental Radiology	
DHYG 2216L	Dental Radiology Lab [5]	1
or DAST 1123L	Dental Radiology Laboratory	
DHYG 2220	Clinical Dental Hygiene Seminar I	3
DHYG 2222	Clinical Dental Hygiene I	4
DHYG 2223	General and Oral Pathology	3
DHYG 2224	Periodontology	3
DHYG 2225	Dental Materials [5]	2
or DAST 1111	Dental Materials	
DHYG 2225L	Dental Materials Laboratory [5]	1
or DAST 1111L	Dental Materials Laboratory	
DHYG 2226	Medical and Dental Emergencies	2
DHYG 2227	Clinical Dental Hygiene II	2
DHYG 2228	Pain and Anxiety Management	2
DHYG 2228L	Pain and Anxiety Management Clinical	1
DHYG 2230	Clinical Dental Hygiene Seminar III	3
DHYG 2232	Clinical Dental Hygiene III	5
DHYG 2233	Pharmacology	3
DHYG 2234	Research Methodology	2
DHYG 2996	Special Topics in Dental Hygiene [6]	1
DHYG 2240	Clinical Dental Hygiene Seminar IV	3
DHYG 2242	Clinical Dental Hygiene IV	5
DHYG 2243	Principles of Practice	2
DHYG 2244	Dental Public Health Education	3
Total Credits		**101**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. All DHYG classes are restricted to students who have been accepted into the Dental Hygiene program.
5. Substitution of DAST 1123 Dental Radiology/DAST 1123L Dental Radiology Laboratory and DAST 1111 Dental Materials/DAST 1111L Dental Materials Laboratory permitted for students who completed the DACC DAS program spring/summer 2024 and thereafter, and those who completed the courses in Fall 2026 or after and are transfers from Central New Mexico (CNM), Luna Community College (LCC), UNM-Gallup, and Santa Fe Community College (SFCC).
6. This is a clinical externship course that is taken twice, once in the fall and once in the spring semesters of the student's last year in the program. (This will result in a total of 102 credits).

(102 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in ENGL 1110G Composition I and MATH 1220G College Algebra per DACC guidelines; however, the Dental Hygiene program strongly recommends students earn a C or better in those courses. Students must earn a C or better in all other required General Education and Core Requirements. In addition, students admitted to the program must receive a final grade of 77% or higher to remain in the program. Clinical courses have additional requirements that must be met in addition to the minimum grade of 77%.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 101 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed to take the necessary English and Mathematics coursework.

All General Education and Core Requirements must be met before formally applying to the program (approximately 25 credits).

Semester 1		**Credits**
FALL		
Area I: Communications - English Composition Level 1		4
ENGL 1110G or ENGL 2130G or ENGL 2221G	Composition I or Advanced Composition or Writing in the Humanities and Social Science	
Area II: Mathematics		3
MATH 1220G or MATH 1350G or MATH 1250G	College Algebra (or Higher (Core Requirement)) or Introduction to Statistics or Trigonometry & Pre-Calculus	

Area III: Laboratory Sciences		8
CHEM 1120G or CHEM 1215G or CHEM 1225G	Introduction to Chemistry Lecture and Laboratory (non majors) or General Chemistry I Lecture and Laboratory for STEM Majors or General Chemistry II Lecture and Laboratory for STEM Majors	
BIOL 2210 or BIOL 353 ***and*** BIOL 353 L ***and*** BIOL 354 ***and*** BIOL 354 L or SPMD 2210	Human Anatomy and Physiology I or Pre-Professional Human Anatomy ***and*** Pre-Professional Human Anatomy Laboratory ***and*** Physiology of Humans ***and*** Laboratory of Human Physiology or Anatomy and Physiology I	
	Credits	**15**
Semester 2		
SPRING		
Area III: Laboratory Sciences		11
BIOL 2225 or BIOL 353 ***and*** BIOL 353 L ***and*** BIOL 354 ***and*** BIOL 354 L or SPMD 2225	Human Anatomy and Physiology II or Pre-Professional Human Anatomy ***and*** Pre-Professional Human Anatomy Laboratory ***and*** Physiology of Humans ***and*** Laboratory of Human Physiology or Anatomy and Physiology II	
BIOL 2310 & 2310L or BIOL 311 ***and*** BIOL 311 L or BIOL 2320 or BIOL 479 ***and*** BIOL 479 L	Microbiology [3] or General Microbiology ***and*** General Microbiology Laboratory or Public Health Microbiology or Medical Microbiology ***and*** Medical Microbiology Laboratory	
CHEM 2120 or CHEM 313 ***and*** BCHE 395 or CHEM 314 ***and*** BCHE 396	Integrated Organic Chemistry and Biochemistry or Organic Chemistry I ***and*** Biochemistry I or Organic Chemistry II ***and*** Biochemistry II, Lecture and Laboratory	
	Credits	**11**
Semester 3		
SUMMER		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G or ACOM 1130G	Introduction to Communication or Public Speaking or Effective Leadership and Communication in Agriculture	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	3
	Credits	**9**
Semester 4		
FALL		
DHYG 2210	Preclinical Dental Hygiene Seminar	3
DHYG 2212	Preclinical Dental Hygiene	3
DHYG 2213	Oral Histology and Embryology	2
DHYG 2214	Head and Neck Anatomy	3
DHYG 2215	Tooth Anatomy and Morphology	2
DHYG 2216	Dental Radiology [5]	2
DHYG 2216L	Dental Radiology Lab [5]	1
	Credits	**16**
Semester 5		
SPRING		
DHYG 2220	Clinical Dental Hygiene Seminar I	3
DHYG 2222	Clinical Dental Hygiene I	4
DHYG 2223	General and Oral Pathology	3
DHYG 2224	Periodontology	3
DHYG 2225	Dental Materials [5]	2
DHYG 2225L	Dental Materials Laboratory [5]	1
	Credits	**16**
Semester 6		
SUMMER		
DHYG 2226	Medical and Dental Emergencies	2
DHYG 2227	Clinical Dental Hygiene II	2
DHYG 2228	Pain and Anxiety Management	2
DHYG 2228L	Pain and Anxiety Management Clinical	1
	Credits	**7**
Semester 7		
FALL		
DHYG 2230	Clinical Dental Hygiene Seminar III	3
DHYG 2232	Clinical Dental Hygiene III	5
DHYG 2233	Pharmacology	3
DHYG 2234	Research Methodology	2
DHYG 2996	Special Topics in Dental Hygiene [6]	1
	Credits	**14**
Semester 8		
SPRING		
DHYG 2240	Clinical Dental Hygiene Seminar IV	3
DHYG 2242	Clinical Dental Hygiene IV	5
DHYG 2243	Principles of Practice	2
DHYG 2244	Dental Public Health Education	3
DHYG 2996	Special Topics in Dental Hygiene [6]	1
	Credits	**14**
	Total Credits	**102**

DACC-UNM BSDH Degree - Total Credits Required - 128 cr.

Please meet with your DACC Dental Hygiene Advisor for more information.

Note: Students must earn a final grade of C or better in all general education and core requirements. Students must receive a final grade of C (77%) or better in all other courses including the UNM courses in order to remain in the program.

Course	Title	Credits
Semester 1		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) *	4
ENGL 1110G	Composition I (UNM ENGL 1120 - Composition II (3 credits)) *	4
MATH 1220G	College Algebra *	3
BIOL 2210	Human Anatomy and Physiology I for the Health Sciences	4
	Credits	**15**
Semester 2		
CHEM 2120	Integrated Organic Chemistry and Biochemistry	3
BIOL 2225	Human Anatomy and Physiology II	4
BIOL 2310 & 2310L	Microbiology and Microbiology Lab	4

UNM Curriculum - Foreign Language (Area 6) (3 credits) *		
	Credits	**11**
Semester 3		
SUMMER		
COMM 1115G or COMM 1130G	Introduction to Communication * or Public Speaking	3
SOCI 1110G	Introduction to Sociology *	3
PSYC 1110G	Introduction to Psychology *	3
	Credits	**9**
Semester 4		
DHYG 2210	Preclinical Dental Hygiene Seminar	3
DHYG 2212	Preclinical Dental Hygiene	3
DHYG 2213	Oral Histology and Embryology	2
DHYG 2214	Head and Neck Anatomy	3
DHYG 2215	Tooth Anatomy and Morphology	2
DHYG 2216	Dental Radiology	3
DHYG 2216L	Dental Radiology Lab	1
	Credits	**17**
Semester 5		
DHYG 2220	Clinical Dental Hygiene Seminar I	3
DHYG 2222	Clinical Dental Hygiene I	4
DHYG 2223	General and Oral Pathology	3
DHYG 2224	Periodontology	3
DHYG 2225	Dental Materials	2
DHYG 2225L	Dental Materials Laboratory	1
UNM DEHY 407 - Problems (3 credits) **		
	Credits	**16**
Semester 6		
SUMMER		
DHYG 2227	Clinical Dental Hygiene II	2
DHYG 2228	Pain and Anxiety Management	2
DHYG 2228L	Pain and Anxiety Management Clinical	1
UNM DEHY 440 - Extramural Experience (3 credits) **		
	Credits	**5**
Semester 7		
DHYG 2226	Medical and Dental Emergencies	2
DHYG 2230	Clinical Dental Hygiene Seminar III	2
DHYG 2232	Clinical Dental Hygiene III	5
DHYG 2233	Pharmacology	3
DHYG 2234	Research Methodology	2
UNM - Arts and Design General Education (Area 7) (3 credits) **		
	Credits	**14**
Semester 8		
DHYG 2240	Clinical Dental Hygiene Seminar IV	3
DHYG 2242	Clinical Dental Hygiene IV	5
DHYG 2243	Principles of Practice	2
DHYG 2244	Dental Public Health Education	3
UNM DEHY 400 - Current Issues in Dental Hygiene (3 credits) **		
Semesters 9 & 10 - SUMMER/FALL		
UNM DEHY 407 - Problems (3 credits) **		
UNM DEHY 440 - Extramural Experience (3 credits) **		
UNM Humanities/Diversity General Education (Area 5) (3 credits) *		
UNM General Education Student Choice Elective (Area 8) (3 credits) **		
	Credits	**13**
	Total Credits	**100**

* Course can be taken at UNM or DACC, must meet UNM General Education Requirement if taken at DACC (please use transfer equivalency tables to determine articulation).

** UNM course, satisfying UNM 30 hour residency requirement. Course must be taken at UNM.

Diagnostic Medical Sonography

Associate of Applied Science Degree: Diagnostic Medical Sonography

Certificate of Completion: Diagnostic Medical Sonography

Certificate of Completion: Vascular Sonography

This is a limited-entry degree program that starts a cohort every spring semester. Prospective applicants must visit the website to register for program orientation, and can request the application after attendance. The application cycle is open from July 1st - September 1st every year.

Information on requirements, forms, and deadlines for applications are available on our website at https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/). You can also find information at the Health Sciences Division Office (room DAHL 190), or by calling (575) 528-7015.

Sonography is an allied health specialty that uses high-frequency sound waves (ultrasound) to image many structures in the body. Sonographers function as members of the healthcare team by providing and evaluating high quality images that aid physicians in the diagnosis and treatment of their patients. Sonographers are highly motivated, independent, critical thinkers who enjoy one-on-one patient interaction.

Employment opportunities are available in a variety of settings, such as hospitals, physicians' offices, and veterinarian practices. There are also opportunities in sales, education, management, research, marketing, and product development. Because job prospects in the Las Cruces–El Paso area occasionally are limited, it may be necessary to conduct a wider job search.

Training involves a combination of academic courses and a clinical internship in the ultrasound department of area hospitals and clinics where students will gain hands-on training under the supervision of registered diagnostic medical sonographers and will work alongside physicians and other health-care professionals. Coursework covers abdominal and OB-Gyn ultrasound, pediatric sonography, acoustic physics and instrumentation, and introductory vascular technology. Students will participate in lab activities and learn to write case reports and journal article reviews. The clinical sites include rotations in multiple cities, which can include Las Cruces, Alamogordo, Ruidoso, and Silver City, New Mexico, as well as El Paso, Texas.

The Diagnostic Medical Sonography program offers a certificate track for students who already possess an associate degree in a medically related, allied healthcare program or a bachelor's degree in a related field, which meet certain requirements. The associate degree track is designed for those who do not meet the entrance requirements for the certificate-track program. Once accepted into the Diagnostic Medical Sonography program the curriculum and schedule for certificate and associate degree pathways is identical.

Students in the Diagnostic Medical Sonography program are required to complete and pass a variety of background/screening measures

that include a security background check, FBI fingerprinting and drug screening, in order to participate in the clinical education portion of the program. Criminal charges and/or convictions may limit a student's ability to be employable in the medical field. **Prospective students with a history of any misdemeanor or felony charges must communicate with the program director prior to application to initiate a pre-clearance process through the American Registry for Diagnostic Medical Sonography to determine eligibility.**

Students who satisfy program requirements are qualified to apply for national certification examinations in the Abdominal and OB/GYN Sonography specialty areas. These examinations are administered by the American Registry of Diagnostic Medical Sonography (ARDMS) and/or the American Registry of Radiologic Technologists (ARRT). Licensing requirements vary by state; New Mexico requires sonographers to obtain a state license. Continuing education beyond graduation is required to maintain credentials earned by the ARDMS and ARRT and to maintain a state license in New Mexico.

Accreditation

The DACC Sonography Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), in conjunction with the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS). Further information is available on the CAAHEP (https://www.caahep.org/) and JRC-DMS (https://www.jrcdms.org/) websites. Program outcomes are available on our website by visiting the "Program Effectiveness Data" link.

Required Physical and Cognitive Skills

Sonography students must be able to do the following:

1. Read, write, and communicate effectively in English.
2. Possess emotional and physical health sufficient to meet the demands of the profession.
3. Position, move, and lift patients in wheelchairs and stretchers.
4. Maintain prolonged arm positions necessary for scanning.
5. Position and move ultrasound equipment on wheels (up to 500 lbs.)
6. Effectively operate sonographic equipment.
7. Evaluate sonograms, acquiring appropriate diagnostic information.
8. Integrate diagnostic sonograms, laboratory results, patient histories, and medical records, and adapt sonographic examinations as necessary.
9. Use independent judgment to acquire the optimal diagnostic sonographic information in each examination performed.
10. Evaluate, synthesize, and communicate diagnostic information to be used by the attending physician.
11. Communicate effectively with the patient and healthcare team, recognizing the special nature of sonographic exams and patients' needs.
12. Establish and maintain effective working relationships with the public and healthcare team.
13. Follow established departmental procedures.
14. Work efficiently and cope with emergency situations.

Reasonable accommodations may be available through the Student Accessibility Services (SAS) office. Please contact the Program Director for more information. Further information on the essential functions is available on the program website. *(*https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/DMSTechnicalAndEssentialFunctions.pdf*)*

Special Admissions Criteria- Associate Degree

Prior to applying to the program, students will have taken all program Core and Related Requirements. The following items are among the criteria considered in the selection of program applicants:

- Completion of program orientation
- Minimum overall college GPA 3.0
- GPA in Core and Related Requirements courses
- County of residence
- Prior healthcare experience

Special Admissions Criteria- Certificate of Completion

Criteria and factors used in evaluating applicants include the following:

- Completion of program orientation
- Completion of either
  - (a) an associate degree in an allied health program which is medically related and involves human-patient care (proof of current certification in ones' allied health area is required), OR
  - (b) a bachelor's degree in a related field that includes at least one semester of anatomy & physiology.
- Overall GPA of 3.0 or higher
- College-level course in algebra (MATH 1220G College Algebra or equivalent)
- College-level course in general physics or introductory physics for the health sciences or radiographic physics or equivalent.

A complete description of admission criteria is available on the DMS program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/).

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses: DMSO 1170, DMSO 1180, DMSO 2270, DMSO 2280.

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

Diagnostic Medical Sonography - Associate of Applied Science (p. 267)

Diagnostic Medical Sonography - Certificate of Completion (p. 270)

Vascular Sonography - Certificate of Completion (p. 272)

DMSO 1110. Introduction to Clinical Practicum
1 Credit (1)
Introduction to working in the medical environment. Includes preparation for clinical internship and observation hours in the ultrasound department. Restricted to: DMS majors.

Learning Outcomes

1. Recognize sonographic anatomy on observed sonographic procedures.
2. Identify and adhere to clinical site practices and policies.
3. Describe aspects of the clinical experience.
4. Demonstrate effective communication skills with patients and healthcare team members.

DMSO 1111. Introduction Sonography/Patient Care
2 Credits (2)
Introduction to the careers in sonography, terminology, medical ethics, scanning planes, applications of ultrasound, professional standards and patient care.
Learning Outcomes

1. Describe essential functions of the sonographer in the health care setting.
2. Distinguish key patient care differences based on patient demographics.
3. Develop and apply professional ethics in line with industry standards.
4. Describe best practices for infection control in the medical setting.

DMSO 1114. Introduction to Clinical Practicum II
1 Credit (1P)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.
Learning Outcomes

1. Demonstrate proficiency in patient care skills.
2. Recognize sonographic anatomy.
3. Assist with basic sonographic procedures in the clinical setting.
4. Describe aspects of the clinical experience.

DMSO 1116. Vascular Technology I
2 Credits (2)
Review of basic ultrasound physics and principles, peripheral vascular anatomy, hemodynamics, Doppler evaluation, peripheral vascular scanning techniques, physiologic testing and the carotid arteries and the peripheral vascular system.
Learning Outcomes

1. Describe peripheral and cerebrovascular anatomy and physiology.
2. Identify normal anatomy and waveforms on sonographic images and correlative imaging procedures.
3. Correlate Doppler waveforms to hemodynamic principles.
4. Differentiate venous and arterial hemodynamic principles.

DMSO 1116L. Vascular Technology I Lab
1 Credit (2P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the carotid arteries and peripheral vasculature utilizing real-time sonographic equipment including Doppler.
Learning Outcomes

1. Recognize and document peripheral and cerebrovascular anatomy on sonographic examinations.
2. Develop protocols for thorough imaging of peripheral and cerebrovascular sonographic imaging.
3. Describe Doppler waveforms and correlate findings with hemodynamic principles.

DMSO 1131. Pelvic Sonography
2 Credits (2)
Includes the anatomy, sectional anatomy and normal physiology of the pelvic structures; including the uterus, ovaries, prostate, pelvic muscles, lower GI, appendix and vessels as well as scanning techniques, sonographic appearance and Doppler evaluation of the pelvis.
Learning Outcomes

1. Describe the relational anatomy of the pelvic organs.
2. Distinguish the sonographic appearance of male and female pelvic anatomy.
3. Discuss the physiology of pelvic organ systems.
4. Correlate the physiologic cycles of pelvic organs with the appropriate sonographic appearances.

DMSO 1131L. Pelvic Sonography Laboratory
1 Credit (2P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the pelvic structures including the uterus, ovaries, prostate, lower gastrointestinal system, appendix and pelvic muscles utilizing real-time sonographic equipment including Doppler.
Learning Outcomes

1. Identify normal anatomy of the male and female pelvis on sonographic images.
2. Produce diagnostic sonographic images of pelvic organs.
3. Develop protocols for thorough sonographic evaluation of the pelvic organs.
4. Correlate sonographic findings with the normal physiologic processes of the female pelvic organs.

DMSO 1140. Abdominal Sonography
2 Credits (2)
Includes the anatomy, sectional anatomy and normal physiology of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys, adrenals, and spleen as well as scanning techniques, sonographic appearance and Doppler evaluation of the deep abdominal organs.
Learning Outcomes

1. Identify the normal anatomy of the abdominal organs.
2. Describe the physiology of abdominal organs and how it relates to sonographic appearances.
3. Describe the relational anatomy of abdominal organ systems.

DMSO 1140L. Abdominal Sonography Laboratory
1 Credit (3P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys and spleen utilizing real-time sonographic equipment including Doppler.
Learning Outcomes

1. Identify the abdominal organs on sonographic images.
2. Produce diagnostic quality sonographic images of the abdominal organs.
3. Correlate sonographic appearances with the normal physiology of abdominal organs.

4. Develop protocols for thorough and efficient imaging of the abdominal organs.

DMSO 1150. Sonographic Principles and Instrumentation I
2 Credits (2)
Includes the fundamental properties and mathematical relationships between variables of wave parameters, acoustic variables, attenuation, pulsed wave operation, transducers, system operation, Doppler, and artifacts utilizing real-time sonographic equipment.
Learning Outcomes
1. Describe the physics principles related to sonographic imaging.
2. Correlate physics principles to technical factor adjustments on sonographic equipment.
3. Solve mathematical equations related to sonographic physics principles.

DMSO 1170. Clinical Practicum I
1 Credit (8-10P)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.
Learning Outcomes
1. Develop professional skills necessary in the clinical environment.
2. Perform basic sonographic procedures with minimal assistance from preceptors.
3. Assist with complex/advanced sonographic procedures under the guidance of preceptors.

DMSO 1180. Clinical Practicum II
4 Credits (4)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the beginner level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continue observation, assistance and performance of patient care and sonographic duties under direct supervision.
Prerequisite: DMSO 1170.
Learning Outcomes
1. Demonstrate general and sonographic knowledge to function as a member of the healthcare team.
2. Identify and interpret data from patient charts.
3. Perform a broad range of general sonographic examinations with minimal to moderate assistance.
4. Demonstrate effective oral and written communication skills.

DMSO 1526. 1st Trimester Obstetric Sonography
1 Credit (1)
Includes the embryology, anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 1st trimester fetus, placenta, uterus and adnexa as well as scanning techniques according to recognized protocols.
Learning Outcomes
1. Describe the embryology and normal development of the 1st trimester pregnancy.
2. Recognize the sonographic anatomy of normal 1st trimester pregnancy.
3. Relate the gestational age with sonographic findings to recognize normal development of the 1st trimester pregnancy.

DMSO 1527. 2nd/3rd Trimester Obstetric Sonography
1 Credit (1)
Includes the anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 2nd and 3rd trimester fetus, placenta, uterus, and adnexa as well as scanning techniques according to recognized protocols.
Learning Outcomes
1. Describe the normal anatomy and physiology of the 2nd and 3rd trimester pregnancy.
2. Correlate the sonographic appearance of the pregnancy with the gestational age to identify appropriate growth and development of the fetus.
3. Develop protocols for efficient and thorough scanning of the pregnancy.
4. Describe best practices for imaging the pregnancy in accordance with ALARA principles.

DMSO 1528. High Risk Obstetric Sonography
3 Credits (3)
Includes congenital malformations of the developing fetus, high risk pregnancies, multiple gestation, maternal conditions and invasive procedures. Restricted to: DMS majors.
Learning Outcomes
1. Describe the sonographic signs of fetal anomalies.
2. Identify the risk factors for congenital anomalies to correlate with clinical history.
3. Describe the process for imaging multiple gestations.
4. Identify best practices for safe imaging in the high risk pregnancy.

DMSO 2020. Pediatric Sonography
2 Credits (2)
Ultrasound evaluation relating to the pediatric population. Includes scanning techniques, transducer selection, and scanning protocols relating to normal and pathologic conditions that affect the premature infant, newborn and pediatric population across a variety of body systems.
Learning Outcomes
1. Identify anatomy, relational anatomy, anatomic variants, and sonographic appearances of normal anatomical structures related to the pediatric population.
2. Demonstrate knowledge of the physiology, pathophysiology, sonographic technique, measurements, sonographic appearances, and Doppler patterns, where applicable, in both normal and abnormal pediatric structures.
3. Demonstrate knowledge in scanning technique, protocol and modifications based on sonographic findings.
4. Demonstrate knowledge and application of patient care as it pertains to the pediatric population.

DMSO 2216. Vascular Technology II
2 Credits (2)
Includes the pathology and pathophysiology of the vascular system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the carotid arteries, deep and peripheral vascular systems.

Learning Outcomes

1. Describe risk factors for vascular pathology.
2. Correlate Doppler waveforms with hemodynamic principles in the presence of pathology.
3. Describe the sonographic appearance of pathology in peripheral and cerebrovascular systems.
4. Identify modifications to sonographic techniques when pathology is identified.

DMSO 2226. Sonographic Case Studies I
1 Credit (1)
Includes integration of didactic knowledge, clinical presentation, laboratory values, sonographic appearance and related medical imaging of a variety of pathological conditions through a variety of case analysis and presentations.
Learning Outcomes

1. Utilize the Sonographic Reasoning Method to correlate clinical history with imaging findings.
2. Summarize the sonographic findings of case studies and analyze the technical factors utilized.
3. Recall knowledge of pathologies to apply to their evaluation of sonographic images.
4. Devise and defend a diagnostic hypothesis based on the clinical history and sonographic findings.

DMSO 2227. Sonographic Case Studies II
1 Credit (1)
Continuation of Sonographic Case Studies I, integration of didactic knowledge, clinical presentation, laboratory values, sonographic appearance and related medical imaging of a variety of pathological conditions through a variety of case analysis and presentations.
Learning Outcomes

1. Utilize the Sonographic Reasoning Method to correlate clinical history with imaging findings.
2. Summarize the sonographic findings of case studies and analyze the technical factors utilized.
3. Recall knowledge of pathologies to apply to their evaluation of sonographic images.
4. Devise and defend a diagnostic hypothesis based on the clinical history and sonographic findings.

DMSO 2230. Gynecologic Pathology
2 Credits (2)
Includes the pathology and pathophysiology of the female reproductive system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the uterus, ovaries, and adnexa.
Learning Outcomes

1. Recall the normal gynecological anatomy to identify variations or the presence of pathology.
2. Describe risk factors, clinical findings, and the sonographic appearance of gynecological pathologies.
3. Identify diagnostic differentials based on the sonographic appearance of gynecological pathologies.

DMSO 2240. Abdominal Pathology I
2 Credits (2)
Includes the pathology and pathophysiology of abdominal structures of the prevertebral vessels, liver, biliary system, pancreas, spleen and gastrointestinal system; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions.
Learning Outcomes

1. Recall the normal anatomy and physiology of the abdominal organs to recognize variations on sonographic images.
2. Describe modifications to the sonographic technique based when pathology is identified.
3. Correlate sonographic findings with clinical information to identify diagnostic differentials.

DMSO 2245. Abdominal Pathology II
2 Credits (2)
Includes the pathology and pathophysiology of abdominal structures of the genitourinary system, spleen, retroperitoneum, adrenal glands, abdominal wall and prostate; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions.
Learning Outcomes

1. Recall the normal anatomy and physiology of the abdominal organs to recognize variations on sonographic images.
2. Describe modifications to the sonographic technique when pathology is identified.
3. Correlate sonographic findings with clinical information to identify diagnostic differentials.

DMSO 2250. Sonographic Principles and Instrumentation II
3 Credits (3)
Includes properties of sound and its use in diagnostic imaging, artifacts, system operation, Doppler, basic hemodynamics, image optimization, bio effects, quality assurance, and new technologies in ultrasound imaging.
Learning Outcomes

1. Explain the physics principles associated with sonographic imaging.
2. Describe how physics principles modify the sonographic image.
3. Relate ultrasound physics to bio effects and best practices for safe sonographic imaging.

DMSO 2270. Clinical Practicum III
3 Credits (3P)
Continued development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at an intermediate level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision.
Learning Outcomes

1. Consistently demonstrate professional skills and etiquette in the clinical setting.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMSO 2280. Clinical Practicum IV
5 Credits (20P)
Application of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at a proficient level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision.

Learning Outcomes

1. Demonstrate professional communication with patients and healthcare team members.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMSO 2291. Registry Preparation: OB/GYN
1 Credit (1)
Registry preparation mock examinations over materials covered in Obstetric and Gynecological ultrasound. Students must pass this course with a 74% or better OR pass national certification in OB/GYN Sonography.
Learning Outcomes

1. Recall knowledge of normal anatomy, physiology, and pathology of obstetric and gynecological structures.
2. Evaluate sonographic images and patient history to identify likely pathologies.
3. Self-reflect on tested concepts to identify concepts that require further studying.

DMSO 2292. Registry Preparation: Abdomen
1 Credit (1)
Registry preparation mock examinations over materials covered in abdominal ultrasound including small parts and superficial structures. Students must pass this course with a 74% or better OR pass ARDMS national certification exam in Abdominal Sonography.
Learning Outcomes

1. Recall knowledge of normal anatomy, physiology, and pathology of abdominal and superficial structures.
2. Evaluate sonographic images and patient history to identify likely pathologies.
3. Self-reflect on tested concepts to identify concepts that require further studying.

DMSO 2293. Registry Preparation: Vascular
1 Credit (1)
Registry preparation mock examinations over materials covered in vascular ultrasound. Students must pass this course with a 74% or better OR pass national certification in Vascular Technology.
Learning Outcomes

1. Identify and describe vascular anatomy.
2. Recognize vascular pathology based on sonographic images.
3. Describe hemodynamic changes associated with vascular pathology.
4. Demonstrate understanding of patient care, exam protocols, and department procedures.

DMSO 2295. Small Parts and Superficial Structures
2 Credits (2)
Includes anatomy, pathology and pathophysiology, protocol development, scanning techniques, recognition of anatomical structures and the normal and pathological ultrasound appearance of the breast, thyroid, neck, scrotum, non-cardiac chest and musculoskeletal ultrasound.
Learning Outcomes

1. Describe the anatomy and physiology of small parts and superficial structures.
2. Identify normal anatomy, anatomical variants, and pathology on sonographic images of superficial structures.
3. Correlate sonographic appearances of pathologies with clinical history to develop diagnostic differentials of superficial structures.

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Website: https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/index.html (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/)

Diagnostic Medical Sonography - Associate of Applied Science

Special Admissions Criteria- Associate Degree

Diagnostic Medical Sonography (DMS) is a limited-entry program admitting students in the spring semester only. Prior to applying to the program, students will have taken all general education and core requirements. The following items are among the criteria considered in the selection of program applicants:

- Minimum overall college GPA 3.0
- GPA in prerequisite courses
- County of residence
- Prior healthcare experience
- Interview
- Written assessment

Program Application Requirements

1. Complete all prerequisites. *Students may have a maximum of two prerequisite courses in progress at the time of application.*
2. Attend program orientation and request the program application. Register for orientation here (https://forms.office.com/r/Mmh5v3aRUJ/).
3. Submit the application and all supporting documents by the September 1st deadline.

Selection Criteria

Completing prerequisite courses does not guarantee acceptance into the Diagnostic Medical Sonography Program. Selection for the program utilizes a point system as well as a comprehensive evaluation of the student's overall strengths related to the essential qualifications, competencies, and functions of the professional diagnostic medical sonographer.

Selection for acceptance incorporates two phases.

Phase I

Phase I points are awarded for prerequisite courses, Doña Ana County residency, reapplication, and relevant field experience and/or professional credentials. See program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/) for details.

Phase II: Invitation only

The top-scoring candidates from Phase I will be invited to Phase II for a written assessment and interview to identify personal strengths and/or weaknesses related to essential qualifications, competencies, and functions for professional diagnostic medical sonographers.

PLEASE NOTE THAT NOT ALL APPLICANTS WHO COMPLETE THE ADMISSION REQUIREMENTS ARE ADMITTED TO THE PROGRAM.
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Associate Degree Track

This is a limited-entry program accepting students only in the spring semester. Criteria and factors used in evaluating applicants include the following:

- High school diploma or GED
- Completion of all pre-requisites with an overall GPA of 3.0 or higher
  - Two pre-requisite courses may be in progress at the time of application
- County of residence

Note:

- Students should receive a B or better in BIOL 2210 Human Anatomy and Physiology I to be viable candidates for the DMS program.
- There are restrictions on repeating courses with a grade of C or lower. See program director for details.

(Associate Degree 71 credits)

NOTE: Application cycle is open July 1st-September 1st, and requires prior attendance at a program orientation session (registration available on the DMS program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/)).

NOTE: A grade of C- or better on a traditional grading scale is required in ENGL 1110G Composition I and designated Mathematics courses. Students must earn a final grade of C or better in all required DMS courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. The DMS program utilizes an accelerated grading scale. 74% is the minimum passing score for all assignments, assessments, and overall class grading and corresponds to a "C."

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 71 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from each of the following content areas for a total of 17 credits		*17*
This degree requires courses from Areas I, II, III, and IV or V; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [1]	
Area II: Mathematics		
MATH 1220G	College Algebra (or higher) [1]	
Area III: Laboratory Sciences		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1]	
Area IV: Social/Behavioral Sciences or Area V: Humanities [2]		
Choose one from the following:		
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
PHIL 2110G	Introduction to Ethics	
General Education Communication Elective - Choose one of the following:		
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
Core Requirements		
BIOL 2210	Human Anatomy and Physiology I [3]	4
HITP 1120	Health Information Introduction to Pharmacology	3
Major Requirements		
Technical Requirements [4]		
DMSO 1110	Introduction to Clinical Practicum	1
DMSO 1111	Introduction Sonography/Patient Care	2
DMSO 1114	Introduction to Clinical Practicum II	1
DMSO 1131	Pelvic Sonography	2
DMSO 1131L	Pelvic Sonography Laboratory	1
DMSO 1140	Abdominal Sonography	2
DMSO 1140L	Abdominal Sonography Laboratory	1
DMSO 1150	Sonographic Principles and Instrumentation I	2
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 1526	1st Trimester Obstetric Sonography	1
DMSO 1527	2nd/3rd Trimester Obstetric Sonography	1
DMSO 1528	High Risk Obstetric Sonography	3
DMSO 2020	Pediatric Sonography	2
DMSO 2226	Sonographic Case Studies I	1
DMSO 2227	Sonographic Case Studies II	1
DMSO 2230	Gynecologic Pathology	2
DMSO 2240	Abdominal Pathology I	2
DMSO 2245	Abdominal Pathology II	2
DMSO 2250	Sonographic Principles and Instrumentation II	3
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5
DMSO 2291	Registry Preparation: OB/GYN	1
DMSO 2292	Registry Preparation: Abdomen	1
DMSO 2295	Small Parts and Superficial Structures	2
Total Credits		**71**

1. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
2. These courses are required for the associate degree but are not pre-requisites. Courses that are completed before admission to the DMS program will receive bonus points toward the application as follows: A = 4 pts, B = 3 pts, C = 2 pts.
3. Students should receive a B or better in BIOL 2210 to be viable candidates for the DMS program.
4. All DMSO classes are restricted to students who have been formally accepted into and remain in good standing with the Diagnostic Medical Sonography program.

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses:

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

(71 credits)

NOTE: Application cycle is open July 1st-September 1st, and requires prior attendance at a program orientation session (registration available on the DMS program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/)).

A Suggested Plan of Study

The contents of this Road Map may vary depending on initial student placement in Mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: A grade of C- or better on a traditional grading scale is required in ENGL 1110G Composition I and designated Mathematics courses. Students must earn a final grade of C or better in all required DMS courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. The DMS program utilizes an accelerated grading scale. 74% is the minimum passing score for all assignments, assessments, and overall class grading and corresponds to a "C."

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 71 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Prerequisite semester		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area II: Mathematics		3
MATH 1220G	College Algebra	
Area III: Laboratory Sciences		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
HITP 1120	Health Information Introduction to Pharmacology	3
	Credits	**14**
Semester 2		
Prerequisite semester		
BIOL 2210	Human Anatomy and Physiology I	4
Choose one from the following:		3
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
PHIL 2110G	Introduction to Ethics	
Choose one from the following:		3
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
	Credits	**10**
Semester 3		
SPRING- DMS Program Semester 1		
DMSO 1110	Introduction to Clinical Practicum	1
DMSO 1111	Introduction Sonography/Patient Care	2
DMSO 1131	Pelvic Sonography	2
DMSO 1131L	Pelvic Sonography Laboratory	1
DMSO 1140	Abdominal Sonography	2
DMSO 1140L	Abdominal Sonography Laboratory	1
DMSO 1150	Sonographic Principles and Instrumentation I	2
	Credits	**11**
Semester 4		
SUMMER- DMS Program Semester 2		
SUMMER REQUIRED		
DMSO 1114	Introduction to Clinical Practicum II	1
DMSO 1526	1st Trimester Obstetric Sonography	1
DMSO 1527	2nd/3rd Trimester Obstetric Sonography	1
	Credits	**3**
Semester 5		
FALL- DMS Program Semester 3		
DMSO 1170	Clinical Practicum I	1
DMSO 2230	Gynecologic Pathology	2
DMSO 2240	Abdominal Pathology I	2
DMSO 2250	Sonographic Principles and Instrumentation II	3
	Credits	**8**
Semester 6		
SPRING- DMS Program Semester 4		
DMSO 1180	Clinical Practicum II	4
DMSO 2226	Sonographic Case Studies I	1
DMSO 2245	Abdominal Pathology II	2
DMSO 2295	Small Parts and Superficial Structures	2
	Credits	**9**
Semester 7		
SUMMER- DMS Program Semester 5		
SUMMER REQUIRED		
DMSO 2227	Sonographic Case Studies II	1
DMSO 2270	Clinical Practicum III	3
	Credits	**4**
Semester 8		
FALL- DMS Program Semester 6		
DMSO 2020	Pediatric Sonography	2
DMSO 1528	High Risk Obstetric Sonography	3
DMSO 2280	Clinical Practicum IV	5
DMSO 2291	Registry Preparation: OB/GYN	1
DMSO 2292	Registry Preparation: Abdomen	1
	Credits	**12**
	Total Credits	**71**

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses:

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

Diagnostic Medical Sonography - Certificate of Completion

Special Admissions Criteria and Required College Prerequisites

The program is approximately 24 months in length, plus prerequisites, and is designed to provide students with the academic coursework and clinical internship experience necessary to apply for national certification examinations in the specialty areas of Abdominal and OB/GYN Sonography.

There are 2 pathways to qualify for this program, depending on your educational background:

- **Associate of Applied Science** pathway is for those applicants without an existing health-related degree. This requires students to complete pre-requisite courses, and is the more common track. Selection criteria can be viewed on the program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/), at the Admissions Policies link.

OR

- **Certificate Program** pathway is for applicants with either a 2-year allied health degree (i.e., radiologic technology, RN, etc.) OR a bachelor's degree in a medically related science Selection criteria can be viewed on the program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/), at the Admissions Policies link.

All students, regardless of the pathway they qualify under, will follow the same two-year roadmap once accepted into the sonography program.

Students may have a maximum of two prerequisite courses progress at the time of application, and the student must have maintained at least a 3.0 GPA in prerequisite courses and overall college GPA. This is a full-time program with all requirements falling Monday-Friday between 8 am-5 pm (exact days/hours vary by semester), including clinical internships which may occur outside of the immediate Las Cruces area. All sonography core courses relate to each other and are only offered once during the program and, therefore, cannot be taken out of sequence or individually. Students must maintain a grade of "C" in all sonography core coursework and clinical internship to remain in the program. The DMS program utilizes an accelerated grading scale. 74% is the minimum passing score for all assignments, assessments, and overall class grading and corresponds to a "C." **All students are required to have personal health insurance to attend clinical internships.**

Applicants with pre-requisite coursework from an institution outside of the United States MUST have an official, detailed translation of their coursework into the US equivalency sent to the program from the World Education Services (WES). International applicants who do not provide official documentation of acceptable US course and degree equivalency will not be considered during the application process.

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This track is only designed for students with existing health-related degrees. If you do not have an associate or bachelor's degree in a medically related field, please visit the Associate Track page.

Certificate Track (53 credits)

This is a limited-entry program beginning only in the spring semester. Criteria and factors used in evaluating applicants include the following:

- High school diploma or GED
- 2-year allied health degree (i.e. radiologic technology, RN, etc.) **OR** a bachelor's degree in a medically related science
  - Application points based on GPA
- County of residence

Note: Application cycle is open July 1st-September 1st, and requires prior attendance at a program orientation session (registration available on program website (https://dacc.nmsu.edu/academics/programs/diagnostic-medical-sonography/)).

NOTE: A grade of C- or better on a traditional grading scale is required in designated Mathematics courses. Students must earn a final grade of C or better in all required DMS courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. The DMS program utilizes an accelerated grading scale. 74% is the minimum passing score for all assignments, assessments, and overall class grading and corresponds to a "C."

Students must complete all University certificate requirements to total at least 53 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Core Requirements		
MATH 1220G	College Algebra	3
PHYS 1230G	Algebra-Based Physics I [1, 2]	3
or PHYS 1112	Introductory Physics for the Health Sciences	
or RADT 2410	Radiographic Physics and Equipment	
Technical Requirements [3]		
DMSO 1110	Introduction to Clinical Practicum	1
DMSO 1111	Introduction Sonography/Patient Care	2
DMSO 1114	Introduction to Clinical Practicum II	1
DMSO 1131	Pelvic Sonography	2
DMSO 1131L	Pelvic Sonography Laboratory	1
DMSO 1140	Abdominal Sonography	2
DMSO 1140L	Abdominal Sonography Laboratory	1
DMSO 1150	Sonographic Principles and Instrumentation I	2
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 1526	1st Trimester Obstetric Sonography	1
DMSO 1527	2nd/3rd Trimester Obstetric Sonography	1
DMSO 1528	High Risk Obstetric Sonography	3
DMSO 2020	Pediatric Sonography	2
DMSO 2226	Sonographic Case Studies I	1
DMSO 2227	Sonographic Case Studies II	1
DMSO 2230	Gynecologic Pathology	2
DMSO 2240	Abdominal Pathology I	2

DMSO 2245	Abdominal Pathology II	2
DMSO 2250	Sonographic Principles and Instrumentation II	3
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5
DMSO 2291	Registry Preparation: OB/GYN	1
DMSO 2292	Registry Preparation: Abdomen	1
DMSO 2295	Small Parts and Superficial Structures	2
Total Credits		**53**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

[2] While RADT 105 and PHYS 1112 meet program requirements, they do not meet the NM General Education Area III: Laboratory Sciences requirement.

[3] All DMS classes are restricted to students who have been formally accepted into and remain in good standing with the Diagnostic Medical Sonography program.

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses:

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

(Certificate 53 credits)

Note: Application cycle is open July 1st-September 1st, and requires prior attendance at a program orientation session.

A Suggested Plan of Study

The contents of this Road Map may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: All of the courses in this program relate to each other and to the clinical internship and cannot be taken individually.

NOTE: A grade of C- or better on a traditional grading scale is required in designated Mathematics courses. Students must earn a final grade of C or better in all required DMS courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. The DMS program utilizes an accelerated grading scale. 74% is the minimum passing score for all assignments, assessments, and overall class grading and corresponds to a "C."

Students must complete all University certificate requirements to total at least 53 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Prerequisite semester		
Area II: Mathematics		3
MATH 1220G	College Algebra	
Choose one from the following:		3
PHYS 1230G	Algebra-Based Physics I	
PHYS 1112	Introductory Physics for the Health Sciences	
RADT 2410	Radiographic Physics and Equipment	
	Credits	**6**
Semester 2		
DMS program semester 1		
DMSO 1110	Introduction to Clinical Practicum	1
DMSO 1111	Introduction Sonography/Patient Care	2
DMSO 1131	Pelvic Sonography	2
DMSO 1131L	Pelvic Sonography Laboratory	1
DMSO 1140	Abdominal Sonography	2
DMSO 1140L	Abdominal Sonography Laboratory	1
DMSO 1150	Sonographic Principles and Instrumentation I	2
	Credits	**11**
Semester 3		
SUMMER - DMS program semester 2		
DMSO 1114	Introduction to Clinical Practicum II	1
DMSO 1526	1st Trimester Obstetric Sonography	1
DMSO 1527	2nd/3rd Trimester Obstetric Sonography	1
	Credits	**3**
Semester 4		
DMS program semester 3		
DMSO 1170	Clinical Practicum I	1
DMSO 2230	Gynecologic Pathology	2
DMSO 2240	Abdominal Pathology I	2
DMSO 2250	Sonographic Principles and Instrumentation II	3
	Credits	**8**
Semester 5		
DMS program semester 4		
DMSO 1180	Clinical Practicum II	4
DMSO 2226	Sonographic Case Studies I	1
DMSO 2245	Abdominal Pathology II	2
DMSO 2295	Small Parts and Superficial Structures	2
	Credits	**9**
Semester 6		
SUMMER- DMS program semester 5		
DMSO 2227	Sonographic Case Studies II	1
DMSO 2270	Clinical Practicum III	3
	Credits	**4**
Semester 7		
DMS program semester 6		
DMSO 1528	High Risk Obstetric Sonography	3
DMSO 2020	Pediatric Sonography	2
DMSO 2280	Clinical Practicum IV	5
DMSO 2291	Registry Preparation: OB/GYN	1
DMSO 2292	Registry Preparation: Abdomen	1
	Credits	**12**
	Total Credits	**53**

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses:

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

Vascular Sonography - Certificate of Completion

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This is a limited-entry certificate open to students concurrently enrolled in the Diagnostic Medical Sonography (DMS) program; it is not available as a standalone certificate. Several of the required courses overlap with the main DMS program and satisfy requirements for both simultaneously. For selection criteria and qualifications, please visit the main Diagnostic Medical Sonography (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/diagnostic-medical-sonography/diagnostic-medical-sonography-associate-applied-science/) catalog listing.

(Certificate 33 credits)

Note: Application cycle is open July 1st-September 1st, and requires prior attendance at a program orientation session.

NOTE: All of the courses in this program are offered once per academic year and relate to each other and the clinical internship. Courses may not be taken individually or out of sequence.

NOTE: Students must earn a final grade of C- or better in all required DMS courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in the designated Mathematics courses.

Students must complete all university certificate requirements to total at least 33 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary Mathematics coursework.

Prefix	Title	Credits
Core Requirements		
MATH 1220G	College Algebra [1]	3
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1]	4
DMSO 1111	Introduction Sonography/Patient Care	2
DMSO 1116	Vascular Technology I	2
DMSO 1116L	Vascular Technology I Lab	1
DMSO 1150	Sonographic Principles and Instrumentation I	2
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2216	Vascular Technology II	2
DMSO 2250	Sonographic Principles and Instrumentation II	3
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5
DMSO 2293	Registry Preparation: Vascular	1
Total Credits		**33**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses:

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

(Certificate 33 credits)

Note: Application deadline is September 1

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: All of the courses in this program are offered once per academic year and relate to each other and the clinical internship. Courses may not be taken individually or out of sequence.

NOTE: The program is three consecutive semesters, to include required summer classes.

NOTE: Students must earn a final grade of C- or better in all required DMS courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in the designated Mathematics courses.

Students must complete all University certificate requirements to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary Mathematics coursework.

Semester 1		**Credits**
Prerequisite semester		
MATH 1220G	College Algebra [1]	3
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1]	4
	Credits	**7**
Semester 2		
DMS/Vascular program semester 1		
DMSO 1111	Introduction Sonography/Patient Care	2
DMSO 1150	Sonographic Principles and Instrumentation I	2
	Credits	**4**
Semester 3		
DMS/Vascular program semester 2		
DMSO 1116	Vascular Technology I	2
DMSO 1116L	Vascular Technology I Lab	1
	Credits	**3**
Semester 4		
DMS/Vascular program semester 3		
DMSO 1170	Clinical Practicum I	1
DMSO 2250	Sonographic Principles and Instrumentation II	3
	Credits	**4**

Semester 5		
DMS/Vascular program semester 4		
DMSO 1180	Clinical Practicum II	4
	Credits	**4**
Semester 6		
DMS/Vascular program semester 5		
DMSO 2216	Vascular Technology II	2
DMSO 2270	Clinical Practicum III	3
	Credits	**5**
Semester 7		
DMS/Vascular program semester 6		
DMSO 2280	Clinical Practicum IV	5
DMSO 2293	Registry Preparation: Vascular	1
	Credits	**6**
	Total Credits	**33**

[1] Courses identical to those offered at New Mexico State University (Main) Campus

Course Fees

In addition to tuition, a fee of $200 is charged for each of the following courses:

Prefix	Title	Credits
DMSO 1170	Clinical Practicum I	1
DMSO 1180	Clinical Practicum II	4
DMSO 2270	Clinical Practicum III	3
DMSO 2280	Clinical Practicum IV	5

Drafting and Design Technologies

Associate of Applied Science Degrees

- Architectural Technology
- Civil/Survey Technology
- Mechanical Drafting and Solid Modeling
- Pre-Architecture
- Surveying Technology

Certificates of Completion

- Architectural Technology
- Civil/Survey Technology
- Drafting and Graphics
- Geographical Information Systems
- Mechanical Drafting and Solid Modeling
- Pre-Architecture

The Drafting and Design Technologies Program provides students with a strong foundation in Computer-Aided Drafting (CAD), Architecture/Design, and relevant theory and concepts necessary to become successful in various related fields. These fields include

- Architecture,
- Architectural Technology,
- Civil/Survey Technology,
- Mechanical Drafting and Solid Modeling, and
- Surveying/Geomatics

Excellent job and salary opportunities are available nationwide for Drafters/CAD specialists, technicians, architects, and engineers. With its rapid growth, Southern New Mexico has strong employment possibilities for graduates of the Drafting and Design Technologies Program. Students with previous related training and/or formal education may qualify for more advanced positions, such as construction inspector or supervisor, contractor, or senior drafter.

Within the Drafting and Design Technologies Program are five courses of study leading to associate of applied science degrees. These allow students to tailor their studies to their own interests and career aspirations.

- ***Architectural Technology:*** Architectural 2D and 3D drafting, residential design, construction estimating, construction technology, architectural rendering and animation, green building (LEED), and Building Information Modeling (BIM)
- ***Civil/Survey Technology:*** Civil engineering drafting, surveying fundamentals, roadway construction drafting, land development drafting, and GIS training
- ***Mechanical Drafting and Solid Modeling:*** Mechanical drafting, machine/manufacturing fundamentals, basic mechanical design, parametric solid modeling, and animation
- ***Pre-Architecture:*** Architectural theory and drawing; design studio/culture; architectural history; computer applications; introduction to construction principles and construction documents; and presentation techniques.
- ***Surveying Technology:*** Survey engineering drafting, surveying fundamentals, geographical information systems, digital mapping, and programming.

While pursuing this program, whether taking classes or working in a co-op position, students will be required to perform the same job duties and be able to meet the same physical requirements that they will as a graduate in the field including working at a computer for an extended period of time and the ability to lift 25 to 50 pounds. Courses, as well as careers, in Drafting and Design Technologies will require a person to be able to work at computers, communicate verbally and in writing, and participate in an online environment.

Students in all Drafting and Design Technologies options are required to own or purchase a **windows-based computer or laptop** with a webcam and microphone, at an approximate cost of $1,400, that is capable of running the software packages utilized in the program. For minimum computer or laptop technical specifications and requirements, students should contact the department. Drafting and Design Technologies students are also required to have and maintain reliable broad-band internet access. In addition to required textbooks, Drafting and Design Technologies students should also expect to purchase drawing/sketching tools and supplies, architect's and engineer's scales, external hard-drives (or other similar file backup devices), website and/or software subscriptions and other related supplies at an approximate cost of $100 per semester on average.

Future students who are still in high school are encouraged to take courses in mathematics, science, English, and drafting/CAD. Furthermore, dual credit opportunities are available for high school students who wish to earn college credit while still in high school. These credits may apply to their high school credit requirements as well as DACC Drafting and Design Technologies requirements. (For more information, refer to the section titled, "Dual Credit Program (p. 14)," within this catalog.)

Pre-Architecture Program Overview

Students planning to pursue a professional career in architecture may find it more convenient and economically advantageous to begin their studies closer to home. The DACC Pre-Architecture program, which culminates in an associate of applied science degree, consists roughly of the first two years of a standard, bachelor's degree curriculum in architecture. Currently, the most popular transfer universities for DACC Pre-Architecture students are the University of New Mexico and Texas Tech University. Both offer in-state tuition rates and have signed articulation agreements with DACC providing for the smooth and efficient transfer of credits.

However, acceptance into a transfer university's architecture program is not automatic nor is it guaranteed. Students must follow the regular application procedures of the chosen university.

In addition, DACC cannot guarantee placement into a transfer university's architecture program at any particular level, as such matters are totally dependent on how the university in question may evaluate transcripts, portfolios and other required materials against its own acceptance criteria. For example, in order to be accepted at UNM, a final grade of *B-* or better is required in ARCH 1120 Introduction to Architecture and ARCH 1115 Introduction to Architectural Graphics, and a final grade of *C-* or better is required in all other courses in the DACC Pre-Architecture curriculum.

Potential architecture students should contact a Pre-Architecture advisor at DACC for assistance with course scheduling and transfer procedures (575) 527-7592.

Students in the Pre-Architecture Program are required to purchase a **windows-based computer or laptop** with a webcam and microphone, at an approximate cost of $1,400, that is capable of running the software packages utilized in the program. For minimum computer or laptop technical specifications and requirements, students should contact the department. Drafting and Design Technologies students are also required to have and maintain reliable broad-band internet access. In addition to required textbooks, Pre-Architecture students should also expect to purchase drawings tools, model-making materials, and other art-related supplies at an approximate cost of $200 per semester on average.

Credit Transfer to Bachelor's Degrees in Engineering Technology or Geomatics at NMSU

The Architectural Technology, Civil/Survey Technology, Mechanical Drafting and Solid Modeling, and Surveying Technology associate degree programs include courses that allow students to earn credits that may be transferable into one of the engineering technology or geomatics programs offered by NMSU. These courses allow students to maximize the number of credits applicable to an NMSU Engineering Technology or geomatics program, while also making it possible to earn an associate degree for immediate employment in a drafting related field. Students should contact a Drafting and Design Technologies program advisor for the most current information and requirements related to these credit transfer opportunities (575) 527-7592.

Additional Program Information

Students in the Drafting and Design Technologies options or Pre-Architecture program receive training from highly qualified faculty through online instruction and/or in modern classrooms and laboratories equipped with the latest in computers, peripheral equipment, and professional software. The Drafting and Design Technologies program is housed at the DACC East Mesa Campus.

Classes are scheduled during the day and evening hours, as well as during the summer, to serve both full- and part-time students, including local high school students who are participating in the dual credit enrollment program. Courses are available at the various DACC locations, as well as selected high schools in the area. In the case of the Drafting and Design Technologies options, the majority of classes are delivered online, allowing the students to pursue a certificate of completion or degree through distance education. For information about availability and delivery format of specific classes or degree options students should contact the department.

Students also have the opportunity to gain professional development and leadership skills through student organizations. These student organizations are affiliated with at least one of the following:

- American Design Drafting Association (ADDA),
- SkillsUSA,
- National Association of Home Builders (NAHB), and
- American Institute of Architecture Students (AIAS).

Students actively participate in numerous events and activities. Members also take part in activities sponsored by other professional associations, recruiting at high schools, and participating in community service projects. Students can compete in statewide and nationwide drafting contests sponsored by SkillsUSA and other organizations.

Additional Graduation Requirements

A final grade of *C-* or better is required in all DRFT courses. A final grade of *C-* or better is required in ENGL 1110G Composition I. A final grade of *B-* or better is required in ARCH 1120 Introduction to Architecture and ARCH 1115 Introduction to Architectural Graphics; in all other ARCT courses, a minimum final grade of *C-* is required.

Architectural Technology - Associate of Applied Science (p. 281)

Civil/Survey Technology - Associate of Applied Science (p. 282)

Mechanical Drafting and Solid Modeling - Associate of Applied Science (p. 283)

Pre-Architecture - Associate of Applied Science (p. 284)

Surveying Technology - Associate of Applied Science (p. 286)

Architectural Technology - Certificate of Completion (p. 287)

Civil/Survey Technology - Certificate of Completion (p. 287)

Drafting and Graphics Technology - Certificate of Completion (p. 288)

Geographical Information Systems - Certificate of Completion (p. 288)

Mechanical Drafting and Solid Modeling - Certificate of Completion (p. 289)

Pre-Architecture - Certificate of Completion (p. 289)

DRFT 100. Introduction to Architecture, Engineering, & Construction
3 Credits (3)
Introduction to and exploration of careers in the fields of architecture, engineering, and construction. Specific fields to include: architecture, civil engineering, mechanical engineering, structural engineering, engineering

technology, residential construction, commercial construction, geographical information systems (GIS), surveying, sustainable design, and green building

Learning Outcomes

1. Prepare accurate written technical documents,
2. Produce drawing documents that are technically sound,
3. Develop and practice productive work skills, and
4. Upgrade technical knowledge and skills to keep pace with real-world changes
5. Describe different career options in architecture, engineering, and construction,
6. Define the roles of different design professionals and support staff,
7. Explain related educational and professional licensing requirements,
8. Articulate employer expectations,
9. Explore related courses and programs of study at DACC and NMSU, and 1
10. Develop good workplace skills and professional, productive work habits.

DRFT 105. Technical Drawing for Industry
3 Credits (2+2P)

Technical sketching, basic CAD, and interpretation of drawings with visualization, speed and accuracy highly emphasized. Areas of focus include various trades such as machine parts, welding, heating and cooling, and general building sketches/plan interpretation.

DRFT 108. Drafting Concepts/Descriptive Geometry
2 Credits (1+2P)

Basic manual drafting skills, sketching, terminology and visualization. Graphical solutions utilizing applied concepts of space, planar, linear and point analyses. Metric and S.I. units introduced. May be repeated up to 2 credits.

Learning Outcomes

1. Analyze the parallels and distinctions between drafting and design within the Engineering and Architectural domains.
2. Outline the attributes of linear, two-dimensional, and three-dimensional graphic portrayal.
3. Sketch fundamental geometric shapes in linear, two-dimensional, and three-dimensional formats.
4. Explain the characteristics of an Architectural and Engineering Scale.
5. Apply appropriate Architectural or Engineering Scale to dimension drawings accurately.
6. Identify and expound upon the following concepts: a) Plan view, b) Elevation view, c) Section view.
7. Generate precise, readable, and meticulous drawings in Plan, Elevation, and Section views.

DRFT 109. Computer Drafting Fundamentals
3 Credits (2+2P)

Introduction to principles and fundamentals of drafting using both manual drawing techniques and computer-aided drafting (CAD) applications. Crosslisted with: E T 109 and C E 109. May be repeated up to 3 credits.

Learning Outcomes

1. Describe related career options/pathways.
2. Explain and apply common drafting terms, concepts, and conventions.
3. Utilize various AutoCAD commands and Coordinate Entry methods to produce accurate and precise Two-Dimensional drawings.
4. Setup AutoCAD working environment, drawings, styles, and applicable settings.
5. Navigate the AutoCAD user interface efficiently.
6. Apply different drafting methods, strategies, and processes.
7. Utilize AutoCAD to produce basic 2D CAD working drawings.
8. Measure utilizing scales accurately.
9. Create drawings with different scales and units. 1
10. Plot drawings produced in AutoCAD at various scales and on various sheet sizes. 1
11. Utilize the two Drawing Environments: Paper Space and Model Space. 1
12. Manage AutoCAD drawing files.

DRFT 112. Drafting Concepts/Computer Drafting Fundamentals I
4 Credits (2+4P)

Basic drafting skills, terminology, and visualization. Introduction to principles and fundamentals of computer-aided drafting. Same as E T 106.

Prerequisites: OECS 207, OECS 125 or consent of instructor.

DRFT 113. Drafting Concepts/Computer Drafting Fundamentals II
4 Credits (2+4P)

Drafting for mechanical/industrial applications; machine part detailing, assemblies in orthographic, isometric, auxiliary, oblique, and sectional views. Two-dimensional AutoCAD with introduction to 3-D AutoCAD. Same as E T 216. Restricted to: Community Colleges only.

Prerequisite: DRFT 112.

DRFT 114. Introduction to Solid Modeling
3 Credits (2+2P)

Introduction to 3D mechanical parametric solid modeling and basic assembly creation utilizing Autodesk Inventor as well as other applicable solid modeling software packages. Creation of 2D working drawings from 3D solid models and 3D models for machining/manufacturing purposes will be emphasized. Application of Geometric Dimensioning and Tolerancing (GD&T), material properties, and industry standard fastening and manufacturing practices methods will be introduced. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Create 3D solid models.
2. Read and interpret 2D technical drawings.
3. Read and interpret 3D technical drawings.
4. Define and sketch the standard, sectional, and auxiliary views of a given object.
5. Annotate working mechanical drawings following industry standards.
6. Dimension working mechanical drawings following industry standards.
7. Identify standard threads callouts.
8. Identify standard fasteners callouts.
9. Identify standard metal shapes and sizes. 1
10. Produce sheet and assembly drawings. 1
11. Manage Electronic files.

DRFT 115. General Construction Safety
3 Credits (3)

Overview of general construction safety related to building, highway and road construction, and surveying field work for entry-level individuals. Students will also have the opportunity to earn a 10-hour construction industry OSHA card.

Learning Outcomes

1. Discuss the general history of OSHA.
2. Discuss the general history of the U.S. safety movement.
3. Utilize the OSHA web site as a basic safety resource.
4. Utilize the Call Before You Dig website as a basic safety resource.
5. Recognize construction site hazards.
6. Identify construction site hazards.
7. Avoid construction site hazards.
8. Follow proper basic first aid procedures in an emergency.
9. Avoid exposure to blood-borne pathogens in an emergency situation. 1
10. Interpret hazard communication. 1
11. Recognize proper lifting techniques. 1
12. Recognize personal protective equipment.

DRFT 124. Introduction to Geometric Dimensioning and Tolerancing
3 Credits (2+2P)

Introduction to geometric dimensioning and tolerancing (GD&T) for mechanical and print reading in mechanical engineering technology and manufacturing industries. Related industry standards will also be introduced and explored. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Analyze and interpret mechanical engineering drawings and associated information accurately.
2. Apply and utilize terminology related to Geometric Dimensioning and Tolerancing (GDT) effectively.
3. Interpret and explain dimensioning symbols used in engineering drawings, ensuring clear understanding of their representation and significance.
4. Interpret and explain GDT modifiers and symbols, comprehending their purpose and impact on the design and manufacturing process.
5. Apply GDT rules and concepts to engineering drawings, ensuring adherence to industry standards and specifications.
6. Apply datum system concepts appropriately, understanding their role in establishing reference points for dimensional control.
7. Explain the characteristics and key features of different types of tolerances, such as bilateral, unilateral, and geometric tolerances, comprehending their implications on part functionality and manufacturing processes.

DRFT 130. General Building Codes
3 Credits (2+2P)

Interpretation of the Building Code, local zoning codes, A.D.A. Standards and the Model Energy Code to study construction and design requirements and perform basic plan checking. Restricted to: Community Colleges only.

Learning Outcomes

1. Navigate, interpret, and apply Codes as necessary to meet different agency or governmental entities' requirements for their approval.
2. Develop critical thinking strategies to develop a preliminary design and plan to check for code compliance.
3. Classify occupancy classification of buildings and structures.
4. Determine "Location on Property" requirements of buildings and structures.
5. Classify occupant loads of buildings and structures.
6. Calculate exit requirements of buildings and structures.
7. Determine fire rating of building elements.
8. Define specific construction requirements based on types of construction and materials.
9. Determine the number of plumbing fixture counts based on occupancy group and occupant load. 1
10. Determine accessibility requirements of buildings and structures.

DRFT 135. Electronics Drafting I
3 Credits (2+2P)

Drafting as it relates to device symbols; wiring, cabling, harness diagrams and assembly drawings; integrated circuits and printed circuit boards; schematic, flow and logic diagrams; industrial controls and electric power fields. Drawings produced using various CAD software packages.
Prerequisites: DRFT 108 and DRFT 109.

DRFT 143. Civil Drafting Fundamentals
3 Credits (2+2P)

Introduction to drafting in the field of Civil Engineering. Drawings, projects, and terminologies related to topographic, contour drawings, plan and profiles, and street/highway layout. Restricted to Community Colleges only. Taught with E T 143 and SUR 143.
Prerequisite: DRFT 109.

Learning Outcomes

1. Use appropriate drafting/technical terminology.
2. Identify of the different types of Civil Engineering work drawing plan sets.
3. Understanding and the use of the terminologies used in the industry.
4. Use AutoCAD Civil 3D.
5. Enter appropriate data into AutoCAD software in order to retrieve necessary outcomes.
6. Plot/Print different types of civil engineering working plans.
7. Read, interpret and understand engineering drawings.
8. Define and understand the different types of engineering drawings.

DRFT 151. Construction Principles and Print Reading
3 Credits (2+2P)

Introduction to construction materials, methods, and basic cost estimating and print reading applicable in today's residential, commercial, and public works industry. Instruction by print reading and interpretation, field trips, and actual job-site visits and progress evaluation.

Learning Outcomes

1. Read, Interpret, and Reference Construction Working Drawings and Construction Specifications.
2. Perform basic sketches related to construction details, plans, etc.
3. Apply standard working drawing/drafting practices including appropriate scale, units, linetypes, text, dimensions, etc.
4. Differentiate among the various construction/design disciplines including Civil/Survey, Structural, Architectural, Mechanical, Plumbing, Electrical, etc.
5. Know the basic principles related to the following processes: Construction Document Development, Bidding, Permitting, and Construction.
6. Identify common construction materials and quality control practices associated with the various construction disciplines listed above.
7. Know basic construction methods associated with the various construction disciplines listed above.
8. Conduct safe construction observations for the sole purpose of documenting construction materials, methods, and progress.
9. Utilize proper, technical construction terminology. 1

10. Conduct material research, and utilize the organization standards of the Construction Specifications Institute. 1
11. Document construction phases by visiting construction sites and developing a digital, construction project portfolio.

DRFT 153. Survey Drafting Applications
3 Credits (2+2P)
Introduction to drafting in the field of survey engineering. Drawings, projects and terminologies related to Point Data, topography, land/boundary surveys, legal descriptions and plat surveys. Using the current Autodesk software. Taught with SUR 143. Restricted to: Community Colleges only.
Prerequisite: DRFT 109.
Learning Outcomes
1. Use appropriate drafting/technical terminology.
2. Identify different types of survey work drawings.
3. Understand and use terminologies used in the industry.
4. Use AutoCAD Civil 3D.
5. Enter appropriate data into AutoCAD software in order to retrieve necessary outcomes.
6. Plot/Print different types of civil engineering working plans
7. Read, interpret and understand surveying drawings.

DRFT 163. Civil Infrastructure Detailing
3 Credits (2+2P)
Infrastructure detailing related to civil engineering projects including: ponding, roadway, sewer, and storm-water structures; concrete foundations; and related utility details. Restricted to Community Colleges campuses
Prerequisite(s): DRFT 109.
Learning Outcomes
1. l. Prepare accurate written technical documents,
2. Produce drawing documents that are technically sound,
3. Develop and practice productive work skills, and
4. Upgrade technical knowledge and skills to keep pace with real-world changes DRFT 163 Course Competencies l. Create applicable details utilizing AutoCAD and other software packages,
5. Interpret local design standards, applicable codes, and industry practices,
6. Apply local design standards,
7. Apply applicable codes,
8. Follow standards industry practices,
9. Design applicable details within given parameters, and
10. Develop good workplace skills and professional, productive work habits.

DRFT 164. Intermediate Mechanical Drafting/Solid Modeling
3 Credits (2+2P)
Intermediate 3D mechanical parametric solid modeling and assembly creation utilizing Solidworks as well as other applicable parametric modeling software packages. Creation of 2D working drawings from 3D solid models, 3D models for machining/manufacturing, and assemblies will be emphasized. Geometric Dimensioning and Tolerancing (GD&T), material properties, and industry standards and manufacturing practices and methods will be further explored. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Recognize standard views, auxiliary views and sectional views of a given object.
2. Dimension working mechanical drawings following appropriate industry standards.
3. Apply Geometric Dimensioning and Tolerancing (GDT) practices and standards to working drawings.
4. Identify standard thread and fastener callouts.
5. Apply standard thread and fastener specifications.
6. Create 3D solid models.
7. Produce sheet and assembly drawings.
8. Manage Electronic files.

DRFT 165. Introduction to Building Information Modeling
3 Credits (2+2P)
Introduction to Building Information Modeling (BIM) in the development of virtual 3D building models, construction documents, renderings and basic animations related to architectural, structural, and mechanical/electrical/plumbing building components. Utilizes the latest BIM technologies in the integration one, parametric BIM. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Demonstrate proficiency in creating comprehensive 3D architectural project models using Revit Architecture, through guided tutorials and independent work.
2. Transform architectural project models into functional working drawings, ensuring accurate representation of design elements and documentation standards.
3. Develop a solid understanding of the essential tools and features commonly used in Revit Architecture, enabling efficient and effective modeling and documentation.
4. Cultivate project file management skills, including organizing, naming, and version control, to maintain a structured and easily navigable digital workspace.

DRFT 180. Residential Drafting
3 Credits (2+2P)
Basic residential drafting including, floor plans, foundation plans, sections, roof plans, exterior and interior elevations, and site plans. Applicable residential building and zoning codes, construction methods and materials, adaptable residential design, and drawing and sheet layout for architectural drafting will be introduced. Restricted to Community Colleges campuses only.
Prerequisite: A C- or better in DRFT 109.
Learning Outcomes
1. Establish AutoCAD drawings for Architectural projects, ensuring appropriate settings, units, and templates are utilized.
2. Apply relevant building codes to residential drafting projects, ensuring compliance with safety and regulatory requirements.
3. Apply design standards specific to residential drafting projects, incorporating principles of functionality, aesthetics, and spatial planning.
4. Generate a comprehensive residential floor plan working drawing, accurately representing the layout and dimensions of interior spaces.
5. Produce residential foundation plan working drawings, depicting the structural elements and dimensions of the foundation system for a residential project.
6. Create a detailed residential wall section working drawing, illustrating the construction and composition of walls in a residential structure.
7. Develop residential exterior elevation working drawings, showcasing the external appearance, materials, and architectural features of a residential building.

8. Generate a residential interior elevation working drawing, highlighting the vertical surfaces, materials, and design elements within the interior spaces of a residential project.
9. Produce a residential site plan working drawing, depicting the placement of buildings, landscape features, and utilities within the property boundaries. 1
10. Coordinate details and references consistently throughout a set of residential working drawings, ensuring accuracy and clarity in the documentation. 1
11. Set drawings to scale, including the layout of multiple scaled drawings on one sheet, allowing for efficient presentation and communication of design information.

DRFT 181. Commercial Drafting
3 Credits (2+2P)
Drafting principles, plan coordination, and code analysis applicable in the development of working drawings for commercial, public, and industrial building projects. Students will utilize National Cad Standards, ADA Standards, and will be introduced to modern office practice. Restricted to Community Colleges campuses.
Prerequisite: DRFT 109.
Learning Outcomes
1. Setup AutoCAD drawings for architectural projects.
2. Apply building code to residential drafting projects.
3. Apply design standards to residential drafting projects.
4. Produce a residential floor plan working drawing.
5. Produce residential foundation plan working drawings.
6. Produce a residential wall section working drawing.
7. Produce residential exterior elevation working drawings.
8. Produce a residential interior elevation working drawing.
9. Produce a residential site plan working drawing. 1
10. Coordinate details and referencing throughout a set of residential working drawings. 1
11. Set drawings to scale, including multiple scaled drawing on one sheet layout.

DRFT 190. Finding and Maintaining Employment
2 Credits (2)
Techniques in self-evaluations, resume writing, application completion, job interviewing, and job retention. Exposure to work ethics, employee attitudes, and employer expectations. May be repeated up to 2 credits.
Learning Outcomes
1. Develop an understanding of utilizing online tools for effective self-promotion in professional contexts.
2. Gather relevant documents to enhance employability, including resumes, cover letters, and supporting materials.
3. Create a comprehensive portfolio that encompasses a print-ready resume, video resume, and well-crafted cover letter.
4. Demonstrate the ability to set realistic and meaningful professional and personal goals, aligning them with career aspirations.
5. Exhibit positive interview techniques, showcasing effective communication skills, professionalism, and confidence.
6. Display a thorough comprehension of workplace ethics, including principles of integrity, accountability, and respect.
7. Evaluate personal performance as an employee, analyzing strengths, areas for improvement, and opportunities for growth.

DRFT 204. Geographic Information Systems Technology
3 Credits (2+2P)
The use of digital information for which various digitized data creation methods are captured. Users will capture, store, analyze and manage spatially referenced data in a modeled mapping procedure.
Learning Outcomes
1. Present projects and critiques using visual, oral, and written communication skills.
2. Prepare written technical documents use appropriate drafting/technical terminology.
3. Produce documents that are technically sound.
4. Analyze information to develop solutions to technical aspects of a problem/situation.
5. Upgrade knowledge and skills to keep pace with real-world changes.
6. Produce projects that respect the intellectual property of others.
7. Participate in activities of professional organization and community service.
8. Demonstrate professionalism with regard to attendance, punctuality and contribution to course.
9. Demonstrate professional demeanor. 1
10. Practice productive work skills. 1
11. Create an employment portfolio.

DRFT 214. Advanced Plans and Sheet Sets from 3D Models
3 Credits (2+2P)
Using 3D mechanical parametric solid modeling and assemblies that utilizes Inventor, Solidworks, and/or other applicable solid modeling and parametric modeling software packages to create advanced drawings and sheet sets. Creation of complete working drawing sets and/or sheet sets, PDF documents, and assembly drawings will be emphasized. Developing and designing parts and assemblies to meet client needs will be introduced and explored. Restricted to Community Colleges campuses only.
Prerequisite/Corequisite: A minimum grade of C- in DRFT 114 or DRFT 164.
Learning Outcomes
1. Recognize standard views, auxiliary views and sectional vies of a given object.
2. Evaluate shop drawings and hand drawings.
3. Create PDFs and 3D PDFs from Three-Dimensional models and assemblies.
4. Dimension working mechanical drawings following appropriate industry standards.
5. Apply Geometric Dimensioning and Tolerancing (GDT) practices and standards to working drawings.
6. Identify standard callouts.
7. Apply standard thread and fastener specifications.
8. Produce assembly drawings.
9. Produce working drawing sets and/or sheet sets. 1
10. Interpret client needs/instructions.

DRFT 222. Introduction to Geomatics
3 Credits (2+3P)
Theory and practice of geomatics as applied to plane surveying in the areas of linear measurements, angle measurements, area determination, differential and trigonometric leveling, and topographic mapping. Crosslisted with: SUR 222.
Prerequisite: MATH 1250G or MATH 1430G.
Learning Outcomes
1. Various

DRFT 230. Building Systems Drafting
3 Credits (2+2P)
Development of working drawings for electrical, plumbing, and HVAC systems, for residential and commercial building through the applications of both 2D Drafting and 3D Building Information Modeling (BIM) techniques. Basics of project setup, National CAD Standards, ADA Standards, modern office practice, code analysis, as well as Sustainability and LEED for new construction. Restricted to: Community Colleges only.
Prerequisite: DRFT 180 or DRFT 181.
Learning Outcomes
1. Differentiate between three phases of electrical installation: temporary, rough-in, and finish.
2. Define basic electrical terms.
3. Cite basic rules of electrical circuit design.
4. Specify methods of wiring a home with energy conservation techniques.
5. Draft basic electrical symbols, including switches, duplex receptacle outlets, ceiling and wall-mounted lights, and circuit lines.
6. Identify basic service specification requirements, including service capacity, service entrance, meter base, and distribution panel locations.
7. Create and utilize symbols legends and schedules used in preparing electrical plans.
8. Identify plumbing fixtures and materials typically included in residential and commercial plans.
9. Cite sizing standards of plumbing piping. 1
10. Specify methods to conserve energy in the plumbing installation. 1
11. Draft plumbing lines and symbols with proper line weights and abbreviations. 1
12. Describe drainage and vent systems. 1
13. Differentiate between public and private sewage disposal systems, and identify basic component of each system. 1
14. Create and utilize symbols legends and schedules used in preparing plumbing plans. 1
15. Identify code requirements related to heating and cooling equipment and duct systems. 1
16. Explain how differing heating and cooling systems work. 1
17. Contrast zonal and central heating systems and list the advantages and disadvantages of each. 1
18. List the code requirements for HVAC systems. 1
19. Define basic HVAC terminology and identify basic HVAC symbols. 2
20. Describe how schedules are used in HVAC drawings, and cite the kind of information included in schedules. 2
21. Create and utilize symbols legends and schedules used in preparing HVAC plans.

DRFT 240. Structural Systems Drafting
3 Credits (2+2P)
Study of foundations, wall systems, floor systems and roof systems in residential, commercial and industrial design/construction. Produce structural drawings including foundation plans, wall and building sections, floor and roof framing plans, shop drawings and details; schedules, materials lists and specifications. Use of various software.
Prerequisite/Corequisite: DRFT 180 or DRFT 181. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Have a basic understanding of Structural Systems.
2. Have a knowledge of the different types of materials used in Structural Design.
3. Understand the complete lifecycle of a project as it pertains the Structural Systems.
4. Be able to take basic hand sketches and turn them into usable construction documents.
5. Project File management skills.

DRFT 242. Roadway Development Drafting
3 Credits (2+2P)
Advanced civil/survey technology and drafting related to roadway development. Emphasis is on relevant terminology, codes/standards, and the production of complex working drawings such as topographical/ grading, drainage, master utilities, roadway P P/details/etc., according to agency standards. Restricted to Community Colleges campuses only.
Prerequisite: DRFT 143.
Learning Outcomes
1. Become familiar with industry terminology.
2. Utilize file management.
3. Configure AutoCAD for the civil drafting environment.
4. Recognize and utilize line types associated with Civil Drafting.
5. Create a standardized layering system for duplication of drawings.
6. Understand industry standards and conventions for roadway development.
7. Utilize design standards in the creation of roadway development drawings.
8. Generate roadway alignments.
9. Generate existing ground profiles. 1
10. Generate proposed finish ground roadway profiles while adhering to design standards. 1
11. Create utility plans that incorporate main lines, service lines, and all associated fittings. 1
12. Understand utility terminology and standards. 1
13. Determine flow line, BOC elevations, etc. 1
14. Understand the concepts of super elevated roadways roadway transitions. 1
15. Generate finish grade surfaces.

DRFT 243. Land Development Drafting
3 Credits (2+2P)
Advanced civil/survey technology and drafting related to land development. Emphasis is on relevant terminology codes/standards, and the production of complex working drawings such as subdivision plats, local utility and drainage plans, construction details roadway P P, etc., according to local development/ agency standards.
Prerequisite: DRFT 143 and DRFT 153.
Learning Outcomes
1. Use appropriate drafting/technical terminology.
2. Produce documents that are technically sound.
3. Analyze information to develop solutions to technical aspects of a problem/situation.
4. Upgrade knowledge and skills to keep pace with real-world changes.
5. Demonstrate professionalism.
6. Practice productive work skills.
7. Read engineering drawings.

8. Produce complex engineering drawings.
9. Read and interpret design standards related to land development and subdivision design. 1
10. Plot or print to industry size sheets of paper.

DRFT 250. Principles of Detailing and Design
3 Credits (2+2P)
Advanced practice in construction documentation in the development and coordination of working drawings & specifications. In particular, will utilize Architectural Graphic Standards, National CAD Standards, and ADA standards to develop detail drawings related to Architectural, Civil, Structural and Building Mechanical systems. Will also be introduced to basic principles, factors, and process of building design such as space planning, site analysis, and basic architectural programming.
Prerequisite/Corequisite: DRFT 180 or DRFT 181. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Experience producing the various types of detailed working drawings and related information for Civil, Residential Commercial Projects.
2. Industry Standards: Architectural Graphic Standards, National CAD Standards, Building, and Land Development Codes, etc.
3. Internet Research methods for construction materials/methods, construction documents, CAD details, etc.
4. Architectural design process, including programming, schematic design documents, design development documents, and construction documents.
5. Sustainability and LEED in architecture.
6. AutoCAD software for 2-D Drafting.
7. Revit software for Building Information Modeling (BIM).
8. Accuracy, legibility, neatness, and professional appearance of drawings.
9. Drafting skills and speed. 1
10. Work ethics, professionalism, and productive work habits. 1
11. Teamwork and presentations.

DRFT 254. Spatial Data Processing
3 Credits (2+2P)
Utilizes the tools and technologies of GIS, processing volumes of geodata identifying a numerical, coded or listed map. Involves the analysis of spatial data from various diverse applications and place in a descriptive mapping process. Restricted to Community Colleges campuses only.
Prerequisite: DRFT 204.
Learning Outcomes
1. Present projects and critiques using visual, oral, and written communication skills.
2. Prepare written technical documents use appropriate drafting/technical terminology.
3. Produce documents that are technically sound.
4. Analyze information to develop solutions to technical aspects of a problem/situation.
5. Upgrade knowledge and skills to keep pace with real-world changes.
6. Produce projects that respect the intellectual property of others.
7. Participate in activities of professional organization and community service.
8. Demonstrate professionalism with regard to attendance, punctuality and contribution to course.
9. Demonstrate professional demeanor. 1
10. Practice productive work skills. 1
11. Create an employment portfolio.

DRFT 255. Independent Study
1-3 Credits (1-3)
Instructor-approved projects in drafting or related topics specific to the student's individual areas of interest and relevant to the drafting and graphics technology curriculum. Consent of instructor required. May be repeated for a maximum of 6 credits.

DRFT 258. Introduction to Infraworks
3 Credits (2+2P)
Introduction to the utilization of Infraworks software for the conceptualization, optimization, and visualization of infrastructure projects in the context of the built and natural environment. Restricted to Community Colleges campuses
Prerequisite(s): DRFT 143.
Learning Outcomes
1. Prepare accurate written technical documents,
2. Produce drawing documents that are technically sound,
3. Develop and practice productive work skills, and
4. Upgrade technical knowledge and skills to keep pace with real-world changes DRFT 253 Course Competencies I. Navigate within a 3D drawing/modeling space,
5. Connect drawings to data sources,
6. Stylize data sources,
7. Create models elements,
8. Analyze models,
9. Collaborate on a project with others,
10. Communicate design, and
11. Develop good workplace skills and professional, productive work habits.

DRFT 265. Advanced Building Information Modeling Applications
3 Credits (2+2P)
Advanced applications of Building Information Modeling (BIM) including the creation of, and practice in collaborative work sets, data and design analyses, energy modeling and analysis, preliminary LEED analysis, construction take-offs & estimation, and construction animation, through use of various BIM and related software. Restricted to: Community Colleges only.
Prerequisite: DRFT 165.
Learning Outcomes
1. Create full 3D Structural project model by “converting” Revit Architectural model.
2. Perform advanced Revit tasks including Family Editing Creation, Phasing, and Work-sharing.
3. Have a working knowledge of the tools that the majority of users will use to work with Revit and Navisworks.
4. Perform basic Navisworks tasks including Clash Detection and Timeliner.
5. Improve Project File management skills in particular.
6. Improve efficiency in use of Revit.

DRFT 274. GIS Theory and Analysis
3 Credits (2+2P)
Analyzes the hypothesis in which location and spatial data sufficiently quantifies the appropriate statistical methodology. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): DRFT 254.

DRFT 276. Computer Rendering and Animation I
3 Credits (2+2P)
Introduction to technical applications of computer generated renderings and animations for the architecture and engineering fields. 3D models, photo-realistic renderings, and basic animation movie files will be produced utilizing industry standard modeling and animation software.

DRFT 288. Portfolio Development
3 Credits (2+2P)
Production of a portfolio consisting of previously produced student work related to the student's individualized degree option. Process shall include the compilation and organization of working and presentation drawings, construction documents, BIM Models, and renderings/ animations. Students will learn the basics of design layout and online portfolio documentation. Job search and resume preparation activities will also be required. Production of new material and content may also be required. This course is designed as a last semester course in the Drafting & Design curricula. Consent of Instructor. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Produce a professional quality portfolio.
2. Produce working drawings (if required).
3. Prepare a professional resume.
4. Prepare for a job interview.
5. Conduct a job search.
6. Work independently.
7. Practice professional networking skills.

DRFT 290. Special Topics
1-4 Credits (1-4)
Topics subtitled in the Schedule of Classes. May be repeated for a maximum of 12 credits.

DRFT 291. Cooperative Experience
1-6 Credits (1-6)
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student meets with advisor weekly. Graded S/U.
Prerequisite: consent of instructor.

DRFT 295. Professional Development and Leadership DAGA
1 Credit (1)
Students gain experience in leadership, team building, performing community service, and membership and/or leadership in a student organization. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Name: Adrian Manriquez, Instructor

Office Location: DADM 200G

Phone: (575) 527-7747

Website: https://dacc.nmsu.edu/academics/programs/drafting-and-design-technology/index.html (https://dacc.nmsu.edu/academics/programs/drafting-and-design-technology/)

Architectural Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I and II; students must select two courses from the remaining areas (III, IV, V, or VI) to complete General Education requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1220G	College Algebra [3,4]	
General Education Elective - Area I: Communications - Oral Communications		
COMM 1115G	Introduction to Communication [1]	3
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 130	General Building Codes	3
DRFT 151	Construction Principles and Print Reading	3
DRFT 165	Introduction to Building Information Modeling	3
DRFT 180	Residential Drafting	3
DRFT 181	Commercial Drafting	3
DRFT 230	Building Systems Drafting	3
DRFT 240	Structural Systems Drafting	3
DRFT 250	Principles of Detailing and Design	3
DRFT 265	Advanced Building Information Modeling Applications	3
DRFT 288	Portfolio Development	3
Electives		**11**
Advisor approved electives (ARCH, DRFT, BCT, or E T)		
Total Credits		**60-61**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G first

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
DRFT 109	Computer Drafting Fundamentals	3
DRFT 130	General Building Codes	3
DRFT 151	Construction Principles and Print Reading	3
	Credits	**13**
Semester 2		
Area II: Mathematics		3
MATH 1220G	College Algebra	
General Education - Select one "G" Course from Area III, IV, V, or VI of the NM General Education Requirements in the NMSU/DACC Catalog.		3-4
DRFT 165	Introduction to Building Information Modeling	3
DRFT 180	Residential Drafting	3
DRFT 181	Commercial Drafting	3
	Credits	**15-16**
Semester 3		
SUMMER		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
General Education - Select one "G" Course from Area IV, V, or VI of the NM General Education Requirements in the NMSU/DACC Catalog. Course must be in a different Area than the course taken in Semester 2.		3
	Credits	**6**
Semester 4		
DRFT 230	Building Systems Drafting	3
DRFT 240	Structural Systems Drafting	3
DRFT 250	Principles of Detailing and Design	3
Advisor Approved Elective (ARCH, DRFT, BCT, or E T)		3
	Credits	**12**
Semester 5		
DRFT 265	Advanced Building Information Modeling Applications	3
DRFT 288	Portfolio Development	3
Advisor Approved Elective (ARCH, DRFT, BCT, or E T)		3
Advisor Approved Elective (ARCH, DRFT, BCT, or E T)		3
Advisor Approved Elective (ARCH, DRFT, BCT, or E T)		2
	Credits	**14**
	Total Credits	**60-61**

Civil/Survey Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, and III; students must select one course from the remaining areas (IV, V, or VI) to complete General Education requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1220G	College Algebra [3, 4]	
Area III: Laboratory Sciences		
PHYS 1230G	Algebra-Based Physics I [3]	
PHYS 1230L	Algebra-Based Physics I Lab [3]	
General Education Elective - Area I: Communications - Oral Communications		
COMM 1115G	Introduction to Communication [3]	3
General Education Elective - Area IV: Social/Behavioral Sciences, Area V: Humanities, or Area VI: Creative and Fine Arts		*3*
Core Requirements		
MATH 1250G	Trigonometry & Pre-Calculus [3]	4
Major Requirements		
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 143	Civil Drafting Fundamentals	3
DRFT 151	Construction Principles and Print Reading	3
or E T 154	Construction Methods and Communications	
DRFT 153	Survey Drafting Applications	3
DRFT 204	Geographic Information Systems Technology	3
DRFT 222	Introduction to Geomatics	3
DRFT 242	Roadway Development Drafting	3
DRFT 243	Land Development Drafting	3
DRFT 254	Spatial Data Processing	3
DRFT 288	Portfolio Development	3
Electives, to bring the total credits to 60		

Advisor approved electives (C E, DRFT, ENGR, E T, GEOG, SUR)	9
Total Credits	**60**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G first.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
DRFT 109	Computer Drafting Fundamentals	0,3
DRFT 151 or E T 154	Construction Principles and Print Reading or Construction Methods and Communications	3
DRFT 204	Geographic Information Systems Technology	3
	Credits	**10-13**
Semester 2		
Area II: Mathematics		3
MATH 1220G	College Algebra	
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
DRFT 143	Civil Drafting Fundamentals	3
DRFT 153	Survey Drafting Applications	3
DRFT 254	Spatial Data Processing	3
	Credits	**15**
Semester 3		
Area II: Mathematics		4
MATH 1250G	Trigonometry & Pre-Calculus	
Area III: Laboratory Sciences		4
PHYS 1230G	Algebra-Based Physics I	
PHYS 1230L	Algebra-Based Physics I Lab	
DRFT 242	Roadway Development Drafting	3
Advisor Approved Elective (C E, DRFT, ENGR, E T, GEOG, SUR)		3
Advisor Approved Elective (C E, DRFT, ENGR, E T, GEOG, SUR)		3
	Credits	**17**
Semester 4		
Area IV: Social/Behavioral Sciences, Area V: Humanities, or Area VI: Creative and Fine Arts - Choose one course from NM General Education Area IV, V, or VI in the NMSU/DACC Catalog.		3
DRFT 222	Introduction to Geomatics	3
DRFT 243	Land Development Drafting	3
DRFT 288	Portfolio Development	3
Advisor Approved Elective (C E, DRFT, ENGR, E T, GEOG, SUR)		3
	Credits	**15**
	Total Credits	**57-60**

Mechanical Drafting and Solid Modeling - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II and III; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications - English Composition Level 1		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1220G	College Algebra [3, 4]	
Area III: Laboratory Sciences		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	
General Education Elective - Area I: Communications - Oral Communications		
COMM 1115G	Introduction to Communication [3]	3
Core Requirements		
MATH 1250G	Trigonometry & Pre-Calculus [3]	4
Major Requirements		
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 114	Introduction to Solid Modeling	3
DRFT 124	Introduction to Geometric Dimensioning and Tolerancing	3

DRFT 164	Intermediate Mechanical Drafting/Solid Modeling	3
DRFT 214	Advanced Solid Modeling	3
DRFT 288	Portfolio Development	3
MAT 102	Print Reading for Industry	3
MAT 105	Introduction to Manufacturing	3
Advisor approved electives (AERT, DRFT, ENGR, E T, MAT, M E, or WELD)		15
Total Credits		**60**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.
2 See the General Education (p. 56) section of the catalog for a full list of courses.
3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4 MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G first.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
DRFT 109	Computer Drafting Fundamentals	3
MAT 102	Print Reading for Industry	3
MAT 105	Introduction to Manufacturing	3
	Credits	**13**
Semester 2		
Area II: Mathematics		3
MATH 1220G	College Algebra	
General Education - Choose one course from NM General Education Areas IV, V, or VI in the NMSU/DACC Catalog.		3
DRFT 114	Introduction to Solid Modeling	3
DRFT 124	Introduction to Geometric Dimensioning and Tolerancing	3
DRFT 164	Intermediate Mechanical Drafting/Solid Modeling	3
	Credits	**15**
Semester 3		
SUMMER		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
Advisor Approved Elective (AERT, DRFT, ENGR, E T, MAT, M E, or WELD)		3
	Credits	**6**
Semester 4		
Area II: Mathematics		4
MATH 1250G	Trigonometry & Pre-Calculus	
DRFT 214	Advanced Solid Modeling	3
Advisor-Approved Elective (AERT, DRFT, ENGR, E T, MAT, M E, or WELD)		3
Advisor-Approved Elective (AERT, DRFT, ENGR, E T, MAT, M E, or WELD)		3
	Credits	**13**
Semester 5		
Area III: Laboratory Sciences		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
DRFT 288	Portfolio Development	3
Advisor-Approved Elective (AERT, DRFT, ENGR, E T, MAT, M E, or WELD)		3
Advisor-Approved Elective (AERT, DRFT, ENGR, E T, MAT, M E, or WELD)		3
	Credits	**13**
	Total Credits	**60**

Pre-Architecture - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(72 credits)

NOTE: Students must receive a final grade of C- or better in all required ARCH courses/Technical Requirements/Electives (except ARCH 1120 Introduction to Architecture and ARCH 1115 Introduction to Architectural Graphics as listed below) and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 72 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

As stated above, a grade of C- or better is required in all courses except ARCH 1120 Introduction to Architecture & ARCH 1115 Introduction to Architectural Graphics which requires a B- or better.

Prefix	**Title**	**Credits**
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, III and either a course from Area IV or V; students do not need to take any additional course to complete General Education requirements		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1250G	Trigonometry & Pre-Calculus [3, 4]	
Area III: Laboratory Sciences		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	

Area IV: Social/Behavioral Sciences		
The following is recommended for this area:		
POLS 1120G	American National Government [5,6]	
Area V: Humanities		
The following are recommended for this area:		
HIST 1150G	Western Civilization I [3,5]	
HIST 1110G	United States History I [3,5,6]	
HIST 1120G	United States History II [3,5,6]	
General Education Elective		
COMM 1115G	Introduction to Communication [3]	3
Core Requirements		
ENGL 2221G	Writing in the Humanities and Social Science [3]	3
MATH 1430G	Applications of Calculus I [3]	3
Major Requirements		
Technical Requirements		
ARCH 1120	Introduction to Architecture [7]	3
ARCH 1115	Introduction to Architectural Graphics	4
ARCH 1121	Computers in Architecture	3
ARCH 2112	Architectural Visualization I	3
ARCH 2120	World Architecture I	3
ARCH 2114	Construction Documents	3
ARCH 2315	Architectural Design I	5
ARCH 2325	Architecture Design II	5
ARCH 2117	Architectural Visualization II	3
ARCH 2125	World Architecture II	3
DRFT 151	Construction Principles and Print Reading	3
Electives		
Select 7 credits from the following: [5]		7
ARCH 2124	Professional Development and Leadership	
Any other advisor-approved ARCT course		
ARTS 1610	Drawing I [3]	
ARTS 1240	Design I [3]	
ARTS 1250	Design II [3]	
Advisor-approved natural science elective [6]		
ARCH 1125	Design Fundamentals	0,3
Total Credits		**69-72**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 MATH 1250G Trigonometry & Pre-Calculus is required for the degree but students may need to take any prerequisites needed to enter MATH 1250G first.

5 Students only need to select one of the following courses to fulfill the General Education course requirements.
Either POLS 1120G American National Government to meet Area IV: Social/Behavioral Sciences or,
Either HIST 1150G Western Civilization I, HIST 1110G United States History I, or HIST 1120G United States History II to meet Area V: Humanities
**Students do not need to take one from each.*

6 Recommended electives for students planning on transferring to the B.S. Architecture program at Texas Tech University.

7 Requires a grade of B- or better.

(72 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 72 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

A grade of C- or better is required in all courses except ARCH 1120 Introduction to Architecture & ARCH 1115 Introduction to Architectural Graphics which requires a B- or better. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Semester 1		**Credits**
FALL		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences OR Area V: Humanities		3
Select one course from either Area IV: POLS 1120G, OR Area V: HIST 1110G, HIST 1120G, or HIST 1150G,		
ARCH 1120	Introduction to Architecture	3
ARCH 1115	Introduction to Architectural Graphics	0-4
DRFT 151	Construction Principles and Print Reading	3
	Credits	**13-17**
Semester 2		
SPRING		
Area I: Communications - English Composition Level 2		3
ENGL 2221G	Writing in the Humanities and Social Science	
Area II: Mathematics		3
MATH 1430G	Applications of Calculus I	
ARCH 1121	Computers in Architecture	3
ARCH 1125	Design Fundamentals	0-3
ARCH 2112	Architectural Visualization I	0-3
	Credits	**9-15**
Semester 3		
SUMMER		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
Advisor-Approved Elective - ARCH 2124 or any other advisor approved ARCH course, ARTS 1610, ARTS 1240, ARTS 1250, or any other advisor-approved course in this area.		3
	Credits	**6**
Semester 4		
FALL		
Area II: Mathematics		4
MATH 1250G	Trigonometry & Pre-Calculus	
ARCH 2315	Architectural Design I	0-5
ARCH 2120	World Architecture I	0-3
ARCH 2114	Construction Documents	3
ARCH 2117	Architectural Visualization II	0-3
	Credits	**7-18**

Semester 5		
SPRING		
Area III: Laboratory Sciences		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
ARCH 2325	Architecture Design II	0-5
ARCH 2125	World Architecture II	0-3
Advisor-Approved Elective - ARCH 2124 or any other advisor approved ARCH course, ARTS 1610, ARTS 1240, ARTS 1250, or any other advisor-approved course in this area.		1
Advisor-Approved Elective - ARCH 2124 or any other advisor approved ARCH course, ARTS 1610, ARTS 1240, ARTS 1250, or any other advisor-approved course in this area.		3
	Credits	**8-16**
	Total Credits	**43-72**

Surveying Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61 credits)

NOTE: Not all General Education ('G') courses listed below are taught at DACC. Please check DACC's current schedule for actual course offerings.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Students must achieve a cumulative grade-point average of 2.0 with a final grade of C- or better in all required DRFT and SUR courses.

Prefix	Title	Credits
General Education		
This degree requires courses from Area I, II, III and either IV/V; students do not need to take additional courses to complete the General Education requirements		*14*
Area I: Communications		
ENGL 1110G	Composition I	
Area II: Mathematics		
MATH 1220G	College Algebra	
Area III: Laboratory Science		
PHYS 1230G/1230L	Algebra-Based Physics I	
Area IV: Social/Behavioral Sciences/Area V: Humanities		
Choose one course for three credits from either Area IV or Area V [1]		
General Education Elective		
Choose another Area III: Laboratory Science course other than PHYS 1230G/PHYS 1230L		4
Core Requirements		
COMM 1115G	Introduction to Communication	3
ENGL 2210G	Professional and Technical Communication	3
MATH 1250G	Trigonometry & Pre-Calculus	4
Major Requirements		
DRFT 100	Introduction to Architecture, Engineering, & Construction	3
DRFT 109	Computer Drafting Fundamentals	3
DRFT 143	Civil Drafting Fundamentals	3
DRFT 151	Construction Principles and Print Reading	3
DRFT 153	Survey Drafting Applications	3
DRFT 204	Geographic Information Systems Technology	3
DRFT 222	Introduction to Geomatics	3
DRFT 243	Land Development Drafting	3
or DRFT 254	Spatial Data Processing	
SUR 285	Precise Digital Mapping	3
SUR 292	Legal Principles and Boundary Law I	3
Choose one from the following:		3
CIST 1261	JavaScript Web Programming	
CIST 2251	Python Programming II	
CIST 2275	C++ Programming II	
Total Credits		**61**

[1] See the General Education (https://nmsu-curr.courseleaf.com/dona-ana/general-education-and-transfer-options/transfer-new-mexico-institutions/) section of the catalog for a full list of courses.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may very from fall to spring semester and may be subject to modification or change.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

First Year		
Fall		**Credits**
DRFT 100	Introduction to Architecture, Engineering, & Construction	3
DRFT 109	Computer Drafting Fundamentals	3
DRFT 151	Construction Principles and Print Reading	3
DRFT 204	Geographic Information Systems Technology	3
MATH 1220G	College Algebra	3
	Credits	**15**
Spring		
DRFT 143	Civil Drafting Fundamentals	3
DRFT 153	Survey Drafting Applications	3
COMM 1115G	Introduction to Communication	3
ENGL 1110G	Composition I	4
MATH 1511G	Calculus and Analytic Geometry I	4
	Credits	**17**
Second Year		
Fall		
DRFT 222	Introduction to Geomatics	3
SUR 285	Precise Digital Mapping	3
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
Choose one from the following:		3
CIST 2251	Python Programming II	

CIST 1261	JavaScript Web Programming	
CIST 2275	C++ Programming II	
	Credits	**13**
Spring		
SUR 292	Legal Principles and Boundary Law I	3
Area III: Laboratory Science Course [1,2]		4
Area IV: Social/Behavioral Sciences or Area V: Humanities Course [2]		3
ENGL 2210G	Professional and Technical Communication	3
DRFT 243 or DRFT 254	Land Development Drafting or Spatial Data Processing	3
	Credits	**16**
	Total Credits	**61**

[1] Choose any other laboratory science course, other than PHYS 1230G Algebra-Based Physics I/PHYS 1230L Algebra-Based Physics I Lab

[2] See the General Education (https://nmsu-curr.courseleaf.com/dona-ana/general-education-and-transfer-options/transfer-new-mexico-institutions/) section of the catalog for a full list of courses.

Architectural Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 130	General Building Codes	3
DRFT 151	Construction Principles and Print Reading	3
DRFT 165	Introduction to Building Information Modeling	3
DRFT 180	Residential Drafting	3
DRFT 181	Commercial Drafting	3
or DRFT 240	Structural Systems Drafting	
A final grade of C- or better is required in all courses.		
Total Credits		**18**

(18 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
DRFT 109	Computer Drafting Fundamentals	3
DRFT 130	General Building Codes	3
DRFT 151	Construction Principles and Print Reading	3
	Credits	**9**
Semester 2		
DRFT 165	Introduction to Building Information Modeling	3
DRFT 180	Residential Drafting	3
DRFT 181 or DRFT 240	Commercial Drafting or Structural Systems Drafting	3
	Credits	**9**
	Total Credits	**18**

Civil/Survey Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 143	Civil Drafting Fundamentals	3
DRFT 151	Construction Principles and Print Reading	3
or E T 154	Construction Methods and Communications	
DRFT 153	Survey Drafting Applications	3
DRFT 204	Geographic Information Systems Technology	3
or DRFT 242	Roadway Development Drafting	
DRFT 254	Spatial Data Processing	3
or DRFT 243	Land Development Drafting	
Total Credits		**18**

(18 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of C- or better in all required DRFT courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
DRFT 109	Computer Drafting Fundamentals	3
DRFT 151 or E T 154	Construction Principles and Print Reading or Construction Methods and Communications	3
DRFT 204 or DRFT 242	Geographic Information Systems Technology or Roadway Development Drafting	3
	Credits	**9**
Semester 2		
DRFT 143	Civil Drafting Fundamentals	3
DRFT 153	Survey Drafting Applications	3
DRFT 254 or DRFT 243	Spatial Data Processing or Land Development Drafting	3
	Credits	**9**
	Total Credits	**18**

Drafting and Graphics Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 151 or MAT 102	Construction Principles and Print Reading Print Reading for Industry	3
Advisor-Approved Electives (ARCH or DRFT)		12
Total Credits		**18**

(18 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
DRFT 109	Computer Drafting Fundamentals	3
DRFT 151 or MAT 102	Construction Principles and Print Reading or Print Reading for Industry	3
Advisor-Approved Elective (ARCH or DRFT course)		3
	Credits	**9**
Semester 2		
Advisor-Approved Elective (ARCH or DRFT course)		3
Advisor-Approved Elective (ARCH or DRFT course)		3
Advisor-Approved Elective (ARCH or DRFT course)		3
	Credits	**9**
	Total Credits	**18**

Geographical Information Systems - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(19 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 153	Survey Drafting Applications	3
DRFT 204	Geographic Information Systems Technology	3
DRFT 254	Spatial Data Processing	3
DRFT 274	GIS Theory and Analysis	3
GEOG 1110G	Physical Geography [1]	4
or Advisor Approved Elective (DRFT, GEOG, or SUR)		
Total Credits		**19**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(19 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student

academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all DRFT courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area III: Laboratory Sciences		4
GEOG 1110G	Physical Geography	
DRFT 109	Computer Drafting Fundamentals	3
DRFT 204	Geographic Information Systems Technology	3
	Credits	**10**
Semester 2		
DRFT 153	Survey Drafting Applications	3
DRFT 254	Spatial Data Processing	3
DRFT 274	GIS Theory and Analysis	3
	Credits	**9**
	Total Credits	**19**

Mechanical Drafting and Solid Modeling - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
DRFT 109	Computer Drafting Fundamentals	3
DRFT 114	Introduction to Solid Modeling	3
DRFT 164	Intermediate Mechanical Drafting/Solid Modeling	3
DRFT 214	Advanced Solid Modeling	3
MAT 102	Print Reading for Industry	3
or Advisor Approved Elective (AERT, DRFT, ENGR, E T, MAT, or WELD)		
MAT 105	Introduction to Manufacturing	3
or Advisor Approved Elective (AERT, DRFT, ENGR, E T, MAT, or WELD)		
Total Credits		**18**

(18 credits)

NOTE: Students must earn a final grade of C- or better in all required DRFT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 18 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
MAT 105	Introduction to Manufacturing (OR Advisor-Approved Elective AERT, DRFT, ENGR, E T, MAT, or WELD)	3
DRFT 109	Computer Drafting Fundamentals	3
	Credits	**6**
Semester 2		
DRFT 114	Introduction to Solid Modeling	3
MAT 102	Print Reading for Industry (OR Advisor-Approved Elective AERT, DRFT, ENGR, E T, MAT, or WELD)	3
	Credits	**6**
Semester 3		
DRFT 164	Intermediate Mechanical Drafting/Solid Modeling	3
DRFT 214	Advanced Solid Modeling	3
	Credits	**6**
	Total Credits	**18**

Pre-Architecture - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(30 credits)

NOTE: Students must earn a final grade of C- or better in all required ARCH courses (ARCH 1115 Introduction to Architectural Graphics and ARCH 1120 Introduction to Architecture as indicated below) and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

As stated above, a grade of C- or better is required in all courses except ARCH 1115 Introduction to Architectural Graphics and ARCH 1120 Introduction to Architecture which require a B- or better.

Prefix	Title	Credits
General Education		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area I: Communications - English Composition Level 2		3
ENGL 2221G	Writing in the Humanities and Social Science	
Area II: Mathematics		3

MATH 1220G	College Algebra	
Technical Requirements		
ARCH 1115	Introduction to Architectural Graphics [1]	4
ARCH 1125	Design Fundamentals	3
ARCH 1120	Introduction to Architecture [1]	3
ARCH 2124	Professional Development and Leadership	1
ARCH 2994	Portfolio Design in Architecture	3
DRFT 151	Construction Principles and Print Reading	3
ARCH 1121	Computers in Architecture	3
or ARCH 2114	Construction Documents	
Total Credits		**30**

[1] Requires a grade of B- or better.

(30 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required ARCH courses (except ARCH 1115 Introduction to Architectural Graphics and ARCH 1120 Introduction to Architecture as indicated below) and Technical Requirements, and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

As stated above, a grade of C- or better is required in all courses except ARCH 1115 Introduction to Architectural Graphics and ARCH 1120 Introduction to Architecture which require a B- or better.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
ARCH 1115	Introduction to Architectural Graphics	4
ARCH 1120	Introduction to Architecture	3
ARCH 2124	Professional Development and Leadership	1
DRFT 151	Construction Principles and Print Reading	3
	Credits	**15**
Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2221G	Writing in the Humanities and Social Science	
Area II: Mathematics		3
MATH 1220G	College Algebra	
ARCH 1125	Design Fundamentals	3
ARCH 1121 or ARCH 2114	Computers in Architecture or Construction Documents	3
ARCH 2994	Portfolio Design in Architecture	3
	Credits	**15**
	Total Credits	**30**

Early Childhood Education

Associate Degree: Early Childhood Education

Certificate of Completion: Early Childhood Education Administration

Early Childhood Development - Certificate of Completion

The Early Childhood Education associate degree program is designed to prepare students to become highly qualified teachers, assistant teachers, child developmental specialists, or family day care providers in professional child care for children ages birth through eight years. Students will gain a broad understanding of the specific needs of young children and develop strategies for meeting those needs. They may choose to continue their education at any four-year institution in New Mexico.

The DACC program includes the lower-division courses required for entry into the Teacher Education Program (TEP), a baccalaureate program at New Mexico State University. Alternatively, students may opt to transfer to a similar program at another four-year institution. Completion of this program does NOT guarantee admission into a Teacher Education Program at a four-year institution. Early in their second year of study at DACC, students should contact the four-year institution they have chosen to obtain application information.

Requirements and Limitations

1. Students in the Early Childhood Education Program are required to complete and pass a security background check in order to take practicum courses and complete field experiences. Past criminal violations may prevent a student from completing the degree and from being hired by school systems or other child care facilities upon graduation.
2. Students in the Early Childhood Education Program may be required to provide proof of current immunizations in order to complete practicum courses and field experiences.
3. Students must complete all ECED technical requirement courses as well as the following courses with a grade of C- or better:

Prefix	Title	Credits
CEPY 1120G	Human Growth and Behavior	3
ENGL 1110G	Composition I	4
ENGL 2221G	Writing in the Humanities and Social Science	3
MATH 1134	Fundamentals of Elementary Mathematics I	3
MATH 2134G	Fundamentals of Elementary Math II	3

4. **MATH 1134** Fundamentals of Elementary Mathematics I is required for the degree, which has prerequisite(s): adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in **MATH 1215** or higher. Students may need to take any prerequisites needed to enter **MATH 1134.**
5. Students must have a 2.0 GPA to graduate from this program. However, because a 3.0 GPA is required for acceptance into the Teacher Education Program at NMSU, it is highly recommended that DACC students complete the Early Childhood Education program with a 3.0 cumulative GPA.
6. **Time Limit on Undergraduate Teacher Education Courses.** Any education course more than seven years old taken at NMSU, NMSU community colleges or other institutions will not be counted toward the student's Associate degree and baccalaureate program. It

is highly recommended that students request a review of their cumulative coursework by the appropriate department. Any course not approved must be repeated by the student.

7. Completion of all requirements does **not** guarantee acceptance in the NMSU Teacher Education Program. Please see the NMSU College of Education Advising Center for more information.

Early Childhood Education - Associate Degree (p. 296)

Early Childhood Administrator - Certificate of Completion (p. 296)

Early Childhood Development - Certificate of Completion (p. 299)

ECED 1110. Child Growth, Development, and Learning
3 Credits (3)
This basic course in the growth, development, and learning of young children, prenatal through age eight, provides students with the theoretical foundation for becoming competent early childhood professionals. The course includes knowledge of how young children grow, develop and learn. Major theories of child development are integrated with all domains of development, including biological-physical, social, cultural, emotional, cognitive and language. The adult's role in supporting each child's growth, development and learning is emphasized. May be repeated up to 3 credits.
Learning Outcomes

1. Incorporate understanding of developmental stages, processes, and theories of growth, development, and learning into developmentally appropriate practice. A.one
2. Demonstrate knowledge of the interaction between maturation and environmental factors that influence physical, social, emotional, cognitive, and cultural domains in the healthy development of each child. A.two
3. Demonstrate knowledge of the significance of individual differences in development and learning.
4. Demonstrate knowledge of how certain differences may be associated with rate of development and developmental patterns associated with developmental delays and/or specific disabilities. A.three
5. Demonstrate knowledge of the similarities between children who are developing typically and those with diverse abilities. A.four
6. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.seven
7. Demonstrate knowledge of the developmental sequence of language and literacy, including the influence of culture and home factors. A.eight
8. Demonstrate knowledge of how children acquire and use verbal, non-verbal, and alternative means of communication. A.nine
9. Demonstrate knowledge of the relationship among emotions, behaviors, and communication skills to assist children in identifying and expressing their feelings in appropriate ways. A.ten 1
10. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.eleven

ECED 1115. Health, Safety, and Nutrition
2 Credits (2)
This course provides information related to standards and practices that promote children's physical and mental well-being sound nutritional practices, and maintenance of safe learning environments. It includes information for developing sound health and safety management procedures for indoor and outdoor learning environments for young children. The course examines the many scheduling factors that are important for children's total development, healthy nutrition, physical activity, and rest. May be repeated up to 2 credits.
Learning Outcomes

1. Recognize and respond to each child's physical health, intellectual and emotional well-being, and nutritional and safety needs. B.one
2. Articulate an understanding of indoor and outdoor learning environments that provide opportunities for children to put into practice healthy behaviors (physically, socially and emotionally). B.two
3. Use appropriate health appraisal and management procedures and makes referrals when necessary. B.three
4. Recognize signs of emotional distress, child abuse, and neglect in young children and use procedures appropriate to the situation, such as initiating discussions with families, referring to appropriate professionals,and, in cases of suspected abuse or neglect, reporting to designated authorities. B.four
5. Establish an environment that provides opportunities and reinforcement for children's practice of healthy behaviors that promote appropriate nutrition and physical and psychological well-being. B.five
6. Provide a consistent daily schedule for rest/sleep, as developmentally appropriate. B.six
7. Implement health care and educational activities for children and families based on health and a.nutritional information that is responsive to diverse cultures. B.seven
8. Assist young children and their families, as individually appropriate, in developing decision-making and interpersonal skills that enable them to make healthy choices and establish health-promoting behaviors. B.eight

ECED 1120. Guiding Young Children
3 Credits (3)
This course explores various theories of child guidance and the practical applications of each. It provides developmentally appropriate methods for guiding children and effective strategies and suggestions for facilitating positive social interactions. Strategies for preventing challenging behaviors through the use of environment, routines and schedule will be presented Emphasis is placed on helping children become self- responsible, competent, independent, and cooperative learners and including families as part of the guidance approach. May be repeated up to 3 credits.
Learning Outcomes

1. Apply knowledge of cultural and linguistic diversity and the significance of socio-cultural and political contexts for development and learning and recognize that children are best understood in the contexts of family, culture and society. A.six
2. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.seven
3. Demonstrate knowledge of the relationship among emotions, behaviors, and communication skills to assist children in identifying and expressing their feelings in appropriate ways. A.ten
4. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.eleven
5. Recognize and respond to each child's physical health, intellectual and emotional well-being, and nutritional and safety needs. B.one
6. Demonstrate knowledge and skill in building positive, reciprocal relationships with families. C.one

7. Demonstrate knowledge of and respect for variations across cultures, in terms of family strengths,expectations, values, and child-rearing practices. C.four
8. Demonstrate the ability to incorporate the families' desires and goals for their children into classroom or intervention strategies. C.seven
9. Demonstrate knowledge and skills in developmentally appropriate guidance techniques and strategies that provide opportunities to assist children in development positive thoughts and feelings about themselves and others through cooperative interaction with peers and adults. E.three 1
10. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.seven 1
11. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this

ECED 1125. Assessment of Children and Evaluation of Programs
3 Credits (3)
This basic course familiarizes students with a variety of culturally appropriate assessment methods and instruments, including systematic observation of typically and non-typically developing children. The course addresses the development and use of formative and summative assessment and evaluation instruments to ensure comprehensive quality of the total environment for children, families, and the community. Students will develop skills for evaluating the assessment process and involving other teachers, professionals and families in the process. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Learning Outcomes
1. Demonstrate ability to choose valid tools that are developmentally, culturally, and linguistically appropriate; use the tools correctly; make appropriate referrals; and interpret assessment results, with the goal of obtaining valid, useful information to inform practice and decision making. F.one
2. Demonstrate knowledge of maintaining appropriate records of children's development and behavior that safeguard confidentiality and privacy. F.two
3. Demonstrate knowledge of the educator's role as a participating member of the assessment process as described and mandated by state and federal regulations for Individual family service plans (IFSP) and individual education plans (IEP). F.three
4. Demonstrate understanding of the influences of environmental factors, cultural/linguistic differences, and diverse ways of learning on assessment outcomes. F.four
5. Involve the family and, as appropriate, other team members in assessing the child's development, strengths, and needs in order to set goals for the child. F.five
6. Articulate an understanding of the distinctions and definitions of assessment concepts (e.g., screening, diagnostic assessment, standardized, testing, accountability assessment). F.six
7. Apply understanding of assessment concepts toward selection of appropriate formal assessment measures, critiquing the limitations of inappropriate measures, and discussing assessment issues as part of interdisciplinary teams. F.seven
8. Articulate an understanding that responsible assessment is legally and ethically grounded and guided by sound professional. It standards is collaborative and open with the goal of supporting diverse children and families. F.eight
9. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the Application of this data to curriculum development and/or intervention planning. F.nine 1
10. Demonstrate knowledge of a variety of techniques and procedures to evaluate and modify program goals for young children and their families. F.ten 1
11. Demonstrate knowledge and use of program evaluation to ensure comprehensive quality of the total Environment for children, families, and the community. F.eleven 1
12. Use both self and collaborative evaluations as part of ongoing program evaluations. F.twelve

ECED 1130. Family and Community Collaboration
3 Credits (3)
This beginning course examines the involvement of families and communities from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establishes collaborative relationships with families in early childhood settings is discussed. Families' goals and desires for their children will be supported through culturally responsive strategies. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Learning Outcomes
1. Demonstrate knowledge and skill in building positive, reciprocal relationships with families. C.one
2. Articulate an understanding of a safe and welcoming environment for families and community members. C.two
3. Develop and maintain ongoing contact with families through a variety of communication strategies. C.three
4. Demonstrate knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and child-rearing practices. C.four
5. Articulate understanding of the complexity and dynamics of family systems. C.five
6. Demonstrate understanding of the importance of families as the primary educator of their child. C.six
7. Involve families and community members in contributing to the learning environment. C.nine
8. Demonstrate ability to communicate to families the program's policies, procedures, and those procedural safeguards that are mandated by state and federal regulations. C.eleven
9. Apply knowledge of family theory and research to understand family and community characteristics including socioeconomic conditions; family structures, relationships, stressors, and supports (including the impact of having a child with diverse abilities); home language and ethnicity. C.twelve 1
10. Demonstrate knowledge of and skill to access community resources that assist families and contribute directly or indirectly to children's positive development such as mental health services, health care, adult education, English language instruction, and economic assistance. C.thirteen 1
11. Demonstrate effective written and oral communication skills when working with children, families, and early care, education, and family support professionals. E.fourteen 1
12. Demonstrate a commitment to leadership and advocacy for excellence in programs and services for young children and their families. G.six

ECED 2110. Professionalism
2 Credits (2)
This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced. Basic principles of early childhood systems are explored. Multiple perspectives on early care and education are introduced. Professional responsibilities such as cultural responsiveness and reflective practice are examined. May be repeated up to 2 credits.
Learning Outcomes
1. Recognize signs of emotional distress, child abuse, and neglect in young children and use procedures appropriate to the situation, such as initiating discussions with families, referring to appropriate professionals, and, in cases of suspected abuse or neglect, reporting to designated authorities. B.four
2. Demonstrate ability to communicate to families the program's policies, procedures, and those procedural safeguards that are mandated by state and federal regulations. C.eleven
3. Use both self and collaborative evaluations as part of ongoing program evaluations. F.twelve
4. Demonstrate ability to adhere to early childhood professional codes of ethical conduct and issues of confidentiality. G.one
5. Demonstrate awareness of federal, state, and local regulations, and public policies regarding programs and services for children birth through eight years of age. G.two
6. Demonstrate understanding of conditions of children, families, and professionals; the historical and current issues and trends; legal issues; and legislation and other public policies affecting children, families, and programs for young children and the early childhood profession. G.three
7. Demonstrate critical reflection of one's own professional and educational practices from community, state, national, and global perspectives. G.four
8. Demonstrate understanding of the early childhood profession, its multiple historical, philosophical, and social foundations, and how these foundations influence current thought and practice. G.five
9. Demonstrate knowledge in technology resources to engage in ongoing professional development. G.seven

ECED 2115. Introduction to Language, Literacy, and Reading
3 Credits (3)
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. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H, or ENGL 1110M).
Learning Outcomes
1. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.seven
2. Demonstrate knowledge of the developmental sequence of language and literacy, including the influence of culture and home factors. A.eight
3. Demonstrate knowledge of how children acquire and use verbal, non-verbal, and alternative means of communication. A.nine
4. Develop partnerships with family members to promote early literacy in the home. C.eight
5. Establish partnerships with community members in promoting literacy. C.ten
6. Demonstrate knowledge of the reading and writing components of emergent literacy at each developmental level. D.four
7. Provide and use anti-bias materials/literature and experiences in all content areas of the curriculum. D.seven
8. Create and manage a literacy-rich environment that is responsive to each child's unique path of development. E.nine
9. Use a variety of strategies during adult-child and child-child interactions and facilitate communication and dialogue of expressive language and thought. E.ten 1
10. Demonstrate a variety of developmentally appropriate instructional strategies that facilitate the development of literacy skills. E.eleven

ECED 2120. Curriculum Development through Play Birth through Age 4 (PreK)
3 Credits (3)
The beginning curriculum course places play at the center of curriculum in developmentally appropriate early childhood programs. It addresses content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized. Consent of instructor required. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Corequisite: ECED 2121.
Learning Outcomes
1. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.eleven
2. Demonstrate knowledge of relevant content for young children and developmentally appropriate ways of integrating content into teaching and learning experiences for children from birth to four years of age. D.one
3. Demonstrate the integration of knowledge of how young children develop and learn with knowledge of the concepts, inquiry tools, and structure of content areas appropriate for different developmental levels. D.two
4. Adapt content to meet the needs of each child, including the development of individualized family service plans (IFSP) or individualized education plans (IEP) for children with diverse abilities through the team process with families and other team members. D.six
5. Demonstrate knowledge of varying program models and learning environments that meet the individual needs of all young children, including those with diverse abilities. E.one
6. Create environments that encourage active involvement, initiative, responsibility, and a growing sense of autonomy through the selection and use of materials and equipment that are suitable to individual learning, developmental levels, diverse abilities, and the language and cultures in New Mexico. E.two
7. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct

their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.four
8. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.five
9. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.six 1
10. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.seven 1
11. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.eight 1
12. Demonstrate a variety of developmentally appropriate instructional strategies that facilitate the development of emergent literacy skills. E.eleven 1
13. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this data to curriculum development of intervention planning. F.

ECED 2121. Curriculum Development through Play Birth through Age 4 (PreK) Practicum
2 Credits (2)
The beginning practicum course is a co-requisite with the course Curriculum Development through Play – Birth through Age 4. The field based component of this course will provide experiences that address curriculum content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized. Consent of instructor required. May be repeated up to 2 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Corequisite: ECED 2120.
Learning Outcomes
1. Provide a variety of activities that facilitate development of the whole child in the following areas: Physical/motor, social/emotional, language/cognitive and adaptive/living skills. A.five
2. Develop, implement and evaluate an integrated curriculum that focuses on children's development and interests, using their language, home experiences, and cultural values. D.five
3. Provides and uses anti-bias materials and literature, and experiences in all content areas of the curriculum. D.seven
4. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.four
5. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.five
6. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.six
7. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.seven
8. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.eight

ECED 2130. Curriculum Development and Implementation Age 3 (PreK) through Grade 3
3 Credits (3)
The curriculum course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills, is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEP's is included. Consent of instructor required. May be repeated up to 3 credits.
Prerequisite: ECED 1110, ECED 2120 and ECED 2121 (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Corequisite: ECED 2131.
Learning Outcomes
1. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.Eleven
2. Demonstrate the integration of knowledge of how young children develop and learn with knowledge of the concepts, inquiry tools, and structure of content areas appropriate for different developmental levels. D.Two
3. Demonstrate knowledge of what is important in each content area, why it is of value, and how it links with early and later understandings within and across areas. D.Three
4. Demonstrate knowledge of the language, reading and writing components of emergent literacy at each developmental level. D.Four
5. Adapt content to meet the needs of each child, including the development of individualized family service plans (IFSP) or individualized education plans (IEP) for children with diverse abilities through the team process with families and other team members. D.Six
6. Demonstrate knowledge of varying program models and learning environments that meet the individual needs of all young children, including those with diverse abilities. E.One
7. Create environments that encourage active involvement, initiative, responsibility, and a growing sense of autonomy through the selection and use of materials and equipment that are suitable to individual learning, developmental levels, diverse abilities, and the language and cultures in New Mexico. E.Two
8. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.Four
9. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.Five 1
10. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.Six 1
11. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these

experiences to promote children's development and learning. E.Seven 1

12. Demonstrate knowledge of developmentally appropriate uses of technology, including assistive technology. E.Twelve 1
13. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this data to curriculum development of intervention planning. F.Nine

ECED 2131. Curriculum Development and Implementation Age 3 (PreK) through Grade 3 Practicum
2 Credits (2)
The beginning practicum course is a co-requisite with the course Curriculum Development and Implementation: Age 3 through Grade 3. The field based component of this course will provide experiences that address developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEPs is included. Consent of instructor required. May be repeated up to 2 credits.
Prerequisite: ECED 1110 (ENGL 1110G or ENGL 1110H or ENGL 1110M), ECED 2120, and ECED 2121.
Corequisite: ECED 2130.
Learning Outcomes

1. Provide a variety of activities that facilitate development of the whole child in the following areas: Physical/motor, social/emotional, language/cognitive and adaptive/living skills. A.Five
2. Develop, implement and evaluate an integrated curriculum that focuses on children's development and interests, using their language, home experiences, and cultural values. D.Five
3. Provides and uses anti-bias materials and literature, and experiences in all content areas of the curriculum. D.Seven
4. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.Four
5. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.Five
6. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.Six
7. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.Seven
8. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.Eight

ECED 2140. Effective Program Development for Diverse Learners and their Families
3 Credits (3)
This course 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. May be repeated up to 3 credits.
Learning Outcomes

1. Describe important aspects of leadership that an administrator in an early childhood setting must demonstrate.
2. Identify and describe ways in which classrooms can have a multicultural environment.
3. Observe a classroom and identify, using photographs good practice with classroom environment.
4. Describe important aspects of a good early childhood curriculum
5. Describe how culture and socioeconomic factors influence classroom environment.

ECED 2141. Effective Program Development for Diverse Learners and their Families Practicum
2 Credits (2)
Provides opportunities for students to apply knowledge gained from Curriculum for Diverse Learners and their Families in a practicum setting. Consent of instructor required. Restricted to ECED majors. May be repeated up to 2 credits.
Corequisite: ECED 2140.
Learning Outcomes

1. Describe the requirements to maintain and enhance the physical and mental health, safety, and nutrition components of a program: Demonstrate knowledge of facility management to include evaluation, maintenance, security, and meeting applicable codes; Demonstrate knowledge of planning for appropriate indoor and outdoor environments; Identify ways to support early childhood educators in the selection of appropriate materials and equipment for the environment; Demonstrate knowledge of the impact of the environment on children's learning and development.
2. Demonstrate knowledge of early care and education curriculum that is individually, culturally, linguistically, and developmentally responsive: Describe a variety of curriculum goals and teaching strategies; Describe the importance of ongoing curriculum assessment and planning, and collaboration with teachers, families and community entities; Identify ways to support early childhood educators in curriculum assessment and planning.
3. Demonstrate knowledge of family/community involvement in effective program development: Describe the importance of supporting families as partners in early care and education program development; Describe both informal and formal communication systems with families that encourage information sharing and joint decision making; Identify strategies for resolving conflicts and supporting families with diverse backgrounds and parenting expectations; Identify the range of family needs including transitional periods; Identify within the community the network to support families with their special needs; Describe a "family friendly" inclusive philosophy
4. Demonstrate knowledge of a director's role as an educational leader in an inclusive setting: Describe what a director does in supporting the instructional component of the program for children, staff, and families; Identify resources that a director might use to keep current with information relating to the instructional component of the program; Describe ways to involve teachers in instructional decision making.

ECED 2215. Program Management
3 Credits (3)
This course emphasizes the technical knowledge necessary to develop and maintain an effective early care and education program. It focuses on sound financial management and vision, the laws and legal issues that

affect programs, and state and national standards such as accreditation. Consent of instructor required. May be repeated up to 3 credits.

Learning Outcomes

1. Develop a comprehensive program philosophy.
2. Demonstrate the ability to develop systems that are effective for quality program operation.
3. Create a program budget and understand the Income and Expense sides and what affects each part.
4. Model best practices that integrate various leadership styles.

ECED 2280. Professional Relationships
3 Credits (3)

This course addresses staff relations that will foster diverse professional relationships with families, communities and boards. Topics of staff recruitment, retention, support and supervision will lay the foundation for positive personnel, family and community relationships. Consent of instructor required. May be repeated up to 3 credits.

Corequisite: ECED 2281.

Learning Outcomes

1. Interview an administrator and write a paper describing personnel management, staff support, supervision, and professional development.
2. Identify and describe ethical and legal requirements in maintaining a professional relationship with subordinates, the community, clients, and fellow administrators.
3. Identify and describe technologies which may be used in an early childhood setting.
4. Identify and describe legal and ethical considerations in the employment of others.

ECED 2281. Professional Relationships Practicum
2 Credits (2)

Practical experience in the development of staff relationship that will foster professional relationships with families, communities and boards. Issues of staff recruitment, retention, support and supervision will lay a foundation for positive personnel management. Consent of instructor required. Restricted to ECED majors.

Corequisite(s): ECED 2280.

Learning Outcomes

1. Demonstrate knowledge of personnel management, staff support, supervision, and professional development within a diverse and inclusive organization: Describe methods for recruiting and retaining a diverse staff; Describe job descriptions for each position; Review a sampling of personnel policies and procedures; Review a variety of staff handbooks; Explain why on-going system of supervision should include regular meetings for professional goal setting, self-assessment, and feedback; Review program needs to effectively manage the work of the program including scheduling, covering ratios, initial orientation, in-service, staff meeting, etc.
2. Demonstrate an awareness of appropriate communication and collaboration skills: Improve written and oral communication skills; Describe strategies for resolving conflicts; Explain how to promote consensus building as a decision making process.
3. Demonstrate knowledge that promotes effective professional relationships with families, communities, and board members: Describe methods for demonstrating respect, understanding, and appreciation for all people; Identify the aspects of culture that facilitate relationship building among people; Describe how to build a common vision and develop long range program plans with parents, staff, board, and the community; Communicate program goals to visitors, prospective parents, volunteers, and board members; Describe how public relations and marketing strategies can impact programs; Review assessment tools that identify needs for early care, education and family support; Develop a personal professional development plan; Describe methods to work effectively with a board and advisory group.
4. Demonstrate knowledge of technology uses and skill acquisition: Describe how to use technology resources to engage in ongoing professional development and lifelong learning; Describe how you will use technology to communicate and collaborate in your leadership role

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Early Childhood Education - Associate in Early Childhood Education

Students completing all of the Early Childhood coursework within the associate degree are eligible to apply for the Professional Certificate issued by the New Mexico Early Childhood Education and Care Department. For more information, contact the New Mexico Early Childhood Education and Care Department at 1-800-832-1321.

Doña Ana Community College 2026-2027 Catalog (68 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 68 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

A grade of C- or better is required in all ECED and CEPY courses, as well as ENGL 1110G Composition I or ENGL 1110M Composition I and designated Mathematics courses.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I [1,2]	4
or ENGL 1110M	Composition I	
English Composition - Level 2		
ENGL 2221G	Writing in the Humanities and Social Science [1,2]	3
Oral Communication		
Select one of the following:		3
COMM 1115G	Introduction to Communication [2]	
COMM 1130G	Public Speaking [2]	
HNRS 2175G	Introduction to Communication Honors [2]	
Area II: Mathematics		
MATH 2134G	Fundamentals of Elementary Math II [1,2]	3

Area III/IV: Laboratory Science and Social/Behavioral Sciences		*11*
CEPY 1120G	Human Growth and Behavior [2]	
Area III: Laboratory Sciences - Choose two from the following (total of 8 credits from different prefixes/areas):		
Group A:		
ASTR 1120G	The Planets Lecture & Laboratory [2]	
or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory [2]	
BIOL 1190G	Contemporary Problems in Biology [2]	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory [2]	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [2]	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [2]	
or CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
Group D:		
GEOL 1110G	Physical Geology [2]	
or GEOG 1110G	Physical Geography	
Group E:		
PHYS 1115G	Survey of Physics with Lab [2]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [2]	
Area V: Humanities		
Select one of the following:		3
HIST 1130G	World History I [2]	
HIST 1140G	World History II [2]	
HIST 1150G	Western Civilization I [2]	
HIST 1160G	Western Civilization II [2]	
Area VI: Creative and Fine Arts		
Select one of the following:		3
ARTH 1115G	Orientation in Art [2]	
MUSC 1110G	Music Appreciation: Jazz [2]	
MUSC 1130G	Music Appreciation: Western Music [2]	
THEA 1110G	Introduction to Theatre [2]	
General Education Elective		
HIST 1110G	United States History I [2]	3
or HIST 1120G	United States History II	
Core Requirements		
MATH 1134	Fundamentals of Elementary Mathematics I [1,2,3]	3
Select one from the following:		3
ANTH 1115G	Introduction to Anthropology [2]	
ECON 1110G	Survey of Economics [2]	
ECON 2110G	Macroeconomic Principles [2]	
ECON 2120G	Principles of Microeconomics Honors [2]	
GEOG 1120G	World Regional Geography [2]	
or GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science [2]	
or POLS 1120G	American National Government	
SOCI 1110G	Introduction to Sociology [2]	

Major Requirements		
Technical Requirements (29 credits)		
ECED 1110	Child Growth, Development, and Learning [1,5]	3
ECED 1115	Health, Safety, and Nutrition [1,5]	2
ECED 1120	Guiding Young Children [1,5]	3
ECED 1125	Assessment of Children and Evaluation of Programs [1,5]	3
ECED 1130	Family and Community Collaboration [1,5]	3
ECED 2110	Professionalism [5]	2
ECED 2115	Introduction to Language, Literacy, and Reading [1,5]	3
ECED 2120	Curriculum Development through Play Birth through Age 4 (PreK) [1,5]	3
ECED 2121	Curriculum Development through Play Birth through Age 4 (PreK) Practicum [1,4,5]	2
ECED 2130	Curriculum Development and Implementation Age 3 (PreK) through Grade 3 [5]	3
ECED 2131	Curriculum Development and Implementation Age 3 (PreK) through Grade 3 Practicum [4,5]	2
Total Credits		**68**

1 Courses are required to apply for the Teacher Education Program (TEP).

2 G Courses are part of the New Mexico General Education Requirements.

3 MATH 1134 Fundamentals of Elementary Mathematics I is required for this degree but students may need to complete prerequisite(s) prior to enrolling in this course depending on math placement and completion of ENGL 1110G Composition I or ENGL 1110M Composition I.

4 Courses include a minimum of 68 hours of Practicum placement over a timeframe of 11 weeks that must be completed within New Mexico at an approved placement site.

5 Courses completed more than 7 years prior to graduation date will not count towards graduation and must be repeated.

(68 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 68 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

A grade of C- or better is required in all **ECED** and **CEPY** courses, as well as ENGL 1110G Composition I or ENGL 1110M Composition I and designated Mathematics courses.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
or ENGL 1110M	or Composition I	
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
ANTH 1115G	Introduction to Anthropology	
ECON 1110G	Survey of Economics	

ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
SOCI 1110G	Introduction to Sociology	
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
ECED 1110	Child Growth, Development, and Learning	3
ECED 1115	Health, Safety, and Nutrition	2
	Credits	**15**

Semester 2

Area I: Communications - English Composition Level 2		3
ENGL 2221G	Writing in the Humanities and Social Science	
MATH 1134	Fundamentals of Elementary Mathematics I	3
ECED 1130	Family and Community Collaboration	3
ECED 1125	Assessment of Children and Evaluation of Programs	3
ECED 1120	Guiding Young Children	3
Area IV: Social and Behavioral Science		
CEPY 1120G	Human Growth and Behavior	3
	Credits	**18**

Semester 3

Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G or HNRS 2175G	Introduction to Communication or Public Speaking or Introduction to Communication Honors	
Area II: Mathematics		
MATH 2134G	Fundamentals of Elementary Math II	3
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G or CHEM 1215G	Introduction to Chemistry Lecture and Laboratory (non majors) or General Chemistry I Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G or GEOL 1110G	Physical Geography or Physical Geology	
Group E:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
Area V: Humanities		3
HIST 1130G or HIST 1140G or HIST 1150G or HIST 1160G	World History I or World History II or Western Civilization I or Western Civilization II	
ECED 2120	Curriculum Development through Play Birth through Age 4 (PreK)	3
ECED 2121	Curriculum Development through Play Birth through Age 4 (PreK) Practicum	2
	Credits	**18**

Semester 4

General Education Elective - Area V: Humanities		3
HIST 1110G or HIST 1120G	United States History I or United States History II	
ECED 2115	Introduction to Language, Literacy, and Reading	3
ECED 2110	Professionalism	2
ECED 2130	Curriculum Development and Implementation Age 3 (PreK) through Grade 3	3
ECED 2131	Curriculum Development and Implementation Age 3 (PreK) through Grade 3 Practicum	2
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G or ASTR 1120G	Introduction to Astronomy Lecture & Laboratory or The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G or CHEM 1215G	Introduction to Chemistry Lecture and Laboratory (non majors) or General Chemistry I Lecture and Laboratory for STEM Majors	
Group D:		
GEOL 1110G or GEOG 1110G	Physical Geology or Physical Geography	
Group E:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
	Credits	**17**
	Total Credits	**68**

Early Childhood Development - Certificate of Completion

This Child Development Certificate indicates completion of the early childhood courses that allow a student to meet the professional requirements for teachers already working in a classroom setting with infants and toddlers or preschool children. The professional certification additionally requires a state awarded certificate issued by the New Mexico Early Childhood Education and Care Department upon completion of course requirements. For more information, contact the New Mexico Early Childhood Education and Care Department at 1-800-832-1321.

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(16 credits)

Students must earn a C- or above in ENGL 1110G Composition I or ENGL 1110M Composition I and in all ECED course in this certificate to qualify for the state awarded certificate.

Prefix	Title	Credits
ENGL 1110G	Composition I	4
or ENGL 1110M	Composition I	
ECED 1110	Child Growth, Development, and Learning	3
ECED 1120	Guiding Young Children	3
ECED 1125	Assessment of Children and Evaluation of Programs	3
ECED 1130	Family and Community Collaboration	3
Total Credits		**16**

Suggested Plan of Study

Students must earn a C- or above in ENGL 1110G Composition I or ENGL 1110M Composition I and in all ECED course in this certificate to qualify for the state awarded certificate.

First Year		
Fall		**Credits**
ENGL 1110G or ENGL 1110M	Composition I or Composition I	4
ECED 1110	Child Growth, Development, and Learning	3
ECED 1120	Guiding Young Children	3
	Credits	**10**
Spring		
ECED 1125	Assessment of Children and Evaluation of Programs [1]	3
ECED 1130	Family and Community Collaboration [1]	3
	Credits	**6**
	Total Credits	**16**

[1] Prerequisite(s): ECED 1110 Child Growth, Development, and Learning and ENGL 1110G Composition I or ENGL 1110M Composition I

Early Childhood Administrator - Certificate of Completion

This New Mexico Early Childhood Administrator's Certificate indicates completion of the early childhood professional courses (approximately 29 credits) within the associate degree program's transfer module. Upon completion of the DACC Certification, the Early Childhood Administrator Certificate is issued by the New Mexico Early Childhood Education and Care Department. For more information, contact the New Mexico Early Childhood Education and Care Department at (800) 832-1321.

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A grade of C- or better is required in all ECED courses.

(24 credits)

Prefix	Title	Credits
Core Courses		
ECED 1110	Child Growth, Development, and Learning	3
ECED 1115	Health, Safety, and Nutrition	2
ECED 1130	Family and Community Collaboration	3
ECED 1125	Assessment of Children and Evaluation of Programs	3
Administrator's Courses		
ECED 2215	Program Management	3
ECED 2140	Effective Program Development for Diverse Learners and their Families	3
ECED 2141	Effective Program Development for Diverse Learners and their Families Practicum	2
ECED 2280	Professional Relationships	3
ECED 2281	Professional Relationships Practicum	2
Total Credits		**24**

Education

Associate Degree: Education

Concentrations:

- Elementary Education
- Secondary Language Arts
- Secondary Math
- Secondary Science
- Secondary Social Studies
- Special Education (Elementary)

The Education associate degree program at Doña Ana Community College is designed to prepare students for transfer into the Teacher Education Program (TEP), a baccalaureate program at New Mexico State University. Alternatively, students may opt to transfer to a similar program at another four-year institution. The DACC program includes the lower division courses required for entry into the TEP. Completion of this program does NOT guarantee admission into a Teacher Education Program at a four-year institution. Early in their second year of study at DACC, students should contact the four-year institution they have chosen to obtain application information.

The Education associate degree has designed concentration areas in Elementary Education, Elementary Special Education, Secondary Language Arts, Secondary Math, Secondary Science, and Secondary Social Studies Education. Each of the concentration areas are designed to transfer seamlessly to the associated bachelor's degree program at New Mexico State University.

Requirements and Limitations

1. Students in the Education Program are required to complete and pass a security background check in order to take field-experience courses. Past criminal violations may prevent a student from completing the

degree and from being hired by school systems or other child care facilities upon graduation.
2. Students in the Education Program may be required to provide proof of current immunizations in order to complete practicum courses and field experiences.
3. Students must earn a minimum grade of "C-" in all education, TEP pre-requisite courses including specific ENGL and MATH courses, endorsement and teaching field courses.
4. Students must have a 2.0 GPA to graduate from this program. However, a 3.0 GPA is required for acceptance into the Teacher Education Program at NMSU. For this reason, it is highly recommended that DACC students complete the Education Program with a 3.0 cumulative GPA.
5. Any education course more than seven years old taken at NMSU, NMSU community colleges, or other institutions will not be counted toward the student's Associate degree and baccalaureate program. It is highly recommended that students request a review of their cumulative coursework by the appropriate department. Any course not approved must be repeated by the student.

Note: It is recommended that students declare a concentration area with the help of an education advisor.

Education (Elementary Education) - Associate Degree (p. 302)

Education (Elementary Education - Special Education) - Associate Degree (p. 304)

Education (Secondary Language Arts) - Associate Degree (p. 306)

Education (Secondary Math) - Associate Degree (p. 309)

Education (Secondary Science) - Associate Degree (p. 310)

Education (Secondary Social Studies) - Associate Degree (p. 312)

EDLT 2110. Integrating Technology with Teaching
3 Credits (3)
Considers impact of technology on communication and knowledge development; engages students in the design of technology-integrated lessons with a constructivist approach.
Prerequisite: ENGL 1110G.
Learning Outcomes
1. Students will demonstrate a sound understanding of technology operations and concepts.
2. Students will plan and design effective learning environments and experiences supported by technology.
3. Students will implement curriculum plans that include methods and strategies for applying technology to maximize learning.
4. Students will apply technology to facilitate a variety of effective assessment and evaluation strategies.
5. Students will use technology to enhance their productivity and professional practice.
6. Students will better understand the social, ethical, legal, and human issues surrounding the use of technology on PreK-12 schools and apply that knowledge into future practice.

EDUC 1110. Freshman Orientation
1 Credit (1)
Introduction to the university and to the College of Education. Discussion of planning for individualized education program and field experience. Restricted to Las Cruces campus only. May be repeated up to 1 credit.

Learning Outcomes
1. Demonstrates knowledge of and uses theories, approaches, methods, and techniques for teaching, reading, writing, and other academic skills in English and the native language.
2. Demonstrates knowledge of and applies management techniques appropriate to classrooms containing students who have varying levels of proficiency and academic experience in both languages.
3. Community/Family Involvement- The bilingual teacher: (a)Recognizes the importance of parental and community involvement for facilitating the learner's successful integration to his/her school environment. (b) Demonstrates knowledge of the teaching and learning patterns of the students' home environment and incorporates these into the instructional areas of program.
4. Assessment- The bilingual teacher: (a) Assesses oral and written language proficiency in academic areas in both languages utilizing the results for instructional placement, prescription, and evaluation. (b) Evaluates the growth of the learner's native and second language in the context of the curriculum. (c) Continuously assesses and adjusts her or his own language use in the classroom in order to maximize learner comprehension and verbal participation

EDUC 1120. Introduction to Education
2 Credits (2)
Introduction to the historical, philosophical, sociological foundations of education, current trends, and issues in education; especially as it relates to a multicultural environment. Students will use those foundations to develop effective strategies related to problems, issues and responsibilities in the field of education. Restricted to Las Cruces campus only. May be repeated up to 2 credits.
Learning Outcomes
1. Describe the teaching and learning of various American education settings including early childhood, elementary, middle school, high school, and special education.
2. Describe how teachers use educational theory and the results of research of students' learning.
3. Explain the techniques for establishing a positive and supportive environment in the classroom
4. Identify and describe instructional strategies supported by current research to promote thinking skills of all learners.
5. Recognize the teachers' role and responsibilities in an increasingly diverse, multicultural society.

EDUC 1140. Math for Paraprofessionals
3 Credits (3)
Applied math skills for paraprofessionals working with children. May be repeated up to 3 credits.
Prerequisite: CCDM 103 N.
Learning Outcomes
1. Students will plan developmentally appropriate math activities for young children.
2. Students will plan adaptations to math activities for children with diverse abilities.
3. Students will demonstrate understanding of recent research in methods of teaching mathematics.
4. Students will demonstrate understanding of early childhood theories as they relate to the teaching of mathematics.
5. Students will demonstrate understanding of unique needs of children from diverse economic or cultural backgrounds.

EDUC 1150. Math for Paraprofessionals II
3 Credits (3)
Applied math skills for paraprofessionals working under the direction of a teacher. May be repeated up to 3 credits.
Prerequisite: EDUC 1140.
Learning Outcomes
1. Students will plan developmentally appropriate math activities for young children.
2. Students will plan adaptations to math activities for children with diverse abilities.
3. Students will demonstrate understanding of recent research in methods of teaching mathematics.
4. Students will demonstrate understanding of early childhood theories as they relate to the teaching of mathematics.
5. Students will demonstrate understanding of unique needs of children from diverse economic or cultural backgrounds.

EDUC 1185. Introduction to Secondary Education and Youth
3 Credits (3)
Introductory course for students considering a career in secondary education. Includes historical, philosophical, and sociological foundations, program organization, critical dispositions, and understanding the context of schools and youth. Practicum required. Restricted to: Secondary Ed majors. Traditional Grading with RR.
Learning Outcomes
1. Articulate the attributes of an education professional entering the field.
2. Differentiate and summarize the major educational philosophies and historical events that have influenced the progression of educational practice.
3. Describe the role of law in education with emphasis on the rights and responsibilities of teachers and learners.
4. Develop a preliminary personal philosophy of teaching and learning.
5. Discuss the characteristics and roles of the teacher, the student, and the school in today's education.
6. Identify effective teaching methods, instructional strategies and learning styles.
7. Evaluate the Lesson Planning Process using various lesson planning templates, formats, and rubrics.
8. Explain classroom management techniques.
9. Identify different types of diversity in the classroom environment, particularly in high-needs schools. 1
10. Describe how learning differences are manifested in schools, particularly in high-needs schools. 1
11. Describe how teachers use multiple methods of assessment to engage learners in their own growth, to monitor learner progress. 1
12. Describe how teachers use multiple methods of assessment to modify instruction and inform decision making. 1
13. Identify the role of Standards and High Stakes Testing in the life of an educational professional. 1
14. Complete 24 hours internship in a classroom, preferably a bilingual classroom in a high-needs school. 1
15. Document and reflect on your observations throughout your internship. 1
16. Construct an individualized map to teacher licensure in the State of New Mexico.

EDUC 1995. Field Experience I
1 Credit (1)
Introduction to public school teaching, school visits, classroom observations and discussion seminar. May be repeated up to 1 credit.
Learning Outcomes
1. Demonstrate an understanding of personal attitudes and motivations for entering the field of education.
2. Identify effective teaching strategies that enhance student learning outcomes.
3. Identify classroom management techniques and learning styles.
4. Develop observational skills and reflective thinking skills.
5. Evaluate instructional methods that enhance upper level thinking skills in children.

EDUC 1996. Special Topics in Education
1 Credit (1)
Supervised study in a specific area of interest. Each course shall be designated by a qualifying subtitle. May be repeated up to 9 credits.
Learning Outcomes
1. Varies

EDUC 1998. Internship I
3 Credits (3)
Supervised experience in elementary education settings. May be repeated up to 3 credits.
Learning Outcomes
1. Varies

EDUC 2710. Pre-Teacher Preparation
3 Credits (3)
Assists students in developing the necessary competencies needed for acceptance to the Teacher Education Program. Course content includes basic skill development, test taking skills, and completion of teacher preparation packet. May be repeated up to 6 credits.
Learning Outcomes
1. Investigate the process and requirements of the Teacher Education Program
2. Read critically about teacher's experiences and write brief reactions
3. Discuss philosophies of education and draft a written personal philosophy of education
4. Discuss the nature of education for students with diverse languages, cultures and abilities
5. Draft personal position statements concerning education for students with disabilities and diverse cultures

EDUC 2998. Internship II
3 Credits (3)
Supervised experience in junior high settings. May be repeated up to 3 credits.
Prerequisite: must be a co-op student.
Learning Outcomes
1. Varies

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Education (Elementary Education) - Associate in Education

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: All courses listed may be applied toward a degree at NMSU.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with those designated in footnote 2 listed in the Requirements.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1 - Select one course from the following:		
ENGL 1110G	Composition I [1, 2, *]	4
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
ENGL 2221G	Writing in the Humanities and Social Science [1, 2, 3, *]	3
or ENGL 2130G	Advanced Composition	
Oral Communication		
Select one course from the following:		3
COMM 1115G	Introduction to Communication [1, 2, 3]	
COMM 1130G	Public Speaking [1, 2, 3]	
HNRS 2175G	Introduction to Communication Honors [1, 2, 3]	
Area II: Mathematics		
MATH 2134G	Fundamentals of Elementary Math II [1, 2, *]	3
Area III: Laboratory Science		*8*
Select two different subject areas with labs (total of 8 credits from different prefixes/areas):		
Group A:		
ASTR 1120G	The Planets Lecture & Laboratory [1]	
or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory [1]	
BIOL 1190G	Contemporary Problems in Biology [1]	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory [1]	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [1]	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography [1]	
GEOL 1110G	Physical Geology [1]	
Group E:		
PHYS 1115G	Survey of Physics with Lab [1]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1]	
PHYS 1240G	Algebra-Based Physics II	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [1]	
Area IV: Social/Behavioral Sciences		*3*
CEPY 1120G	Human Growth and Behavior [1, 2]	
Area V: Humanities		*3*
HIST 1110G	United States History I [1]	
or HIST 1120G	United States History II	
Area VI: Creative and Fine Arts		*3*
Select one course from the following:		
ARTH 1115G	Orientation in Art [1]	
MUSC 1110G	Music Appreciation: Jazz [1]	
MUSC 1130G	Music Appreciation: Western Music [1]	
THEA 1110G	Introduction to Theatre [1]	
General Education Elective		
HIST 1130G	World History I [1]	3
or HIST 1140G	World History II	
Non-Departmental Requirements		
MATH 1134	Fundamentals of Elementary Mathematics I [*, 2,5]	3
LING 2110G	Introduction to the Study of Language and Linguistics [1, 2]	3
Select one course from the following:		3
GEOG 1120G	World Regional Geography [1]	
GEOG 1130G	Human Geography [1]	
POLS 1110G	Introduction to Political Science [1]	
POLS 1120G	American National Government [1]	
Major Requirements		
Professional Requirements (12 credits)		
BLED 1110	Introduction in Bilingual Education/ESL [2,4,6,*]	3
BLED 2110	Bilingual Methods [2, 4, *]	3
CEPY 2110	Learning in the Classroom [2, *]	3
EDLT 2110	Integrating Technology with Teaching (This course counts for EDLT 3110 for Elementary Education Majors) [2, *]	3
Approved teaching field electives, to bring the total credits to at least 60. Students should consult with advisor to select electives based on their chosen pathway to a 4 year degree. [7]		**6**
ANTH 1115G	Introduction to Anthropology	
ENGL 2610G	American Literature I	
ENGL 2620G	American Literature II	
ENGL 2630G	British Literature I	
ENGL 2640G	British Literature II	
SPAN 1110	Spanish I	
SPAN 1120	Spanish II	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	

MATH 1350G	Introduction to Statistics
MATH 1521G	Calculus and Analytic Geometry II
MATH 2530G	Calculus III
MATH 2415	Introduction to Linear Algebra
ECON 2110G	Macroeconomic Principles
ECON 2120G	Principles of Microeconomics Honors
HIST 1110G	United States History I
HIST 1120G	United States History II
HIST 1150G	Western Civilization I
HIST 1160G	Western Civilization II
CSCI 1110	Computer Science Principles
GEOG 1110G	Physical Geography
GEOG 1120G	World Regional Geography
GEOG 1130G	Human Geography
GEOG 2130	Map Analysis & Interpretation
POLS 1110G	Introduction to Political Science
POLS 1120G	American National Government
SOCI 1110G	Introduction to Sociology
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory
ASTR 1120G	The Planets Lecture & Laboratory
BIOL 1120G/1120L	Human Biology
BIOL 1190G	Contemporary Problems in Biology
BIOL 2110G/2110L	Principles of Biology: Cellular and Molecular Biology
BIOL 2610G/2610L	Principles of Biology: Biodiversity, Ecology, and Evolution
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors
GEOL 1110G	Physical Geology
PHYS 1115G	Survey of Physics with Lab
PHYS 1125G	Physics of Music
PHYS 1230G/1230L	Algebra-Based Physics I
PHYS 1240G/1240L	Algebra-Based Physics II
Total Credits	**60**

1 Courses are part of The New Mexico General Education Requirements.
2 This course must be completed with a grade of C- or better.
3 These courses count toward the Language Arts Teaching Field.
4 These courses count toward the Bilingual/TESOL endorsement.
5 MATH 1134 Fundamentals of Elementary Mathematics I is required for this degree but students may need complete pre-requisite(s) prior to enrolling in this course depending on math placement and completion of ENGL 1110G Composition I.
6 Course includes a minimum of 24 hours of Field Experience over a timeframe of 4-6 weeks that must be completed at a New Mexico public education elementary school in a bilingual classroom.
7 Optional courses allowed include ENGL 363 Literature for Children and Young Adults; SPED 3105 Introduction to Special Education in a Diverse Society; and EDUC 3120 Multicultural Education.
* Courses with an (#) are pre-requisites for Teacher Education Program (TEP) admission.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with those designated in footnote 2 on the previous page.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G or HNRS 2175G	Introduction to Communication or Public Speaking or Introduction to Communication Honors	
Area IV: Social/Behavioral Sciences		3
LING 2110G	Introduction to the Study of Language and Linguistics	
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
Area V: Humanities		3
HIST 1130G or HIST 1140G	World History I or World History II	
	Credits	**16**

Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2221G or ENGL 2130G	Writing in the Humanities and Social Science or Advanced Composition	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	

Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Group E:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1125G	Physics of Music	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
Choose one from the following:		3
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
MATH 1134	Fundamentals of Elementary Mathematics I	3
CEPY 1120G	Human Growth and Behavior	3
	Credits	**16**
Semester 3		
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Group E:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1125G	Physics of Music	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
General Education Elective		3
HIST 1110G or HIST 1120G	United States History I or United States History II	
BLED 1110	Introduction in Bilingual Education/ESL	3
AREA II: Mathematics		
MATH 2134G	Fundamentals of Elementary Math II	3
	Credits	**13**
Semester 4		
BLED 2110	Bilingual Methods	3
CEPY 2110	Learning in the Classroom	3
EDLT 2110	Integrating Technology with Teaching	3
Approved Teaching Field Elective		3
Approved Teaching Field Elective		3
	Credits	**15**
	Total Credits	**60**

Education (Elementary Education-Special Education) - Associate in Education

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: All courses listed may be applied toward a degree at NMSU.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with those designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1 - Select one course from the following:		
ENGL 1110G	Composition I [1, 2, *]	4
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
ENGL 2221G	Writing in the Humanities and Social Science [1, 2, 3, *]	3
or ENGL 2130G	Advanced Composition	
Oral Communication		
COMM 1130G	Public Speaking [1, 2, 3]	3
or COMM 1115G	Introduction to Communication	
Area II: Mathematics		
MATH 2134G	Fundamentals of Elementary Math II	3
Area III Laboratory Science		*11*
Select two different subject areas with labs (total of 8 credits from different prefixes/areas).		
Group A:		
ASTR 1120G	The Planets Lecture & Laboratory [1]	

or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory [1]	
BIOL 1190G	Contemporary Problems in Biology [1]	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory [1]	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [1]	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [1]	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [1]	
Group D:		
GEOG 1110G	Physical Geography [1]	
GEOL 1110G	Physical Geology [1]	
Group E:		
PHYS 1115G	Survey of Physics with Lab [1]	
PHYS 1125G	Physics of Music [1]	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [1]	
Area IV: Social/Behavioral Sciences		
LING 2110G	Introduction to the Study of Language and Linguistics [1, 2, 3, 4]	
Area V: Humanities		
HIST 1130G	World History I [1]	3
or HIST 1140G	World History II	
Area VI: Creative and Fine Arts		
Select one course from the following:		3
ARTH 1115G	Orientation in Art [1]	
MUSC 1130G	Music Appreciation: Western Music [1]	
MUSC 1110G	Music Appreciation: Jazz [1]	
THEA 1110G	Introduction to Theatre [1]	
General Education Elective		
HIST 1110G	United States History I [1]	3
or HIST 1120G	United States History II	
Non-Departmental Requirements		
MATH 1134	Fundamentals of Elementary Mathematics I [2,5,*]	3
Select one course from the following:		3
GEOG 1120G	World Regional Geography [1]	
GEOG 1130G	Human Geography [1]	
POLS 1110G	Introduction to Political Science [1]	
POLS 1120G	American National Government [1]	
Major Requirements		
Professional Requirements (12 credits)		
CEPY 1120G	Human Growth and Behavior [1, 2]	3
BLED 1110	Introduction in Bilingual Education/ESL [2,4,7,*]	3
BLED 2110	Bilingual Methods [2, 4, *]	3
EDLT 2110	Integrating Technology with Teaching (This course is counted as EDLT 3110 for Elementary Special Education Majors) [2, *]	3
Approved Electives, to bring the total credits to 60 [6]		**9**
MATH 1215	Intermediate Algebra	
SPAN 1110	Spanish I	
SPAN 1120	Spanish II	
Total Credits		**60**

1 Courses are part of The New Mexico General Education Requirements.
2 This course must be completed with a grade of C- or better.
3 These courses count toward the Language Arts Teaching Field.
4 These courses count toward the Bilingual/TESOL endorsement.
5 MATH 1134 Fundamentals of Elementary Mathematics I is required for the degree but students may need to complete prerequisite(s) prior to enrolling in this course depending on math placement and completion of ENGL 1110G Composition I.
6 Optional courses allowed include ENGL 363 Literature for Children and Young Adults and SPED 3105 Introduction to Special Education in a Diverse Society.
7 Course includes a minimum of 24 hours of Field Experience over a timeframe of 4-6 weeks that must be completed at a New Mexico public education elementary school in a bilingual classroom.
* Courses with an (#) are pre-requisites for Teacher Education Program (TEP) admission.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with those designated in footnote 2 on previous page.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		3
CEPY 1120G	Human Growth and Behavior	
Area V: Humanities		3
HIST 1130G or HIST 1140G	World History I or World History II	
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
	Credits	**13**

Semester 2

Area I: Communications - English Composition Level 2		3
ENGL 2221G or ENGL 2130G	Writing in the Humanities and Social Science or Advanced Composition	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Group E:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1125G	Physics of Music	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
General Education Elective - Area V: Humanities		3
MATH 1134	Fundamentals of Elementary Mathematics I	
HIST 1110G or HIST 1120G	United States History I or United States History II	3
	Credits	**16**

Semester 3

Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G or BIOL 1120L	Human Biology or Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Group E:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1125G	Physics of Music	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
BLED 1110	Introduction in Bilingual Education/ESL	3
Approved Elective		3
Area II: Mathematics		
MATH 2134G	Fundamentals of Elementary Math II	3
	Credits	**16**

Semester 4

Area IV: Social/Behavioral Sciences		3
LING 2110G	Introduction to the Study of Language and Linguistics	
BLED 2110	Bilingual Methods	3
EDLT 2110	Integrating Technology with Teaching	3
Electives, to bring the total credits to 60		
Approved Elective		3
Approved Elective		3
	Credits	**15**
	Total Credits	**60**

Education (Secondary Language Arts) - Associate in Education

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

NOTE: All courses listed may be applied toward a degree at NMSU.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, the Language Arts Teaching Field courses in footnote 3, and those designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the

degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1 -Select one course from the following:		
ENGL 1110G	Composition I [1, 2, 3, *]	4
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
ENGL 2221G	Writing in the Humanities and Social Science [1, 2, 3, *]	3
or ENGL 2130G	Advanced Composition	
or ENGL 2215G	Advanced Technical and Professional Communication	
Oral Communication		
COMM 1115G	Introduction to Communication [2, 3]	3
or COMM 1130G	Public Speaking	
Area II: Mathematics		
Select one course from the following:		3-4
MATH 1220G	College Algebra (or higher) [1, 2, 4, *]	
MATH 1250G	Trigonometry & Pre-Calculus (or higher)	
Area III/IV: Laboratory Science and Social/Behavioral Sciences		*11*
JOUR 105G	Media and Society [1, 2, 3]	
Select two different Area III "G" course subject areas with labs (total 8 credits from different prefixes/areas)		
Group A:		
ASTR 1120G	The Planets Lecture & Laboratory [1]	
or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory [1]	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory [1]	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [1]	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [1]	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [1]	
Group D:		
GEOG 1110G	Physical Geography [1]	
GEOL 1110G	Physical Geology [1]	
Area V: Humanities		
HIST 1150G	Western Civilization I [1]	3
or HIST 1160G	Western Civilization II	
Area VI: Creative and Fine Arts		
THEA 1110G	Introduction to Theatre [1, 2, 3]	3
General Education Elective		
Select one course from the following:		3
MATH 1130G	Survey of Mathematics (or higher) [1, 2]	
MATH 1430G	Applications of Calculus I (or higher) [1, 2, 4]	
Core Requirements		
HIST 1110G	United States History I [1]	3
or HIST 1120G	United States History II	
Choose one from the following:		3
ENGL 2610G	American Literature I [2, 3]	
ENGL 2620G	American Literature II [2, 3]	
ENGL 2630G	British Literature I [2, 3]	
ENGL 2640G	British Literature II [2, 3]	
Select one course from the following:		3
ANTH 1115G	Introduction to Anthropology [1]	
ANTH 1140G	Introduction to Cultural Anthropology [1]	
ANTH 1160G	World Archaeology [1]	
GEOG 1120G	World Regional Geography [1]	
GEOG 1130G	Human Geography [1]	
POLS 1110G	Introduction to Political Science [1]	
POLS 1120G	American National Government [1]	
POLS 1130G	Issues in American Politics [1]	
POLS 2120G	International Relations [1]	
SOCI 1110G	Introduction to Sociology [1]	
SOCI 2310G	Contemporary Social Problems [1]	
Major Requirements		
Professional Requirements (9 credits)		
CEPY 1120G	Human Growth and Behavior [1, 2]	3
EDUC 1185	Introduction to Secondary Education and Youth [2, 6,*]	3
EDLT 2110	Integrating Technology with Teaching (This course counts as EDLT 3110 at NMSU, Las Cruces) [2, *]	3
Approved electives, to bring the total credits to 60-61 [5]		**9**
MATH 1215	Intermediate Algebra	
ENGL 2610G	American Literature I	
ENGL 2620G	American Literature II	
ENGL 2630G	British Literature I	
ENGL 2640G	British Literature II	
Total Credits		**60-61**

1 Courses are part of The New Mexico General Education Requirements.
2 This course must be completed with a grade of C- or better.
3 These courses count toward the Language Arts Teaching Field.
4 Students may need to complete prerequisite(s) prior to enrolling in this course depending on math placement scores.
5 Optional courses allowed include SPED 3105 Introduction to Special Education in a Diverse Society and EDUC 3120 Multicultural Education.
6 Course includes a minimum of 24 hours of Field Experience over a timeframe of 4-6 weeks that must be completed at a New Mexico public education middle or high school in multiple classrooms (minimum 8 hours of placement in language arts classroom and minimum 16 hours of placement in classroom representing field of study).
* Courses with an (#) are pre/co-requisites for Teacher Education Program (TEP).

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to

create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, the courses in the Language Arts Teaching Field designated in footnote 3, and those designated in footnote 2 on the Requirements page.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		3
CEPY 1120G	Human Growth and Behavior	
Area V: Humanities		3
HIST 1150G or HIST 1160G	Western Civilization I or Western Civilization II	
Area VI: Creative and Fine Arts		3
THEA 1110G	Introduction to Theatre	
MATH 1220G	College Algebra (or higher)	3
or		
MATH 1250G	Trigonometry & Pre-Calculus (or higher)	
	Credits	**16**
Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2221G	Writing in the Humanities and Social Science	
Area II: Mathematics		3-4
General Education Elective - Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher)	
or		
MATH 1430G	Applications of Calculus I (or higher)	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Area IV: Social/Behavioral Sciences		3
JOUR 105G	Media and Society	
ENGL 2610G or ENGL 2620G or ENGL 2630G or ENGL 2640G	American Literature I or American Literature II or British Literature I or British Literature II	3
	Credits	**16-17**
Semester 3		
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
EDUC 1185	Introduction to Secondary Education and Youth	3
Approved Elective		3
	Credits	**13**
Semester 4		
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
ANTH 1115G	Introduction to Anthropology	
ANTH 1140G	Introduction to Cultural Anthropology	
ANTH 1160G	World Archaeology	
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
POLS 1130G	Issues in American Politics	
POLS 2120G	International Relations	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
Area V: Humanities		3

HIST 1110G or HIST 1120G	United States History I or United States History II	
EDLT 2110	Integrating Technology with Teaching	3
Approved Elective		3
Approved Elective		3
	Credits	**15**
	Total Credits	**60-61**

Education (Secondary Math) - Associate in Education

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: All courses listed may be applied toward a degree at NMSU.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along the Math Teaching Field courses designated in footnote 3, and the classes designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1- Select one course from the following:		
ENGL 1110G	Composition I [1, 2, *]	4
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
ENGL 2221G	Writing in the Humanities and Social Science [1, 2, *]	3
or ENGL 2130G	Advanced Composition	
or ENGL 2215G	Advanced Technical and Professional Communication	
Oral Communication		
COMM 1115G	Introduction to Communication [1]	3
or COMM 1130G	Public Speaking	
Area II: Mathematics		
MATH 1220G	College Algebra (or higher) [1, 2, 4, *]	3
Area II/IV: Laboratory Science and Social/Behavioral Sciences		*11*
Select one from the following:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1]	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab [1]	
Select one from the following:		
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [1]	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab [1]	
Select one from the following:		
ECON 1110G	Survey of Economics [1]	
ECON 2110G	Macroeconomic Principles [1]	
ECON 2120G	Principles of Microeconomics Honors [1]	
Area V: Humanities		
HIST 1150G or HIST 1160G	Western Civilization I [1] / Western Civilization II	3
Area VI: Creative and Fine Arts		
Select one course from the following:		3
ARTH 1115G	Orientation in Art [1]	
MUSC 1110G	Music Appreciation: Jazz [1]	
MUSC 1130G	Music Appreciation: Western Music [1]	
THEA 1110G	Introduction to Theatre [1]	
General Education elective		
HIST 1110G or HIST 1120G	United States History I [1] / United States History II	3
Core Requirements		
MATH 1511G	Calculus and Analytic Geometry I [1, 2, 3, 4]	4
MATH 1521G	Calculus and Analytic Geometry II [1, 2, 3]	4
CSCI 1110	Computer Science Principles	4
Select one course from the following:		3
ANTH 1115G	Introduction to Anthropology [1]	
ANTH 1140G	Introduction to Cultural Anthropology [1]	
ANTH 1160G	World Archaeology [1]	
GEOG 1120G	World Regional Geography [1]	
GEOG 1130G	Human Geography [1]	
POLS 1110G	Introduction to Political Science [1]	
POLS 1120G	American National Government [1]	
POLS 1130G	Issues in American Politics [1]	
POLS 2120G	International Relations [1]	
SOCI 1110G	Introduction to Sociology [1]	
SOCI 2310G	Contemporary Social Problems [1]	
Major Requirements		
Professional Requirements (9 credits)		
CEPY 1120G	Human Growth and Behavior [1, 2]	3
EDUC 1185	Introduction to Secondary Education and Youth [2, 5, *]	3
EDLT 2110	Integrating Technology with Teaching (This course will count as EDLT 3110 at NMSU, Las Cruces) [2, *]	3
Electives, to bring the total credits to 60		**3**
MATH 1215	Intermediate Algebra	
MATH 2530G	Calculus III	
Total Credits		**60**

1 Courses are part of The New Mexico General Education Requirements.
2 This course must be completed with a C- or better.
3 These courses count toward the Math teaching field.
4 MATH 1220G College Algebra or higher and MATH 1511G Calculus and Analytic Geometry I are required for this degree, but students may need to complete prerequisite(s) prior to enrolling in these courses.
5 Course includes a minimum of 24 hours of Field Experience over a timeframe of 4-6 weeks that must be completed at a New Mexico public education middle or high school in multiple classrooms (minimum 8 hours of placement in language arts classroom and minimum 16 hours of placement in classroom representing field of study).
* Courses with an (#) are pre/co-requisites for Teacher Education Program (TEP).

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along the Math Teaching Field courses designated in footnote 3, and the classes designated in footnote 2 on the Required page.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area V: Humanities		3
HIST 1150G or HIST 1160G	Western Civilization I or Western Civilization II	
AREA II: Mathematics		
MATH 1220G	College Algebra (or higher)	3
Area IV: Social/Behavioral Sciences		3
ANTH 1115G	Introduction to Anthropology	
ANTH 1140G	Introduction to Cultural Anthropology	
ANTH 1160G	World Archaeology	
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
POLS 1130G	Issues in American Politics	
POLS 2120G	International Relations	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
	Credits	**13**
Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2221G or ENGL 2130G or ENGL 2215G	Writing in the Humanities and Social Science or Advanced Composition or Advanced Technical and Professional Communication	
MATH 1511G	Calculus and Analytic Geometry I	4
Area III: Laboratory Sciences - Choose one from the following:		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
Area IV: Social/Behavioral Sciences		3
ECON 1110G or ECON 2110G or ECON 2120G	Survey of Economics or Macroeconomic Principles or Principles of Microeconomics Honors	
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
	Credits	**17**
Semester 3		
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
MATH 1521G	Calculus and Analytic Geometry II	4
Area III: Laboratory Sciences - Choose one from the following:		4
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
CEPY 1120G	Human Growth and Behavior	3
	Credits	**14**
Semester 4		
Area V: Humanities		3
HIST 1110G or HIST 1120G	United States History I or United States History II	
EDLT 2110	Integrating Technology with Teaching	3
CSCI 1110	Computer Science Principles	4
EDUC 1185	Introduction to Secondary Education and Youth	3
Elective to bring the total credits to 60		3
	Credits	**16**
	Total Credits	**60**

Education (Secondary Science) - Associate in Education

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

NOTE: All courses listed may be applied toward a degree at NMSU.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with the Science Teaching Field courses designated in footnote 3, and the classes designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		*10*
English Composition - Level 1 - Select one course from the following:		
ENGL 1110G	Composition I [1, 2, *]	
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2 -Select one course from the following:		
ENGL 2221G	Writing in the Humanities and Social Science [1, 2, *]	
or ENGL 2215G	Advanced Technical and Professional Communication	
or ENGL 2130G	Advanced Composition	
Oral Communication - Select one course from the following:		

COMM 1115G	Introduction to Communication [1]	
or COMM 1130G	Public Speaking	
or HNRS 2175G	Introduction to Communication Honors	
Area II: Mathematics		*3-4*
Choose one course from the following:		
MATH 1220G	College Algebra (or higher) [1, 2, *]	
MATH 1250G	Trigonometry & Pre-Calculus (or higher) [1, 2, *]	
Area III: Lab Sciences		
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [1, 2,3]	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [1,2,3]	4
Area IV: Social/Behavioral Sciences		*6*
GEOG 1120G	World Regional Geography [1]	
or GEOG 1130G	Human Geography	
Choose one course from the following:		
ANTH 1140G	Introduction to Cultural Anthropology [1]	
ANTH 1115G	Introduction to Anthropology [1]	
ANTH 1160G	World Archaeology [1]	
SOCI 1110G	Introduction to Sociology [1]	
SOCI 2310G	Contemporary Social Problems [1]	
Area V: Humanities		
Choose one from the following:		3
HIST 1120G	United States History II [1]	
HIST 1110G	United States History I [1]	
HIST 1130G	World History I [1]	
HIST 1140G	World History II [1]	
HIST 1150G	Western Civilization I [1]	
HIST 1160G	Western Civilization II [1]	
Area VI: Creative and Fine Arts		*6*
Choose two courses from the following:		
ARTH 1115G	Orientation in Art [1]	
MUSC 1110G	Music Appreciation: Jazz [1]	
MUSC 1130G	Music Appreciation: Western Music [1]	
THEA 1110G	Introduction to Theatre [1]	
Major Requirements		
Professional Requirements (9 credits)		
CEPY 1120G	Human Growth and Behavior [1, 2]	3
EDUC 1185	Introduction to Secondary Education and Youth [2, 5,*]	3
EDLT 2110	Integrating Technology with Teaching (This course counts as EDLT 3110 at NMSU, Las Cruces) [2, *]	3
Teaching Field Science Concentration		**12**
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
Choose one of the following:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [1,2,3]	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab [1, 2,3]	
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics	
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I [1, 2,3]	
Choose one from the following:		
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab [1, 2,3]	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab [1, 2,3]	
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory [1,2,3]	
PHYS 2240G & PHYS 2240L	General Physics for Life Science II and Laboratory to General Physics for Life Science II [1, 2,3]	
Approved electives to bring the total credits to at least 60 [6]		**3**
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
MATH 1215	Intermediate Algebra	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
MATH 1430G	Applications of Calculus I	
MATH 2530G	Calculus III	
Total Credits		**60-61**

1 Courses are part of The New Mexico General Education Requirements.
2 This course must be completed with a C- or better.
3 This course counts toward the Science teaching field.
4 MATH 1220G College Algebra or higher is required for this degree, but students may need to complete prerequisite(s) prior to enrolling in these courses.
5 Course includes a minimum of 24 hours of Field Experience over a timeframe of 4-6 weeks that must be completed at a New Mexico public education middle or high school in multiple classrooms (minimum 8 hours of placement in language arts classroom and minimum 16 hours of placement in classroom representing field of study).
6 Optional courses allowed include SPED 3105 Introduction to Special Education in a Diverse Society and EDUC 3120 Multicultural Education.
* Courses with an (#) are pre/co-requisites for Teacher Education Program (TEP).

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with the Science Teaching Field courses designated in footnote 3, and the classes designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications - English Composition - Choose one of the following courses:		4
ENGL 1110G	Composition I	
ENGL 1110M	Composition I	
ENGL 1110H	Composition I Honors	
Area II: Mathematics		3-4
Choose one from the following:		
MATH 1220G	College Algebra (or higher)	
MATH 1250G	Trigonometry & Pre-Calculus (or higher)	
Area V: Humanities - Choose one from the following:		3
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
Area IV: social/Behavioral Sciences - Choose one from the following:		3
ANTH 1115G	Introduction to Anthropology	
ANTH 1140G	Introduction to Cultural Anthropology	
ANTH 1160G	World Archaeology	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
	Credits	**13-14**

Semester 2		
Area I: Communications - English Composition Level 2		3
ENGL 2221G or ENGL 2215G or ENGL 2130G	Writing in the Humanities and Social Science or Advanced Technical and Professional Communication or Advanced Composition	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
Area IV: Social/Behavioral Sciences		3
GEOG 1120G or GEOG 1130G	World Regional Geography or Human Geography	
Area VI: Creative and Fine Arts		3
Choose one from the following:		
ARTH 1115G	Orientation in Art	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
Area IV: Social and Behavioral Science		
CEPY 1120G	Human Growth and Behavior	3
	Credits	**16**

Semester 3		
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G or HNRS 2175G	Introduction to Communication or Public Speaking or Introduction to Communication Honors	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	4
Area III: Lab Science		4
Choose one from the following:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics	
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I	
Area VI: Creative and Fine Arts -Choose 1 from the following:		3
ARTH 1115G	Orientation in Art	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
Approved elective		3
	Credits	**17**

Semester 4		
Area III: Lab Sciences		4
Choose one from the following:		
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab	
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory	
PHYS 2240G & PHYS 2240L	General Physics for Life Science II and Laboratory to General Physics for Life Science II	
EDLT 2110	Integrating Technology with Teaching	3
EDUC 1185	Introduction to Secondary Education and Youth	3
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
	Credits	**14**
	Total Credits	**60-61**

Education (Secondary Social Studies) - Associate in Education

Doña Ana Community College 2026-2027 Catalog (60-61 credits)

NOTE: All courses listed may be applied toward a degree at NMSU.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with the Social Studies Teaching Field courses designated in footnote 3, and the classes designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60-61 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		

ENGL 1110G	Composition I [1, 2, *]	4
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
ENGL 2221G	Writing in the Humanities and Social Science [1, 2, *]	3
or ENGL 2130G	Advanced Composition	
or ENGL 2215G	Advanced Technical and Professional Communication	
Oral Communication		
COMM 1115G	Introduction to Communication [1]	3
or COMM 1130G	Public Speaking	
Area II: Mathematics		
Choose one course from the following:		3-4
MATH 1220G	College Algebra (or higher) [1, 2, 4, *]	
MATH 1250G	Trigonometry & Pre-Calculus (or higher) [1, 2, *]	
Area III/IV: Laboratory Science and Social/Behavioral Sciences		*11*
GEOG 1130G	Human Geography [1, 2, 3]	
Select two different subject areas with labs (total of 8 credits from different prefixes/areas).		
Group A:		
ASTR 1120G	The Planets Lecture & Laboratory [1]	
or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory [1]	
BIOL 1190G	Contemporary Problems in Biology [1]	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory [1]	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [1]	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [1]	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [1]	
Group D:		
GEOG 1110G	Physical Geography [1]	
GEOL 1110G	Physical Geology [1]	
Area V: Humanities		
HIST 1150G	Western Civilization I [1,2,3]	3
or HIST 1160G	Western Civilization II	
Area VI: Creative and Fine Arts [4]		*3*
Choose one from the following:		
ARTH 1115G	Orientation in Art [1]	
MUSC 1110G	Music Appreciation: Jazz [1]	
MUSC 1130G	Music Appreciation: Western Music [1]	
THEA 1110G	Introduction to Theatre [1]	
General Education Elective		
HIST 1130G	World History I [1,2,3]	3
or HIST 1140G	World History II	
Core Requirements		
HIST 1110G	United States History I [1,2,3]	3
HIST 1120G	United States History II	3
ECON 2110G	Macroeconomic Principles	3
POLS 1110G	Introduction to Political Science [1, 2, 3]	3
or POLS 1120G	American National Government	
Choose one course from the following:		3
MATH 1130G	Survey of Mathematics (or higher) [1, 2, 4]	
MATH 1430G	Applications of Calculus I (or higher) [1, 2]	
Major Requirements		
Professional Requirements (9 credits)		
CEPY 1120G	Human Growth and Behavior [1, 2]	3
EDUC 1185	Introduction to Secondary Education and Youth [2, 5,*]	3
EDLT 2110	Integrating Technology with Teaching (This course counts as EDLT 3110 at NMSU, Las Cruces) [2, *]	3
Approved electives, to bring the total credits to 60-61 [6]		**3**
ECON 2120G	Principles of Microeconomics Honors	
MATH 1215	Intermediate Algebra	
GEOG 2130	Map Analysis & Interpretation	
Total Credits		**60-61**

1 Courses are part of The New Mexico General Education Requirements.
2 This course must be completed with a C- or better.
3 This course counts toward the Social Studies teaching field.
4 MATH 1220G College Algebra is required for this degree, but students may need to complete prerequisite(s) prior to enrolling in this course depending on math placement.
5 Course includes a minimum of 24 hours of Field Experience over a timeframe of 4-6 weeks that must be completed at a New Mexico public education middle or high school in multiple classrooms (minimum 8 hours of placement in language arts classroom and minimum 16 hours of placement in classroom representing field of study).
6 Optional courses allowed include SPED 3105 Introduction to Special Education in a Diverse Society and EDUC 3120 Multicultural Education.
* Courses with an (#) are pre/co-requisites for Teacher Education Program (TEP).

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses, along with the Social Studies Teaching Field courses designated in footnote 3, and the classes designated in footnote 2.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	

Area V: Humanities		3
HIST 1150G or HIST 1160G	Western Civilization I or Western Civilization II	
Area VI: Creative and Fine Arts		3
Choose one from the following:		
ARTH 1115G	Orientation in Art [1]	
MUSC 1110G	Music Appreciation: Jazz [1]	
MUSC 1130G	Music Appreciation: Western Music [1]	
THEA 1110G	Introduction to Theatre [1]	
Area IV: Social/Behavioral Sciences		3
POLS 1110G or POLS 1120G	Introduction to Political Science or American National Government	
Area IV: Social and Behavioral Sciences		
GEOG 1130G	Human Geography	3
	Credits	**16**

Semester 2

Area I: Communications - English Composition Level 2		3
ENGL 2221G	Writing in the Humanities and Social Science	
Area II: Mathematics		3-4
MATH 1220G	College Algebra (or higher)	
or		
MATH 1250G	Trigonometry & Pre-Calculus	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
General Education Elective - Area V: Humanities		3
HIST 1110G	United States History I	
Area IV: Social and Behavioral Science		3
CEPY 1120G	Human Growth and Behavior [1]	
	Credits	**16-17**

Semester 3

Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics (or higher)	
or		
MATH 1430G	Applications of Calculus I (or higher)	
Area III: Laboratory Sciences - Choose one from the following (total of 8 credits from different prefixes/areas):		4
Group A:		
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
Group B:		
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 1190G	Contemporary Problems in Biology	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Group C:		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Group D:		
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
HIST 1120G	United States History II	3
	Credits	**13**

Semester 4

EDUC 1185	Introduction to Secondary Education and Youth	3
Area V: Humanities		3
HIST 1130G or HIST 1140G	World History I or World History II	
EDLT 2110	Integrating Technology with Teaching	3
ECON 2110G	Macroeconomic Principles	3
Approved Elective		3
	Credits	**15**
	Total Credits	**60-61**

Electrical Programs

Certificates of Completion

- Electrical Lineworker Certificate

Electrical Lineworker Certificate Program

New Mexico electric cooperatives and private firms that perform electrical line work often find it difficult to fill vacancies. DACC's Electrical Lineworker Program is a one-year pre-apprenticeship certificate program designed to provide students with the technical background and the manual skills necessary for careers in the installation and maintenance of electrical power cables. This training will apply to other

industries such as cable television companies, telephone companies and line construction contractors. Opportunities for advancement into supervisory and management positions within these companies is a possibility, but will require a consistently high job performance along with solid leadership skills by individuals.

Students will be exposed to such curriculum topics as AC/DC electrical theory, field training, occupational safety, line construction theory, rigging, and transformers. Campus instruction facilities include a large outdoor training field for pole climbing, line construction, bucket-truck operation and erecting power lines using power-line construction trucks with safety, pole climbing and teamwork highly emphasized. Along with extensive hands-on experience building power lines, students also practice both overhead and underground techniques. As part of the required curriculum, students will be required to work as a cooperative education student with a New Mexico electric cooperative or a private firm that performs electrical line work.

Upon successful completion of the Electrical Lineworker program, the graduate is expected to:

1. Practice the electrical skills of the profession in a conscientious, responsible, and accountable manner while recognizing the need to continue to expand their technical knowledge and skills.
2. Safely climb poles and operate line bucket trucks and pole setting equipment when performing overhead line construction.
3. Safety, teamwork and critical thinking use the acquired analytical skills to solve problems encountered in a field situation.

Graduates are prepared to join the electrical power industry workforce as safe and knowledgeable apprentices.

Program Admissions Criteria

The following items are required for successful admission into the Electrical Lineworker program:

- Admission to DACC
- Background check through the designated affiliate (adverse findings may disqualify a student from acceptance into the program)
- Drug screening
- Human Performance Evaluation; Very Heavy Test

NOTE: this program is Cohort, the cohort is 3 semesters long and starts in the fall semesters. Students are placed on a waitlist in the Spring Semesters and courses start in the Fall Semesters.

Electrical Lineworker - Certificate (p. 317)

ELTR - Electric

ELTR 1115. National Electric Code
3 Credits (3)
Provides students with a basic understanding of the National Electrical Codes and how they apply to residential, commercial, and renewable energy systems such as photovoltaic electrical generating systems. How the NEC Codes apply to a Industrial Setting.
Prerequisite: ELTR 1120.
Learning Outcomes
1. Be able to navigate and interpret the various Sections and Articles found within the National Electric Code.
2. Demonstrate the NEC in the system design of the code.
3. Demonstrate how to apply the NEC Code to Solar Installations.
4. Demonstrate how to load wiring calculations to comply with NEC regulations for both Commercial and Residential.
5. Apply knowledge of the NEC Codes to commercial and industrial applications.

ELTR 1120. Electrical Theory I
4 Credits (3+3P)
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. Upon successful completion of this course the student will define the following concepts and demonstrate her/his ability to apply them to the electrical trade by means of written examinations and assignments, with a minimum accuracy of 71%.
Learning Outcomes
1. Describe the components of an electrical circuit, electron theory, structure of an atom, properties of conductors, semiconductors, and insulators, sources of electricity, and the conversion of electrical energy.
2. Demonstrate and identify the characteristics of DC circuits, units of electrical measurement, characteristics of current, resistance, and voltage in a circuit, characteristics of a combination circuit, electrical components.
3. Apply the National Electrical Code, definitions and division of articles in the NEC.
4. Interpret NEC applications to residential wiring and the NEC enforcement on electrical codes, selection and calculation of conductor maximum ampacity including correction for ambient temperature of Branch circuit conductors, production of a sinusoidal wave.
5. Know key differences between AC and DC current, applications and theory of electrical components such as inductors, capacitors and transformers.

ELTR 1130. Introduction to Electrical Power Systems
2 Credits (2)
An overview of electrical power systems, equipment, safety practices, first aid and CPR. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Corequisite: ELTR 1120.
Learning Outcomes
1. List and discuss the major components of the electrical power grid and their operating functions.
2. Work as a team member with strong work ethics and a commitment to quality.
3. Adhere to OSHA ANSI working safety standards.

ELTR 1140. Basic Motor Controls
5 Credits (2+6P)
Developing schematics and wiring simple manual and electromechanical control devices.
Prerequisite: ELTR 1120 or consent of instructor.
Learning Outcomes
1. Describe the results of problems solving either orally or in writing.
2. Memorize and recall facts, procedures, and vocabulary pertaining to a motor and its characteristics.
3. Solve application problems using the appropriate design approach as a tool.

4. Express symbols and schematics designs as quantities in meaningful circuit analysis.
5. Evaluate current flow from a variety of electrical systems, utilizing rules for ladder diagrams.
6. Estimate the circuit response; compare estimated and actual responses for consistency.
7. Simplify, solve, evaluate and design various circuits and utilize needed learned interpretations.
8. Describe the results of problems solving either orally or in writing.
9. Explain sequential logic processes. 1
10. Simplify, solve, evaluate and graph various types of AC/DC electrical motor design circuits. 1
11. Simplify, solve, evaluate and programs various electrical installations. 1
12. Describe the results of problems solving either orally or in writing. 1
13. Explain sequential analysis processes as they relate to electrical systems and installation of motors. 1
14. Integrate various strategies and techniques from different areas of motor controls to application problems. 1
15. Express ladder diagrams in meaningful design interpretation.

ELTR 1160. Electrical Lineworker Lab I
6 Credits (12P)
Climbing and work on utility poles using ropes and rigging, pole setting and an introduction to transmission and distribution line construction. Maintenance and troubleshooting to include the use of hot sticks. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Corequisite: ELTR 1120.
Learning Outcomes
1. List and discuss the major components of the electrical power grid and their operating functions.
2. Work as a team member with strong work ethics and a commitment to quality.
3. Adhere to OSHA ANSI working safety standards.

ELTR 1165. Electrical Lineworker II
6 Credits (12P)
Practice in the installation of electrical power lines including transformers, voltage regulators, and surge arrestors. Also advanced hot sticking procedures, troubleshooting, underground systems procedures, and pole-top rescue. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform electrical related calculations and interpret results for the purpose of repair or installation of electrical power systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose electrical power systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of electrical power and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of electrical power lines and associated equipment.
7. Demonstrate understanding of basic electrical principals as they relate to the installation and maintenance of electrical power systems.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Demonstrate the ability to perform lineworker duties in a safe manner.

ELTR 1220. Introduction to Wiring Lab
3 Credits (2+3P)
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. Analyze Blueprint applications as it applies to electrical installations. NEC requirements for light commercial applications.
Learning Outcomes
1. Demonstrate and describe jobsite safety procedures.
2. Demonstrate the ability to install electrical circuits such as single-pole, three and four way lighting circuits, heating and cooling system circuits, door chime circuits, and residential and light commercial branch-circuits.
3. Demonstrate and/or describe the function of Overcurrent Protection in an electrical system.
4. Demonstrate the ability to analyze blueprint applications as it applies to electrical installations.
5. Demonstrate the ability to analyze the National Electrical Code as it applies to electrical installations.

ELTR 1230. Residential Wiring II
3 Credits (2+3P)
Introduction to electrical raceways and fittings; electrical conductors and cables; basic electrical construction drawings, residential electrical services, and electrical test equipment.
Prerequisite: C- or better in ELTR 1220.
Learning Outcomes
1. Demonstrate Hand Bending.
2. Demonstrate Raceway and fittings.
3. Identify Conductors and Cables.
4. Interpret Basic Electrical Construction Drawings.
5. Define Residential Electrical Services.
6. Demonstrate Electrical Test Equipment.

ELTR 1996. Topics in Electricity
1-6 Credits
Varies. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

ELTR 2120. Electrical Power Systems II
3 Credits (2+2P)
Theory of power generation and distribution with emphasis on three phase systems to include transformers, voltage regulators, surge arrestors. Includes troubleshooting. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform electrical related calculations and interpret results for the purpose of repair or installation of electrical power systems.

4. Demonstrate the use of current industry techniques and equipment to diagnose electrical power systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of electrical power and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of electrical power lines and associated equipment.
7. Demonstrate understanding of basic electrical principals as they relate to the installation and maintenance of electrical power systems.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Demonstrate the ability to perform lineworker duties in a safe manner.

ELTR 2891. Electrical Apprenticeship V
6 Credits (6)
Commercial/industrial applications for electricians. Blueprint interpretation, commercial construction types and processes, wiring methods, wiring materials, and motor controls.
Learning Outcomes
1. Varies.

ELTR 2892. Electrical Apprenticeship VI
6 Credits (6)
In-depth commercial applications to include commercial/industrial service calculations, mobile home parks, multi-family dwellings, and commercial fire/security systems.
Prerequisite: ELTR 2891 and consent of instructor.
Learning Outcomes
1. Varies.

ELTR 2893. Electrical Apprenticeship VII
6 Credits (6)
Control devices in commercial/industrial applications; emphasis on logic in-line diagrams, time delay starters, reversing starters, and manual/magnetic solenoids.
Prerequisite: ELTR 2892 and consent of instructor.
Learning Outcomes
1. Varies.

ELTR 2894. Electrical Apprenticeship VIII
6 Credits (6)
Miscellaneous topics for the journeyperson electrician to include power distribution/transmission, solid state controls and relays, photoelectric and proximity controls and programmable controllers.
Prerequisite: ELTR 2893.
Learning Outcomes
1. Varies.

ELTR 2995. Electrical Cooperative Experience
1-4 Credits (1-4)
Supervised cooperative work program. Student is employed in an approved occupation and is supervised and rated by the employer and instructor. Student will meet in a weekly class.
Learning Outcomes
1. Varies.

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Electrical Lineworker - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(31 credits)

The Electrical Lineworker Certificate option has its own separate requirements that are listed here.

NOTE: Students not possessing a Class A CDL may need to seek a CDL course from either the workforce center or other outside sources.

Students must receive a final grade of C- or better in all required ELTR courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
Choose one from the following:		3
BCIS 1110	Introduction to Information Systems [1]	
OECS 105	Introduction to Information Technology	
Choose one from the following:		3
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
Technical Requirements		
ELTR 1120	Electrical Theory I	4
ELTR 1130	Introduction to Electrical Power Systems	2
ELTR 1160	Electrical Lineworker Lab I	6
ELTR 2120	Electrical Power Systems II	3
ELTR 1165	Electrical Lineworker II	6
ELTR 2995	Electrical Cooperative Experience	4
Total Credits		**31**

[1] Course is identical to those offered at New Mexico State University Las Cruces (main) Campus.

(31 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must receive a final grade of C- or better in all required ELWK courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
BCIS 1110 or OECS 105	Introduction to Information Systems or Introduction to Information Technology	3
ELTR 1120	Electrical Theory I	4
ELTR 1130	Introduction to Electrical Power Systems	2
ELTR 1160	Electrical Lineworker Lab I	6
	Credits	**15**
Semester 2		
ELTR 2120	Electrical Power Systems II	3
ELTR 1165	Electrical Lineworker II	6
Choose one from the following:		3
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
	Credits	**12**
Semester 3		
ELTR 2995	Electrical Cooperative Experience	4
	Credits	**4**
	Total Credits	**31**

Electronics Technology

Associate of Applied Science Degree

- General Electronics Technology Concentration
- Biomedical Electronics Concentration

Certificates of Completion

- Electronics Technology
- Biomedical Electronics

The explosion in the number and diversity of electronic devices used in home and industry settings has greatly intensified the demand for qualified technicians. As orders for high-tech communications equipment and electronic products continue to rise, job opportunities for electronics technicians will expand even more. Salaries in the various branches of electronics are among the highest for all technology areas.

Students in the Electronics Technology program learn using state-of-the-art equipment and instrumentation. They work and train in spacious, modern laboratories similar to those used in industry. Students have the opportunity to analyze and troubleshoot actual problems while learning from knowledgeable and experienced instructors.

The Electronics Technology program may be completed on a part-time basis by taking classes during the evening or during the day. Those who wish to pursue a bachelor of science degree in Engineering Technology at New Mexico State University may apply up to 36 credit hours from the Electronics Technology program toward the four-year degree.

While pursuing this program, whether they are taking classes or working as apprentices, students will be required to perform the same job duties and be able to meet the same physical requirements that they will as a graduate in the field. Depending where they find employment, graduates may be required to lift up to 50 pounds from the ground, work safely around electrical equipment using the appropriate safety equipment, work safely using hand and power tools, ascend and descend stairs and ladders, and stand, squat, stoop or kneel for long periods of time.

Two program options are available:

General Electronics Concentration

The General Electronics Concentration prepares graduates for entry-level employment as technical assistants and technicians in the fabrication, testing, maintenance, and repair of electrical and electronic equipment. Job opportunities exist in the areas of manufacturing and repair of electronic instruments, audio and video electronics, computers, medical equipment, and industrial and consumer electronic equipment. While positions for electronics technicians are found in all sectors of the economy, many of the jobs in southern New Mexico are in government and defense-related industries. Opportunities for advancement in the electronics field are above average.

Biomedical Electronics Concentration

The Biomedical Electronics Concentration is a specialized program focusing on medical equipment. Career opportunities exist in hospital and clinical settings, engineering departments, and medical equipment manufacturing companies, as well as other organizations serving the rapidly expanding medical equipment service market. This course of study will also help prepare the electronics student for the Biomedical Equipment Technician Certification Exam of the International Certification Commission for Clinical Engineering and Biomedical Technology.

Electronics Technology (Biomedical Electronics) - Associate of Applied Science (p. 322)

Electronics Technology (General Electronics) - Associate of Applied Science (p. 323)

Electronics Technology - Certificate of Completion (p. 326)

Biomedical Electronics - Certificate of Completion (p. 325)

ELT 103. Math Study Skills for Electronics
1 Credit (1)
Covers specific math study skills and critical thinking processes to reinforce practical applications of math and its use with electronics. The student will be introduced to electronic mathematical formulas during the problem-solving steps required for circuit analysis. May be repeated up to 4 credits.

Prerequisite(s)/Corequisite(s): E T 183 OR E T 184. Restricted to Community Colleges only.

ELT 105. Basic Electricity and Electronics
3 Credits (2+2P)
Fundamentals of electricity and electronics, basic circuit devices, meters, transistors, integrated circuits and other solid state devices, computers, fiber optics, and industrial application topics. Minimum math proficiency of CCDM 103 or CCDM 104 required or math placement into CCDM 114 or higher. Restricted to: Community Colleges only. Crosslisted with: AERT 111 May be repeated up to 3 credits.

Learning Outcomes

1. Recall and state Ohm's Law and its components (current, resistance, voltage).
2. Demonstrate an understanding of the distinctions between formulas, equations, and expressions, and identify appropriate usage for each in different situations.
3. Apply knowledge and skills to solve problems in series and parallel electronic circuits.
4. Analyze graphs related to electronic circuits and evaluate values derived from those graphs.
5. Evaluate basic principles, formulas, the superposition theorem, and the Thevenin theorem to solve simple problems in electronics and general engineering.
6. Synthesize knowledge and skills to design and develop solutions for complex problems in electronics and engineering, incorporating the principles and theorems learned.

ELT 110. Electronics I
4 Credits (3+3P)
Fundamentals of electronics including: components, schematics, Ohm's law, Thevenin's and Norton's theorems, and series/parallel circuits incorporating passive, active and magnetic elements. Introduction to AC circuits. Crosslisted with: AERT123. Restricted to: Community Colleges only.

Learning Outcomes

1. Describe Ohm's Law and its components (current, resistance, voltage).
2. Cite the differences between formulas, equations, and expressions, and determine appropriate usage for each in various situations.
3. Apply acquired knowledge and skills to solve problems involving series and parallel electronic circuits.
4. Evaluate fundamental principles, formulas, the superposition theorem, and the Thevenin theorem to solve straightforward problems in electronics and general engineering.
5. Analyze graphs pertaining to electronic circuits and interpret values obtained from those graphs.
6. Integrate knowledge and skills to design and develop solutions for intricate problems in electronics and engineering, incorporating learned principles and theorems.
7. Apply acquired knowledge and skills to solve problems involving series and parallel electronic circuits.

ELT 120. Mathematics for Electronics
4 Credits (4)
Includes fundamental mathematics, algebra, sine, cosine, and other elementary functions as they specifically apply to the operation, manipulation, and evaluation of direct current (DC) and alternating current (AC) circuits. Minimum math proficiency of CCDM 114 required or math placement into MATH 1215 or higher. Restricted to: Community Colleges only. Crosslisted with: AERT 124

Learning Outcomes

1. Calculate and find solutions for linear and quadratic equations.
2. Evaluate logarithmic and exponential functions to solve problems in electronics and general engineering.
3. Analyze given trigonometric problems and determine which trigonometric function is appropriate to solve them.
4. Demonstrate an understanding of the distinctions between formulas, equations, and expressions, and will work through examples of each type to determine their appropriate usage in different situations.
5. Solve problems pertaining to both series and parallel electronic circuits.

ELT 135. Electronics II
4 Credits (3+3P)
Analysis of AC circuits, filters, and resonance. Introduction to solid state fundamentals including diodes and rectifier circuits, voltage regulators, various transistors and transistor characteristics, amplification and amplifiers, photoelectric effects, gates and timing circuits. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 110 and ELT 120.

Learning Outcomes

1. Identify and solve alternating current and voltage circuits and do analysis of AC circuits.
2. Demonstrate by drawing series and parallel RC circuits, measure power in RC circuits, and trouble shoot for applications.
3. Recognize types of inductors, inductors in series and parallel, inductors in DC and AC circuits and select correct inductors for their applications.
4. Measure voltages, currents in series and parallel RL circuits, power in RL circuits, and find troubleshooting faults for basic applications.
5. Test RLC circuits for series and parallel designs and solve RLC resonance circuits and filters and their applications.
6. Identify self and mutual inductance; recognize types of transformers and their characteristics, test loading a transformer, do impedance matching in transformer applications and troubleshooting.
7. Apply, identify and solve time response of RC and RL integrators and differentiators for wave pulses, troubleshooting and applications.

ELT 155. Electronics CAD and PCB Design
3 Credits (2+2P)
Introduction to and the use of commercially available CAD software covering schematic representation of electronic components and circuits. Printed circuit board layout techniques including proper schematic capture, netlist generation, design rule checking and manual routing covered.

Learning Outcomes

1. Design and develop a schematic using the specified software.
2. Generate a schematic symbol for a component.
3. Develop a PCB footprint for a component.
4. Produce a board outline based on given design guidelines.
5. Create a netlist from a schematic.

ELT 160. Digital Electronics I
4 Credits (3+3P)
Number systems, codes, Boolean algebra, logic gates, Karnaugh maps, combination circuits, flip-flops, and digital troubleshooting techniques. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 110 and (ELT 120 or MATH 1215).

Learning Outcomes

1. Explan why the binary, binary-coded decimal (BCD), and hexadecimal number systems are used in electronics.
2. Convert between the decimal, binary, binary-coded decimal (BCD), and hexadecimal number systems.
3. Identify each of the six basic logic gating symbols, their truth tables, and their logic expressions.
4. Constuct a truth table and logic expression for each of the six basic gating symbols.
5. Draw a parallel adder circuit and solve for the binary outputs when given binary input values.
6. Formulate using Boolean algebra, Demorgan's theorem or Karnaugh Mapping to minimize a digital logic circuit.
7. Design, Construct and test simple logic gate circuits.
8. Construct and test a simple R-S (Latch) and "D" type flip-flop.

ELT 175. Soldering Practices
3 Credits (2+2P)
Methods and techniques of hand soldering in the production of high quality and reliable soldering connections. Restricted to: Community Colleges only. May be repeated up to 3 credits.

Learning Outcomes

1. Demonstrate the correct techniques for tinning and maintaining a soldering iron.
2. Compare and contrast the advantages and disadvantages of different proper soldering techniques.
3. Define the different types of mechanical strippers and how they should be used.
4. Install a wire into a turret terminal, a cup terminal, and a pierced tab terminal in accordance with established criteria.
5. Express three types of terminations used for surface mount components.
6. Describe the types of terminations normally used for making repairs.

ELT 205. Semiconductor Devices
4 Credits (3+3P)
Analysis and trouble shooting of linear electronic circuits including amplifiers, op-amps, power supplies, and oscillators. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 110 and ELT 135.

Learning Outcomes

1. Explain the conditions which exist at the PN junction of an unbiased diode, a forward-biased diode, and reverse biased diode.
2. Diagram a half-wave, full-wave, and bridge rectifier circuits and explain how they function.
3. Define the characteristics of amplifiers, including classes of operation and efficiencies.
4. Describe several JFET and MOSFET applications.
5. Explain the difference between passive and active filters.
6. Practice a positive attitude and the soft skills necessary for successful employment in the electronics industry.

ELT 215. Microprocessor Applications I
4 Credits (3+2P)
Fundamentals of microprocessor architecture and assembly language with an emphasis on hardware interfacing applications.
Prerequisite(s)/Corequisite(s): ELT 235. Prerequisite(s): ELT 160. Restricted to: Community Colleges only.

ELT 220. Electronic Communication Systems
4 Credits (3+2P)
Principles and applications of circuits and devices used in the transmission, reception, and processing of RF, microwave, digital and telecommunications systems. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 135.
Prerequisite/Corequisite: ELT 205.

Learning Outcomes

1. Analyze the relationship between current, resistance, and voltage to compute values for filters and filter gains.
2. Demonstrate an understanding of the distinctions between formulas, equations, and expressions, and their respective applications in different situations.
3. Employ the necessary skills to solve problems modulation/demolition processes and circuits.
4. Evaluate the effectiveness and efficiency of communication circuits.
5. Apply fundamental principles and formulas to solve straightforward problems in communication.

ELT 221. Cooperative Experience I
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U.
Prerequisite: consent of instructor.

ELT 222. Cooperative Experience II
1-6 Credits
Continuation of ELT 221. Maximum of 6 credits. Graded S/U.
Prerequisite: consent of instructor.

ELT 225. Computer Applications for Technicians
3 Credits (2+2P)
An overview of computer hardware, software applications, operating systems, high level programming languages and networking systems. May be repeated up to 3 credits.

Learning Outcomes

1. Evaluate network security measures, identify potential vulnerabilities, and reflect on the importance of implementing appropriate security protocols to protect network systems from unauthorized access and potential threats.
2. Design and configure network infrastructures that meet specific requirements and performance criteria.
3. Identify and interpret network management and administration principles, troubleshoot network issues, and provide appropriate support to ensure the smooth operation of computer networks.
4. Evaluate and compare different network protocols, IP addressing schemes, and network reference models and standards, and synthesize this information to design efficient and secure network systems.
5. Apply their knowledge of computer hardware, software applications, operating systems, high-level programming languages, and networking systems to solve practical problems and analyze different network topologies and technologies.
6. Define and explain the fundamental concepts of computer hardware, software applications, operating systems, high-level programming languages,and networking systems.

ELT 230. Microprocessor Applications II
4 Credits (3+2P)

Advanced microprocessor interfacing techniques. Topics in A/D and D/A conversion, I/O port address decoding, direct memory accessing, and peripheral device interfacing applications.
Prerequisite: ELT 215.

ELT 235. Digital Electronics II
3 Credits (2+2P)
Sequential logic circuits, latches, counters, shift-registers, fault analysis and troubleshooting of digital IC s, multiplexers, timers, encoders/decoders, arithmetic circuits, pulse shaping, and memory devices. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Prerequisite: A grade of C- for better in ELT 160.
Learning Outcomes
1. Describe the operations of different types of Flip-Flops and data registers, and explain the practical timing limitations of sequential logic circuits.
2. Produce timing measurements and apply practical circuits to solve switch debouncing and noise issues.
3. Analyze timing waveforms using test equipment and draw digital timing diagrams. They will also understand how multivibrators and oscillators function as timing sources, and be able to interface common devices to digital systems for control and data acquisition.
4. Describe the major types of memory devices and storage media, and recognize the fundamental use of microprocessors and microcontrollers.
5. Illustrate how multivibrators and oscillators function as timing sources, and interface common devices to digital systems for control and data acquisition.
6. Develop positive work habits necessary for success in the workplace.

ELT 240. Introduction to Photonics
4 Credits (3+2P)
Nature of light, light emitters, lasers, detectors, fiber optics communications systems, and other applications of light to electronics. May be repeated up to 4 credits.
Prerequisite: A C- or better in ELT 135 or consent of instructor.
Learning Outcomes
1. Analyze different scenarios and effectively apply appropriate techniques and methodologies to address challenges in fiber optic communication.
2. Express the differences between light detectors used in fiber optic communication compared to detectors used in electronics communication.
3. Interpret and solve problems related to signal attenuation, gain, and noise using logarithmic and exponential functions.
4. Evaluate and compare various types of detectors used in fiber optic communication systems.
5. Classify the characteristics and advantages of different detectors and make informed decisions on selecting the best detectors for specific applications.

ELT 245. Radar: Principles and Applications
3 Credits (3)
Explores the principles of operation for microwave radar applications and supporting subsystems.
Prerequisite: E T 246.
Learning Outcomes
1. Students will analyze the various factors that comprise the Radar Equation and apply the equation in calculations for various scenarios.
2. Students will explain the principles of Moving Target Indication, Pulse Doppler, Phased Array, and Synthetic Aperture Radars, and their advantages and disadvantages.
3. Students will analyze and calculate the effects of clutter and environmental noise, earth surface scattering, and atmospheric attenuation, diffraction, and refraction on radar propagation.
4. Students will analyze the performance of supporting radar subsystems, including transmitters, receivers, antennas, tracking servos, and signal processing.
5. Students will explain the kinds of information that can be obtained from radar signals and perform calculations associated with range determination, target motion resolution, and error.
6. Students will explain the use of telemetry, and correlate test radar and telemetry measurements.
7. Students will explain and compare radar countermeasures and analyze their effect on radar return cross-sections.

ELT 250. Electronics Systems Analysis
2 Credits (1+3P)
Capstone course emphasizing a systems approach to troubleshooting and maintaining complex electronics systems. Includes program review in preparation for technician certification. May be repeated up to 2 credits.
Learning Outcomes
1. Develop an understanding of the fundamental concepts and principles related to measurement, conversions, and control temperature as it relates to strain, pressure, motion, and power.
2. Interpret and analyze electrical instrumentation circuits and systems, as well as the principles and methodologies involved in process control.
3. Analyze the characteristics and advantages of different control systems and synthesize their understanding to select the most suitable control system for a given application.
4. Correlate different scenarios and select appropriate measurement and control techniques to address engineering challenges.

ELT 260. Instrumentation Control and Signal Conditioning
4 Credits (3+2P)
Introduction to sensors and transducers, signal conditioning and transmission for measuring and process control systems. Includes AD, DA converter, small servos and actuators. Prerequisite:ELT 205.

ELT 265. Special Topics
1-6 Credits
Topic to be announced in the Schedule of Classes.

ELT 270. Biomedical Equipment Instrumentation
4 Credits (3+2P)
Principles and applications of electronic circuits and devices used in biomedical equipment. Skills taught to include evaluating, troubleshooting and repairing various types of medical equipment.
Prerequisite(s)/Corequisite(s): ELT 260. Prerequisite(s): ELT 205. Restricted to: Community Colleges only.

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Website: https://dacc.nmsu.edu/academics/programs/electronics-technology/index.html (https://dacc.nmsu.edu/academics/programs/electronics-technology/)

Electronics Technology (Biomedical Electronics) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(67 or 68 credits)

NOTE: Students must earn a final grade of C- or better in all required ELT courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 68 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, IV, V, and VI; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		
Select one from the following: [3]		
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
Area V: Humanities		
Select one from the following:		
ENGL 1410G	Introduction to Literature	
ENGL 2310G	Introduction to Creative Writing	
ENGL 2520G	Film as Literature	
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
HIST 2250G	East Asia to 1600	
HIST 2251G	East Asia since 1600	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
Or any other approved New Mexico General Education Requirements Area V courses listed in the current NMSU Catalog.		
Area VI: Creative and Fine Arts		
Select one from the following:		
ARTH 1115G	Orientation in Art	
ARTS 1145G	Visual Concepts	
ARTH 2110G	History of Art I	
ARTH 2120G	History of Art II	
DANC 1110G	Dance Appreciation	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
Or any other approved New Mexico General Education Requirements Area VI courses listed in the current NMSU Catalog.		
General Education Elective		
Select one from the following:		3
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
Core Requirements		
Select one from the following:		4
MATH 1250G	Trigonometry & Pre-Calculus [4]	
ELT 120	Mathematics for Electronics [5]	
Major Requirements		
Technical Requirements [6]		
ELT 110	Electronics I	4
ELT 135	Electronics II	4
ELT 155	Electronics CAD and PCB Design	3
ELT 160	Digital Electronics I	4
ELT 175	Soldering Practices	3
ELT 205	Semiconductor Devices	4
ELT 225	Computer Applications for Technicians	3
ELT 240	Introduction to Photonics	4
ELT 260	Instrumentation Control and Signal Conditioning	4
Choose one from the following:		1
ELT 265	Special Topics	
OETS 102	Career Readiness Certification Preparation	
CIST 1111	Introductions (Foundations) of Information Systems	1
Concentration Coursework		
HLSC 1510	Medical Terminology	3
HLSC 1540	Legal and Ethical Issues in Health Care	3
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	4
or HLSC 1520	Anatomy and Physiology for Health Careers	
ELT 270	Biomedical Equipment Instrumentation	4
Total Credits		**69**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. BUSA 2230G Human Relations in Business is also an available course to count towards General Education
4. Recommended for transfer track.
5. Recommended for career track.
6. A final grade of *C-* or better is required in all 100-level ELT courses to progress to 200-level ELT courses.

(67 or 68 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required ELT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 68 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
FALL		
Choose one from the following:		4
MATH 1250G	Trigonometry & Pre-Calculus [2]	
ELT 120	Mathematics for Electronics [1, 2]	
ELT 110	Electronics I	4
ELT 155	Electronics CAD and PCB Design	3
ELT 175	Soldering Practices	3
ELT 225	Computer Applications for Technicians	3
	Credits	**17**
Semester 2		
SPRING		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area VI: Creative and Fine Arts - Choose one from the following (or any other approved Area VI course in the NMSU/DACC Catalog):		3
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTH 2120G	History of Art II	
ARTS 1145G	Visual Concepts	
DANC 1110G	Dance Appreciation	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
ELT 135	Electronics II	4
ELT 160	Digital Electronics I	4
Choose one from the following:		1
ELT 265	Special Topics	
OETS 102	Career Readiness Certification Preparation	
CIST 1111	Introductions (Foundations) of Information Systems	1
	Credits	**17**
Semester 3		
SUMMER		
Area V: Humanities - Choose one from the following (or any other approved Area V course in the NMSU/DACC Catalog):		3
ENGL 1410G	Introduction to Literature	
ENGL 2310G	Introduction to Creative Writing	
ENGL 2520G	Film as Literature	
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
	Credits	**3**
Semester 4		
FALL		
General Education Elective - Area I: Communications - Choose one from the following:		3
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HLSC 1510	Medical Terminology	3
HLSC 1540	Legal and Ethical Issues in Health Care	3
BIOL 1130G or HLSC 1520	Introductory Anatomy & Physiology (non-majors) or Anatomy and Physiology for Health Careers	4
ELT 205	Semiconductor Devices	4
	Credits	**17**
Semester 5		
SPRING		
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
ELT 240	Introduction to Photonics	4
ELT 260	Instrumentation Control and Signal Conditioning	4
ELT 270	Biomedical Equipment Instrumentation	4
	Credits	**15**
	Total Credits	**69**

1 While ELT 120 Mathematics for Electronics meets program requirements, it does not meet the NM General Education Area II: Mathematics requirements.

2 MATH 1250G Trigonometry & Pre-Calculus is recommended for students pursuing Transfer Track.
ELT 120 Mathematics for Electronics is recommended for students pursuing Career Track.

Electronics Technology (General Electronics) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(65 credits)

NOTE: Students must earn a final grade of C- or better in all required ELT courses and achieve a cumulative grade-point average of at least

2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 65 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
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ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		
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SOCI 1110G	Introduction to Sociology	
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HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
HIST 2245G	Islamic Civilizations to 1800	
HIST 2250G	East Asia to 1600	
HIST 2251G	East Asia since 1600	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
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ARTS 1145G	Visual Concepts	
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ARTH 2120G	History of Art II	
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MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
Or any other approved New Mexico General Education Requirements Area VI courses listed in the current NMSU Catalog.		
General Education Elective		
Select one from the following:		3
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
Core Requirements		
Select one from the following:		4
MATH 1250G	Trigonometry & Pre-Calculus [4]	
ELT 120	Mathematics for Electronics [5]	
Major Requirements		
Technical Requirements [6]		
ELT 110	Electronics I	4
ELT 135	Electronics II	4
ELT 155	Electronics CAD and PCB Design	3
ELT 160	Digital Electronics I	4
ELT 175	Soldering Practices	3
ELT 205	Semiconductor Devices	4
ELT 225	Computer Applications for Technicians	3
ELT 240	Introduction to Photonics	4
Choose one from the following:		1
ELT 265	Special Topics	
CIST 1111	Introductions (Foundations) of Information Systems	
OETS 102	Career Readiness Certification Preparation	
Concentration Coursework		
ELT 215	Microprocessor Applications I	4
ELT 220	Electronic Communication Systems	4
ELT 235	Digital Electronics II	3
ELT 260	Instrumentation Control and Signal Conditioning	4
Total Credits		**65**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
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4. Recommended for transfer track.
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6. A final grade of *C*- or better is required in all 100-level ELT courses to progress to 200-level ELT courses.

(65 credits)

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NOTE: Students must earn a final grade of C- or better in all required ELT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 65 credits. Developmental coursework will not count towards the

degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FALL		
Choose one from the following:		4
MATH 1250G	Trigonometry & Pre-Calculus [2]	
ELT 120	Mathematics for Electronics [1, 2]	
ELT 110	Electronics I	4
ELT 155	Electronics CAD and PCB Design	3
ELT 175	Soldering Practices	3
ELT 225	Computer Applications for Technicians	3
	Credits	**17**
Semester 2		
SPRING		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
General Education Elective - Area I: Communications - Choose one from the following:		3
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
ENGL 2210G	Professional and Technical Communication	
ELT 135	Electronics II	4
ELT 160	Digital Electronics I	4
	Credits	**15**
Semester 3		
SUMMER		
Area IV: Social/Behavioral Sciences		3
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	
Area V: Humanities - Choose one from the following (or any other approved Area V course in the NMSU/DACC Catalog):		3
ENGL 1410G	Introduction to Literature	
ENGL 2310G	Introduction to Creative Writing	
ENGL 2520G	Film as Literature	
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
HIST 2245G	Islamic Civilizations to 1800	
HIST 2250G	East Asia to 1600	
HIST 2251G	East Asia since 1600	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
	Credits	**6**
Semester 4		
FALL		
ELT 205	Semiconductor Devices	4
ELT 215	Microprocessor Applications I	4
ELT 220	Electronic Communication Systems	4
ELT 235	Digital Electronics II	3
Choose one from the following:		1
ELT 265	Special Topics	
CIST 1111	Introductions (Foundations) of Information Systems	
OETS 102	Career Readiness Certification Preparation	
	Credits	**16**
Semester 5		
SPRING		
Area VI: Creative and Fine Arts - Choose one from the following (or any other approved Area VI course in the NMSU/DACC Catalog):		3
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTH 2120G	History of Art II	
ARTS 1145G	Visual Concepts	
DANC 1110G	Dance Appreciation	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
ELT 240	Introduction to Photonics	4
ELT 260	Instrumentation Control and Signal Conditioning	4
	Credits	**11**
	Total Credits	**65**

[1] While ELT 120 Mathematics for Electronics meets program requirements, it does not meet the NM General Education Area II: Mathematics requirements.

[2] MATH 1250G Trigonometry & Pre-Calculus is recommended for students pursuing the Transfer Track.
ELT 120 Mathematics for Electronics is recommended for students pursuing the Career Track.

Biomedical Electronics - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(47 - 48 credits)

NOTE: Students must earn a final grade of C- or better in all required ELT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 48 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Prerequisites		
ELT 110	Electronics I	4
ELT 120	Mathematics for Electronics	4
ELT 205	Semiconductor Devices	4
ELT 260	Instrumentation Control and Signal Conditioning	4
Related Requirements		

HLSC 1510	Medical Terminology	3
HLSC 1540	Legal and Ethical Issues in Health Care	3
OETS 102	Career Readiness Certification Preparation	1
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	4
or HLSC 1520	Anatomy and Physiology for Health Careers	
Technical Requirements		
ELT 135	Electronics II	4
ELT 155	Electronics CAD and PCB Design	3
ELT 160	Digital Electronics I	4
ELT 175	Soldering Practices	3
ELT 225	Computer Applications for Technicians	3
ELT 270	Biomedical Equipment Instrumentation	4
Total Credits		**48**

(48 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required ELT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 48 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ELT 110	Electronics I	4
ELT 120	Mathematics for Electronics	4
ELT 155	Electronics CAD and PCB Design	3
ELT 175	Soldering Practices	3
ELT 225	Computer Applications for Technicians	3
	Credits	**17**
Semester 2		
ELT 135	Electronics II	4
ELT 160	Digital Electronics I	4
OETS 102	Career Readiness Certification Preparation	1
	Credits	**9**
Semester 3		
HLSC 1510	Medical Terminology	3
HLSC 1540	Legal and Ethical Issues in Health Care	3
BIOL 1130G or HLSC 1520	Introductory Anatomy & Physiology (non-majors) or Anatomy and Physiology for Health Careers	4
ELT 205	Semiconductor Devices	4
	Credits	**14**
Semester 4		
ELT 260	Instrumentation Control and Signal Conditioning	4
ELT 270	Biomedical Equipment Instrumentation	4
	Credits	**8**
	Total Credits	**48**

Electronics Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(26 credits)

NOTE: Students must earn a final grade of C- or better in all required ELT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 26 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
ELT 110	Electronics I	4
ELT 120	Mathematics for Electronics	4
ELT 135	Electronics II	4
ELT 155	Electronics CAD and PCB Design	3
ELT 160	Digital Electronics I	4
OETS 102	Career Readiness Certification Preparation	1
or ELT 265	Special Topics	
or OECS 101	Computer Basics	
Approved ELT electives		6
Total Credits		**26**

(26 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required ELT courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 26 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ELT 110	Electronics I	4
ELT 120	Mathematics for Electronics	4
ELT 155	Electronics CAD and PCB Design	3
Approved ELT Elective		3
	Credits	**14**
Semester 2		
ELT 135	Electronics II	4

ELT 160	Digital Electronics I	4
OETS 102 or ELT 265 or OECS 101	Career Readiness Certification Preparation or Special Topics or Computer Basics	1
Approved ELT Elective		3
	Credits	**12**
	Total Credits	**26**

Emergency Medical Services

Associate of Applied Science Degree: Emergency Medical Services

Certificates of Achievement:

- First Responder Prehospital
- EMT Basic
- EMT Intermediate

Certificate of Completion

- EMT Paramedic

Prehospital emergency medical care is a challenging and exciting profession. People's lives often depend on the quick reaction and competent care of emergency medical technicians (EMTs) and paramedics.

Emergency medical services (EMS) professionals may work at any of four different levels: First responder, EMT - basic, EMT - intermediate, and paramedic. Upon successful completion of training, students are eligible for employment in many types of emergency medical systems nationwide in fire departments, municipal services, private ambulance services, federal services, industry, hospital emergency departments, and hospital-based ambulance systems. The demand for EMS professionals is increasing.

DACC offers all levels of EMS education, as well as an opportunity to earn an associate of applied science degree at the paramedic level. Successful completion of an EMS program will allow for certification/licensure testing at the state and national level.

At each EMS program level, students gain additional knowledge and skills to enable them to function in the clinical and field settings with nurses, physicians, and other healthcare professionals. In classes, students learn about anatomy and physiology, the pathophysiology of diseases, traumatic injuries, pharmacology, and cardiac care. Students acquire skills through laboratory practice, clinical experience in hospitals, and field experience with ambulance services throughout the state. Students may be scheduled at a variety of clinical and field sites which include areas outside Las Cruces.

Program Accreditation

The Emergency Medical Services Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org (http://www.caahep.org)) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Profession (CoAEMSP).

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
727-210-2350
www.caahep.org (http://www.caahep.org)

Committee on Accreditation of Educational Programs for the Emergency Medical Services Profession (CoAEMSP)
8301 Lakeview Parkway Suite 111-312
Rowlett, TX 75088
214-703-8445
FAX: 214-703-8992
www.coaemsp.org (http://www.coaemsp.org)

In addition, the program is approved by the New Mexico Office of Health Emergency Management.

Required Skills and Abilities

All EMS programs require that the student be able to:

- lift, carry and balance up to 125 pounds (250 pounds with assistance)
- carry out emergency and non-emergency patient care, including, light extrication (i.e., be able to assume a variety of postural positions and be capable of physical maneuvers ranging from crawling, kneeling, squatting, twisting, turning, and bending, to climbing stairs and ladders)
- withstand varied environmental conditions such as extreme heat, cold, and moisture

Program Prerequisites and Entrance Requirements

Specific entrance requirements and prerequisites vary depending on the qualifications of the applicant and the level of training/licensure sought:

Time Limit on Courses for Certification

Although the DACC EMS program does not place a time limit on whether course credits will count for a recognized certificate, some state and/or other regulatory/certification agencies do require that courses be completed within a certain time frame. Students should consult with the licensing agency and/or EMS faculty to determine whether courses need to be repeated. Repeating courses may have an impact on financial aid.

EMT– Basic

- Passed approved background check and drug screening. **NOTE:** Students with a disqualifying conviction or positive result on their drug screen will not be permitted to continue in the clinical course and/or program based on the results of the criminal background or drug panel screening and may not be readmitted to the program.
- Documentation of vaccinations (may differ based on clinical sites):
  - MMR twice since 1980 or Rubella and Rubeola titers;
  - TB screening with expiration past end of semester;
  - Varicella immunity (titer or proof of vaccination accepted)
  - TDAP within 10 years
  - Hepatitis B series or titers or declination waiver
  - Flu shot if in season (October-March)
  - COVID vaccination
- Successful completion of EMSS 1153 Introduction to Anatomy and Physiology for the EMS Provider either as a Pre or Corequsite to be eligible to receive an EMT-Basic Certificate.
- EMSS 1153 Introduction to Anatomy and Physiology for the EMS Provider or approved Anatomy & Physiology Course

- Eligible for ENGL 1110G Composition I
- Eligible for CCDM 114 N Algebra Skills
- Student must be 18 years of age by the time the clinical course begins.

EMT– Intermediate

- Copy of current New Mexico State Emergency Technician–Basic license OR successful completion of EMT–Basic coursework and EMT–Basic license in hand by first day of class of EMT– Intermediate program
- Score of no less than 80 percent on departmental entrance exam
- Passed approved background check and drug screening. **NOTE:** Students with a disqualifying conviction or positive result on their drug screen will not be permitted to continue in the course and/or program based on the results of the criminal background or drug panel screening and may not be readmitted to the program.
- Documentation of vaccinations (may differ based on clinical sites):
  - MMR twice since 1980 or Rubella and Rubeola titers;
  - TB screening with expiration past end of semester;
  - Varicella immunity (titer or proof of vaccination accepted)
  - TDAP within 10 years
  - Hepatitis B series or titers or declination waiver
  - Flu shot if in season (October-March)
  - COVID vaccination

EMT– Paramedic

Applicants will be judged according to the following criteria and submissions:

- Copy of current New Mexico EMT–Basic or EMT–Intermediate license
- Written and oral assessments at the EMT–Basic or EMT–Intermediate level, depending on current licensure
- Completion of the following courses:

Prefix	Title	Credits
EMSS 1153	Introduction to Anatomy and Physiology for the EMS Provider	3
EMSS 2245	Human Systems, Pathophysiology and Development	3
EMSS 2240	Introduction to Paramedic Practice	2
EMSS 2255	Emergency Pharmacology	2
EMSS 2255L	Emergency Pharmacology Laboratory	1

- Copy of current healthcare provider CPR card
- High school and/or college transcript(s) and GPA
- Accuplacer/ACT scores in English and math
- Completed departmental application, including résumé, and letter of intent
- Letters of recommendation
- Passed approved background check and drug screening. **NOTE:** Students with a disqualifying conviction or positive result on their drug screen will not be permitted to continue in the course and/or program based on the results of the criminal background or drug panel screening and may not be readmitted to the program.
- Documentation of vaccinations (may differ based on clinical sites):
  - MMR twice since 1980 or Rubella and Rubeola titers;
  - TB screening with expiration past end of semester;
  - Varicella immunity (titer or proof of vaccination accepted)
  - TDAP within 10 years
  - Hepatitis B series or titers or declination waiver
  - Flu shot if in season (October-March)
  - COVID vaccination

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Emergency Medical Services - Associate of Applied Science (p. 334)

EMT - Basic - Certificate of Achievement (p. 335)

EMT - Intermediate - Certificate of Achievement (p. 336)

EMT Paramedic - Certificate of Completion (p. 337)

First Responder Prehospital - Certificate of Achievement (p. 338)

HLED 1110. American Heart Association Heartsaver First Aid CPR/AED
1 Credit (1)
A video-based, instructor-led course that teaches students critical skills needed to respond to and manage an emergency until emergency medical services arrives. Skills covered in this course include first aid; choking relief in adults, children, and infants; and what to do for sudden cardiac arrest in adults, children, and infants. Upon successful completion of the course, students will become eligible for AHA Heartsaver® First Aid & CPR/AED certification. May be repeated up to 1 credit.
Learning Outcomes

1. Demonstrate the skills necessary to efficiently perform one (1) and two (2) rescuer CPR for adult, child, and infant victims of cardiac arrest at the Basic Life Support level.
2. Demonstrate the skills necessary to safely and effectively operate an automated external defibrillator (AED).
3. Demonstrate the skills necessary to intervene and care for an adult, child, or infant choking victim and be able to administer first-aid to this population.

EMSS 1110. Emergency Medical Responder Lab/Lecture
3 Credits (3)
An entry level course which prepares students to respond to and provide care for ill or injured patients. It includes an overview of the human body, specified basic life support, airway management, trauma, medical and environmental emergencies, medical/legal, emergency operations and other related topics. Requires a C or better to pass.
Corequisite: EMSS 1116.
Learning Outcomes

1. Successfully pass the National Registry EMR certification exam and obtain New Mexico First Responder licensure.
2. Demonstrate competence as an entry-level EMR in the cognitive and affective domains.
3. Demonstrate competence as an entry-level EMR in airway management.
4. Demonstrate competence as an entry-level EMR in medical emergencies.
5. Demonstrate competence as an entry-level EMR in cardiac emergencies.

6. Demonstrate competence as an entry-level EMR in trauma emergencies.
7. Demonstrate competence as an entry level EMR in EMS operations.

EMSS 1110L. Emergency Medical Responder Laboratory
2 Credits (2P)
An entry level course which focuses on EMR and NM First Responder skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment. Requires a C or better to pass.
Prerequisite: EMSS 1116.
Corequisite: EMR Lecture.
Learning Outcomes
1. Successfully pass a NM JOE approved psychomotor exam.
2. Demonstrate competence as an entry-level EMR in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level EMR in airway management.
4. Demonstrate competence as an entry-level EMR in medical emergencies.
5. Demonstrate competence as an entry-level EMR in cardiac emergencies.
6. Demonstrate competence as an entry-level EMR in trauma emergencies.
7. Demonstrate competence as an entry-level EMR in EMS operations.

EMSS 1116. BLS Clinical Preparations
1 Credit (1)
Prepares students in health science programs for their clinical and field rotations. This course will provide training in CPR (AHA BLS Healthcare Provider), blood borne pathogens, HIPAA, and fire safety. May be repeated up to 99 credits.
Learning Outcomes
1. CPR Techniques: You will learn principles and techniques of basic cardiac life support (BLS), including CPR.
2. Airway and Breathing Management: Training includes the use of adjuncts for airway management and breathing support.
3. Defibrillator Use: You will be trained to use an automatic external defibrillator (AED), essential for cardiac emergencies.
4. Initial Trauma Response: The course prepares students to handle life-threatening situations at a basic level, equipping them with the skills needed for initial patient management.
5. NIMS (National Incident Management System) classes 100,200,700,800 are included in this class, the student will understand Incident Management for emergency scenes and be able to effectively manage a scene as a first responder until higher trained personnel arrive: this will include recognizing hazards, mitigating some hazardous situations, managing other personnel, requesting additional and specialized resources and more.
6. Fire Extinguisher Safety: Students will learn how to safely operate a fire extinguisher in the case of a fire.
7. HIPPA Training (Health Insurance Portability and Accountability Act): Students will understand the importance of this act to include: patient privacy and confidentiality, penalties and other federal regulations that protect health information.
8. Blood Borne Pathogens: Students will learn and demonstrate how to safely handle all situations involving blood and contaminated items.
9. Initiate the chain of survival by demonstrating and verbalizing the American Heart Association's chain of survival for Adult and Pediatric victims. 1
10. Relieve a choking victim as exhibited by describing the technique for the relief of foreign-body airway obstruction for the adult, child, and infant. 1
11. Perform prompt, high-quality chest compressions for adult, child, and infant. 1
12. Initiate early use of an AED. 1
13. Initiate the emergency response system and retrieve an AED if available, while working collaboratively to provide compressions and ventilations at a rate of 30:2 while switching roles every 2 minutes.

EMSS 1120. Emergency Medical Technician Lecture
6 Credits (6)
An entry level course which prepares students to respond to and provide care for ill or injured patients. It includes an overview of the human body, basic life support, airway management, trauma, medical and environmental emergencies, medical/legal, emergency operations and other related topics.
Corequisite: OEEM 101,EMSS 1120L,EMSS 1121.
Prerequisite/Corequisite: EMSS 1153. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Successfully pass the National Registry EMT certification exam and obtain New Mexico EMT licensure.
2. Demonstrate competence as an entry-level EMT in the cognitive and affective domains.
3. Demonstrate competence as an entry-level EMT in airway management.
4. Demonstrate competence as an entry-level EMT in medical emergencies.
5. Demonstrate competence as an entry-level EMT in cardiac emergencies.
6. Demonstrate competence as an entry-level EMT in trauma emergencies.
7. Demonstrate competence as an entry-level EMT in EMS operations.

EMSS 1120L. Emergency Medical Technician Laboratory
2 Credits (6P)
An entry level course which focuses on EMT and NM EMT-Basic skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.
Corequisite: OEEM 101, EMSS 1120, EMSS 1121.
Prerequisite/Corequisite: EMSS 1153. Restricted to: OEEM majors.
Learning Outcomes
1. Successfully pass a NM JOE approved EMT psychomotor exam.
2. Demonstrate competence as an entry-level EMT in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level EMT in airway management.
4. Demonstrate competence as an entry-level EMT in medical emergencies.
5. Demonstrate competence as an entry-level EMT in cardiac emergencies.

6. Demonstrate competence as an entry-level EMT in trauma emergencies.
7. Demonstrate competence as an entry-level EMT in EMS operations.

EMSS 1121. Emergency Medical Technician Clinical
1 Credit (3P)
A course for EMT students to complete patient contact and clinical care requirements. Students rotate through various healthcare settings, refining clinical competencies required as an entry-level EMT. May be repeated up to 1 credit.
Prerequisite/Corequisite: OEEM 101, EMSS 1120, EMSS 1120L, EMSS 1153.
Learning Outcomes
1. Function as an entry-level EMT as part of a healthcare team.
2. Demonstrate professionalism and cultural sensitivity healthcare settings.
3. Demonstrate appropriate documentation and record keeping.
4. Function as an entry-level EMT, providing emergency care to the sick and injured.
5. Perform an appropriate patient assessment.

EMSS 1153. Introduction to Anatomy and Physiology for the EMS Provider
3 Credits (3)
To properly assess and manage a patient, a prehospital provider must have a solid foundation in human anatomy and physiology. This course provides a systematic approach to building this foundation. Grade of "C" or better is required to pass the course. Consent of Instructor required. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Apply anatomical and medical terms and abbreviations in written and oral communication.
2. Uses simple knowledge of the anatomy and function of the upper airway, heart, vessels, blood, lungs, skin, muscles, and bones as the foundation of emergency care.
3. Apply fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
4. Integrates complex knowledge of the anatomy and physiology of the airway, respiratory and circulatory systems to the practice of EMS.
5. Integrates a complex depth and comprehensive breadth of knowledge of the anatomy and physiology of all human systems.

EMSS 2120. Advanced EMT Lecture
5 Credits (5)
A course which prepares students to respond to and provide specified advanced emergency care for ill or injured patients. It includes an overview of the human body, advanced life support, airway management, trauma, medical and environmental emergencies, medical legal issues, emergency operations, intravenous therapy, vascular access, advanced pharmacology and other related topics. Restricted to: OEEM majors.
Prerequisite: Current EMT-basic license, pretest and consent of instructor.
Learning Outcomes
1. Successfully pass the National Registry AEMT certification exam and obtain New Mexico AEMT licensure.
2. Demonstrate competence as an entry-level AEMT in the cognitive and affective domains.
3. Demonstrate competence as an entry-level AEMT in airway management.
4. Demonstrate competence as an entry-level AEMT in medical emergencies.
5. Demonstrate competence as an entry-level AEMT in cardiac emergencies.
6. Demonstrate competence as an entry-level AEMT in trauma emergencies.
7. Demonstrate competence as an entry-level AEMT in EMS operations.

EMSS 2120L. Advanced EMT Laboratory
2 Credits (6P)
An advanced laboratory course which focuses on AEMT and NM EMT-Intermediate skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.
Prerequisite/Corequisite: EMSS 2120, EMSS 2121. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Successfully pass a National Registry AEMT psychomotor exam.
2. Demonstrate competence as an entry-level AEMT in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level AEMT in airway management.
4. Demonstrate competence as an entry-level AEMT in medical emergencies.
5. Demonstrate competence as an entry-level AEMT in cardiac emergencies.
6. Demonstrate competence as an entry-level AEMT in trauma emergencies.
7. Demonstrate competence as an entry-level AEMT in EMS operations.

EMSS 2121. Advanced EMT Clinical
2 Credits (6P)
A course for AEMT students to complete patient contact and clinical care requirements. Students rotate through various healthcare settings, refining clinical competencies required as an entry-level AEMT.
Prerequisite/Corequisite: EMSS 2120, EMSS 2120L. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Function as an entry-level AEMT as part of a healthcare team.
2. Demonstrate team leadership on an emergency call.
3. Demonstrate professionalism and cultural sensitivity healthcare settings.
4. Demonstrate appropriate documentation and record keeping.
5. Function as an entry-level AEMT, providing emergency care to the sick and injured.
6. Perform an appropriate patient assessment.

EMSS 2240. Introduction to Paramedic Practice
2 Credits (2)
A course which introduces students to the advanced practice of prehospital medicine, research, medical legal issues, the wellbeing of the provider. Reviews foundational EMS knowledge and the NM Paramedic Scope of Practice. Emphasizes paramedic operations within the healthcare system.
Prerequisite: EMSS 1120, EMSS 1120L, EMSS 1121.
Learning Outcomes
1. Understand paramedic roles and responsibilities within an EMS system.
2. Understand and interpret research and how to integrate findings into evidence based practice.

3. Demonstrates understanding of health and safety principles to maintain provider, crew and situational awareness, safety, and wellbeing.
4. Uses appropriate written or electronic tools to effectively document the essential elements of patient care and transport.
5. Understands the components of the EMS communications systems and the importance of Quality Assurance/Quality Improvement.
6. Understands the appropriate techniques of theraputic communication with patients, families and other healthcare team members.
7. Understand relevant laws and ethical issues which impact decisions made in healthcare settings.

EMSS 2245. Human Systems, Pathophysiology and Development
3 Credits (3)
A course which provides a survey of human anatomy and physiology, pathological processes, and life span development. Emphasis is placed on interrelationships among organ systems and deviation from homeostasis.
Prerequisite: EMSS 1120, EMSS 1120L.
Learning Outcomes
1. Understand the general terminology, anatomy, and physiology of the human body.
2. Apply principles of normal anatomy and physiology of the human body to the pathophysiologic processes of common health problems.
3. Associate pathophysiology to patient assessment and treatment.
4. Describe key physiologic and psychosocial changes that occur in different age groups.

EMSS 2250. Introduction to Advanced Patient Assessment and Clinical Decision Making
1 Credit (1)
A course which introduces the concepts of advanced patient assessment and clinical decision making, including history taking, physical exam techniques, and therapeutic communication with patients.
Learning Outcomes
1. Integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression.
2. Develops a list of differential diagnoses through clinical reasoning to modify the assessment and formulate a treatment or referral plan.

EMSS 2255. Emergency Pharmacology
2 Credits (2)
A course which integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Discusses physiologic actions, pharmacodynamics, pharmacokinetics, therapeutic effects, medication administration, dosages and interactions.
Prerequisite: EMSS 1120, EMSS 1120L, EMSS 1121.
Corequisite: EMSS 2255L.
Learning Outcomes
1. Demonstrates an understanding of relevant terms, processes and definitions relating to pharmacology.
2. Demonstrates an understanding of safety, storage and security, legislation, naming, classification and scheduling of medications.
3. Demonstrates appropriate decision making regarding medication administration to mitigate emergencies and improve overall health of the patient.
4. Demonstrates an understanding of the dosages, routes, indications, contraindications, mechanism of actions, side effects of medications in the National and NM Paramedic Scope of Practice.
5. Demonstrates an understanding of ethical, legal, communication and documentation aspects of emergency pharmacology.

EMSS 2255L. Emergency Pharmacology Laboratory
1 Credit (3P)
A course which integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Students will practice medication administration, calculate medication dosages, vascular access, fluid administration and other related skills. May be repeated up to 1 credit.
Prerequisite: EMSS 1120, EMSS 1120L, EMSS 1121.
Corequisite: EMSS 2255.
Learning Outcomes
1. Demonstrates an ability to safely administer medications in the national and NM Paramedic Scope of Practice.
2. Calculates the correct volume, flow rate and amount of medication to be administered in a given situation.
3. Demonstrates an ability to administer medications as appropriate based on patient presentations.

EMSS 2310. Airway and Respiratory Emergencies
2 Credits (2)
A course which focuses on the anatomy, physiology, and pathophysiology of the respiratory system. Integrates the knowledge to develop and implement a comprehensive treatment plan, with the goal of assuring a patent airway, adequate mechanical ventilation and respiration for patients of all ages.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2310L.
Learning Outcomes
1. Demonstrates an understanding of the mechanics, neurological control and diseases impacting respiration and ventilation.
2. Demonstrates an understanding of various methods, tools and techniques to assure a patent airway, ventilation and respiration.
3. Integrate assessment findings with emergency pharmacology and relevant tools to create and implement treatment plans for patients with medical or trauma related respiratory complaints.

EMSS 2310L. Airway and Respiratory Emergencies Laboratory
1 Credit (3P)
A course which focuses on diseases impacting the respiratory system. Students will demonstrate the knowledge to develop and implement a comprehensive treatment plan, with the goal of assuring a patent airway, adequate mechanical ventilation and respiration for patients of all ages. Students will utilize basic and advanced airway management and ventilation tools and techniques.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2310L.
Learning Outcomes
1. Appropriately utilizes various methods, tools and techniques to assure a patent airway, ventilation and respiration.
2. Integrates assessment findings with emergency pharmacology and relevant tools to implement treatment plans for patients with medical or trauma related respiratory complaints.
3. Act as an entry-level Paramedic team leader in an airway management, ventilation or respiratory simulation.

EMSS 2410. Cardiac Emergencies
4 Credits (4)
Focuses on advanced patient assessment, management, and development of a treatment plan, with extensive discussion of cardiac anatomy, physiology, pathophysiology, pharmacology and pathology. Discusses EKG and 12 lead EKG acquisition and interpretation, and cardiac rhythms. There is an emphasis on advanced prehospital assessment and management of cardiac patients. Restricted to: OEEM, OEMS majors. Restricted to Community Colleges campuses only.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Learning Outcomes
1. Demonstrates knowledge of anatomy and physiology, assessment findings, principles of epidemiology and pathophysiology to formulate a field impression and choose a comprehensive treatment/disposition plan for a patient with a cardiac complaint.
2. Integrate comprehensive knowledge of causes, pathophysiology, and management of the following cardiovascular conditions: Acute coronary syndrome, Heart failure, Nontraumatic cardiac tamponade, Cardiogenic shock, Vascular disorders, Cardiac rhythm disturbances, Infectious diseases of the heart, Congenital abnormalities.
3. Demonstrates an understanding of the acquisition, interpretation and integration of EKG findings into patient assessment, management and disposition.

EMSS 2410L. Cardiac Emergencies Laboratory
2 Credits (2P)
Focuses on the performance of advanced patient assessment, management, and development of a treatment plan, with extensive integration of an understanding of cardiac pathophysiology and pharmacology. Integrates EKG and 12 lead EKG acquisition and interpretation with patient management. There is an emphasis on the application of advanced assessment and management of cardiac patients.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2410.
Learning Outcomes
1. Demonstrates knowledge of anatomy and physiology, assessment findings, principles of epidemiology and pathophysiology to formulate a field impression and choose a comprehensive treatment/disposition plan for a patient with a cardiac complaint.
2. Integrate comprehensive knowledge of causes, pathophysiology, and management of the following cardiovascular conditions: Acute coronary syndrome, Heart failure, Nontraumatic cardiac tamponade, Cardiogenic shock, Vascular disorders, Cardiac rhythm disturbances, Infectious diseases of the heart, Congenital abnormalities.
3. Demonstrates an understanding of the acquisition, interpretation and integration of EKG findings into patient assessment, management and disposition.

EMSS 2510. Medical Emergencies
3 Credits (3)
A course which covers patient assessment, Anatomy & Physiology, pathology of non-cardiac, non-OB/Peds, special populations medical emergencies. Includes environmental, chemical, poisoning, infectious diseases, endocrine/digestive, renal system and psychiatric illnesses. Requires a C or better to pass. Restricted to: Community Colleges only.
Corequisite: EMSS 2510L.
Learning Outcomes
1. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
2. Understands epidemiology, disease pathologies and how they impact transport and destination decisions.
3. Construct assessment and treatment plans for vulnerable patient populations including the cognitively impaired, pregnant, pediatrics, technology dependent, congenital diseases and geriatrics.
4. Understands the pathophysiology, assessment, management and treatment of the medical patient with multiple comorbidities.
5. Understands how to safely and effectively communicate with, assess, and manage patients with psychiatric illnesses.

EMSS 2510L. Medical Emergencies Laboratory
3 Credits (3P)
Performs advanced assessments, formulates diagnoses, implements treatment plans and manages common medical and behavioral emergencies.
Corequisite: EMSS 2510.
Learning Outcomes
1. Demonstrates the integration of assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
2. Integrates knowledge of epidemiology and disease pathologies into transport and destination decisions.
3. Implements assessment and treatment plans for vulnerable patient populations including the cognitively impaired, pregnant, pediatrics, technology dependent, congenital diseases and geriatrics.
4. Appropriately assesses, manages and treats patients with multiple comorbidities.
5. Demonstrates how to safely and effectively communicate with, assess, and manage patients with psychiatric illnesses.

EMSS 2610. Paramedic Trauma Care
2 Credits (2)
A course which covers the mechanism of injury, pathophysiology, diagnosis, assessment, treatment and care of the trauma and environmental emergency patient.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2610L.
Learning Outcomes
1. Understands epidemiology, trauma scoring and destination decisions.
2. Formulates comprehensive and focused assessment strategies for minor, moderate and critically ill patients with bleeding; chest, abdominal, genitourinary, orthopedic, soft tissue, head, face, neck, spine, nervous system trauma.
3. Construct assessment and treatment plans for vulnerable trauma patient populations including the cognitively impaired, pregnant, pediatrics and geriatrics.
4. Understands the pathophysiology, assessment, management and treatment of environmental emergencies.
5. Understands the pathophysiology, assessment, management and treatment of the multisystem trauma patient.

EMSS 2610L. Paramedic Trauma Care Laboratory
1 Credit (3P)
A practical course which covers the mechanism of injury, pathophysiology, diagnosis, assessment, treatment and care of the trauma and environmental patient. May be repeated up to 1 credit.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.

Corequisite: EMSS 2610.

Learning Outcomes

1. Applies an understanding of epidemiology, trauma scoring and destination decisions.
2. Implements comprehensive and focused assessment strategies for minor, moderate and critically ill patients with bleeding; chest, abdominal, genitourinary, orthopedic, soft tissue, head, face, neck, spine, nervous system trauma.
3. Constructs and applies assessment and treatment plans for vulnerable trauma patient populations including the cognitively impaired, pregnant, pediatrics and geriatrics.
4. Applies an understanding of the pathophysiology, assessment, management and treatment of environmental emergencies.
5. Applies an understanding of the pathophysiology, assessment, management and treatment of the multisystem trauma patient.
6. Safely and effectively perform all psychomotor skills within the National EMS Scope of Practice Model and the New Mexico Scope of Practice at the Paramedic level.
7. Demonstrate professional behavior including, but not limited to, integrity, empathy, self-motivation, appearance/personal hygiene, self-confidence, communication, time management, teamwork/diplomacy, respect, patient advocacy and careful delivery of service.

EMSS 2650. Advanced EMS Operations
2 Credits (9P)

Theory course covering the operational aspects of paramedic practice including discussions on the Incident Command System, hazardous materials, rescue, crime scene awareness, mass casualty incidents, bioterrorism/WMD, aeromedical transport, ambulance operations and extrication. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.

Prerequisite: EMSS 2895, EMSS 2998.

Learning Outcomes

1. Identify risks and responsibilities associated with: ambulance and air medical transportation, multiple-casualty incidents, gaining access to and extricating patients, hazardous materials incidents, responding to situations involving weapons of mass destruction.
2. Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.
3. Establish and work within the incident management system.

EMSS 2710. Advanced Care of Special Populations
2 Credits (2)

Comprehend assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and identify a comprehensive treatment/disposition plan for patients with special challenges and neonates, pediatrics, geriatrics, obstetrics. Requires a "C" or better to pass. Restricted to: OEEM, OEMS majors.

Prerequisite: EMSS 2410.

Learning Outcomes

1. Demonstrates comprehensive knowledge of the pathophysiology, assessment and treatment of the following patient types: a) neonatal b) obstetric c) pediatric d) patients identified as having special challenges e) geriatric.
2. Recognizes the unique psychosocial needs of these patients and demonstrates knowledge of relevant community resources.

EMSS 2710L. Advanced Care of Special Populations Laboratory
1 Credit (1P)

Integrates assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special challenges and neonates, pediatrics, geriatrics, obstetrics.

Corequisite: EMSS 2410.

Learning Outcomes

1. Understands and implements comprehensive knowledge of the pathophysiology, assessment and treatment of the following patient types: a) neonatal, b) obstetric, c) pediatric, d) patients identified as having special challenges, e) geriatric.
2. Demonstrate an awareness of the unique psychosocial needs of these patients and an ability to connect them to relevant community resources.

EMSS 2890. Paramedic Clinical I
3 Credits (9P)

A course which provides students with clinical opportunities which may include hospitals, clinics, field rotations and other healthcare settings to administer medications, perform approved skills, and assess and manage patients of all age groups with various medical or traumatic conditions. Provides students an opportunity to apply their knowledge in real patient care situations, under direct supervision. Students may be required to travel to complete this course. Restricted to majors. Requires a C or better to pass. May be repeated up to 6 credits.

Learning Outcomes

1. Perform a comprehensive assessment, formulate and implement a treatment plan for all patient types across all age groups.
2. Safely and appropriately administer allowed medications.
3. Safely and appropriately perform allowed skills.
4. Work effectively as part of a healthcare team.
5. Demonstrate appropriate affect.

EMSS 2895. Paramedic Clinical II
3 Credits (9P)

A continuation of Paramedic Clinical I which provides students with clinical opportunities which may include hospitals, clinics, field rotations and other healthcare settings to administer medications, perform approved skills, and assess and manage patients of all age groups with various medical or traumatic conditions. Provides students an opportunity to apply their knowledge in real patient care situations, under direct supervision. Students may be required to travel to complete this course. Restricted to Community Colleges campuses only. May be repeated up to 6 credits.

Prerequisite/Corequisite: EMSS 2890.

Learning Outcomes

1. Perform a comprehensive assessment, formulate and implement a treatment plan for all patient types across all age groups.
2. Safely and appropriately administer allowed medications.
3. Safely and appropriately perform allowed skills.
4. Work effectively as part of a healthcare team.
5. Demonstrate appropriate affect.

EMSS 2998. Paramedic Internship
5 Credits (5)

Comprehensive final program testing to prepare for licensing examination. Requires a "C" or better to pass. Restricted to: OEMS, OEEM majors. Restricted to Community Colleges campuses only.

Prerequisite: EMSS 2890, EMSS 2895.

Learning Outcomes

1. Varies.

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Emergency Medical Services - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

Students wishing to graduate with an Associate Degree of Applied Science in Emergency Medical Services will need to complete a minimum of 65-66 credits and this is only an additional 16-17 credits above those required for the Paramedic Certificate. The Core and Related Requirements can be completed before, during, or after the Technical Requirements.

Students may take the general education courses for the associate of applied science at any time; however, courses listed in the "Technical Program Requirements" section (which are common to both the associate degree and certificate programs) must be taken in the prescribed sequence. In order to progress through the program, students must meet specific departmental grading criteria in every course taken. This portion of the curriculum must be completed within a three-year period. Thus, those opting to study on a part-time basis are advised to plan carefully in order to take courses in the correct sequence.

Applications for the Paramedic program may be requested directly from the EMS office (room DASR 220, telephone 575-527-7645).

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

(65-66 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 65-66 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, III, and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
Select one Communications Course from the following:		
ENGL 1110G	Composition I [2,3]	
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
Area II: Mathematics - Any approved NM General Education Area II Course listed in the current DACC/NMSU catalog [3]		
Area III: Laboratory Sciences - Choose one from the following:		
CSCI 1115G	Modern Computing in Practice [3]	
BIOL 1190G	Contemporary Problems in Biology	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [3]	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory [3]	
PHYS 1115G	Survey of Physics with Lab [3]	
PHYS 2230G & PHYS 2230L	General Physics for Life Science I and Laboratory to General Physics for Life Science I [3]	
Area IV: Social/Behavioral Sciences		
PSYC 1110G	Introduction to Psychology [3]	
or SOCI 1110G	Introduction to Sociology	
General Education Elective [2]		*3*
Core Requirements		
BMGT 140	Principles of Supervision I	3
HLSC 1510	Medical Terminology	3
Major Requirements		
Technical Requirements		
EMSS 2245	Human Systems, Pathophysiology and Development	3
EMSS 2310 & 2310L	Airway and Respiratory Emergencies and Airway and Respiratory Emergencies Laboratory	3
EMSS 2610 & 2610L	Paramedic Trauma Care and Paramedic Trauma Care Laboratory	3
EMSS 2240	Introduction to Paramedic Practice [4]	2
EMSS 2250	Introduction to Advanced Patient Assessment and Clinical Decision Making	1
EMSS 2255 & 2255L	Emergency Pharmacology and Emergency Pharmacology Laboratory [4]	3
EMSS 2410 & 2410L	Cardiac Emergencies and Cardiac Emergencies Laboratory	6
EMSS 2710 & 2710L	Advanced Care of Special Populations and Advanced Care of Special Populations Laboratory	3
EMSS 2510 & 2510L	Medical Emergencies and Medical Emergencies Laboratory	6
EMSS 2890	Paramedic Clinical I	3
EMSS 2895	Paramedic Clinical II	3
EMSS 2650	Advanced EMS Operations	2
EMSS 2998	Paramedic Internship	5
Total Credits		**65-66**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. Courses are required for admission to Paramedic program.

Some prerequisite courses are required for admission to the Emergency Medical Services program, but are not calculated in the degree credit total. See Overview page for complete Program Prerequisites and Entrance Requirements (p. 327). Specific entrance requirements/prerequisites vary depending on the qualifications of the applicant and the level of training/licensure sought.

A Suggested Plan of Study - The following plan is for courses required AFTER admission to the program.

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Students wishing to graduate with an Associate Degree of Applied Science in Emergency Medical Services will need to complete a minimum of 65 credits and this is only an additional 16-17 credits above those required for the Paramedic Certificate. The Core and Related Requirements can be completed before, during, or after the Technical Requirements.

Students may take the general education courses for the associate of applied science at any time; however, courses listed in the "Technical Program Requirements" section (which are common to both the associate degree and certificate programs) must be taken in the prescribed sequence. In order to progress through the program, students must meet specific departmental grading criteria in every course taken. This portion of the curriculum must be completed within a three-year period. Thus, those opting to study on a part-time basis are advised to plan carefully in order to take courses in the correct sequence.

Applications for the Paramedic program may be requested directly from the EMS office (room DASR 220, telephone 575-527-7645).

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

(65-66 credits)

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 69 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
SPRING		
HLSC 1510	Medical Terminology	3
EMSS 2245	Human Systems, Pathophysiology and Development	3
EMSS 2240	Introduction to Paramedic Practice	2
EMSS 2255 & 2255L	Emergency Pharmacology and Emergency Pharmacology Laboratory	3
	Credits	**11**
Semester 2		
SUMMER		
EMSS 2410 & 2410L	Cardiac Emergencies and Cardiac Emergencies Laboratory	6
EMSS 2250	Introduction to Advanced Patient Assessment and Clinical Decision Making	1
	Credits	**7**
Semester 3		
FALL		
EMSS 2310 & 2310L	Airway and Respiratory Emergencies and Airway and Respiratory Emergencies Laboratory	3
EMSS 2710 & 2710L	Advanced Care of Special Populations and Advanced Care of Special Populations Laboratory	3
EMSS 2510 & 2510L	Medical Emergencies and Medical Emergencies Laboratory	6
	Credits	**12**
Semester 4		
SPRING		
Area I: Communications - Choose one from the following:		3-4
ENGL 1110G	Composition I	
ENGL 2210G	Professional and Technical Communication	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
EMSS 2610 & 2610L	Paramedic Trauma Care and Paramedic Trauma Care Laboratory	3
EMSS 2890	Paramedic Clinical I	3
EMSS 2895	Paramedic Clinical II	3
	Credits	**12-13**
Semester 5		
SUMMER		
EMSS 2650	Advanced EMS Operations	2
EMSS 2998	Paramedic Internship	5
	Credits	**7**
Semester 6		
FALL		
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics	
Area III: Laboratory Sciences - Choose one from the following:		4
BIOL 1120G	Human Biology	
BIOL 1190G	Contemporary Problems in Biology	
CSCI 1115G	Modern Computing in Practice	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
PHYS 1115G	Survey of Physics with Lab	
PHYS 2230G	General Physics for Life Science I	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	
General Education Elective - Choose one course from the NM General Education Requirements in the NMSU/DACC Catalog.		3
BMGT 140	Principles of Supervision I	3
	Credits	**16**
	Total Credits	**65-66**

EMT - Basic - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(13 credits)

This program makes possible rapid completion and quick entry into the workforce. Those who complete the program will be qualified to work in various settings within the emergency medical services field, including hospitals, ambulance services, and fire departments. The credits earned also may be applied toward completion of the EMT–Intermediate program and the associate degree in emergency medical services.

Prerequisites for Entry into EMT–Basic Program

See overview page, Program Prerequisites and Entrance Requirements (p. 327).

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 13 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
EMSS 1116	BLS Clinical Preparations	1
EMSS 1120	Emergency Medical Technician Lecture	6
EMSS 1120L	Emergency Medical Technician Laboratory	2
EMSS 1121	Emergency Medical Technician Clinical	1
EMSS 1153	Introduction to Anatomy and Physiology for the EMS Provider	3
or BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
or BIOL 2210	Human Anatomy and Physiology I	
or BIOL 2225	Human Anatomy and Physiology II	
Total Credits		**13**

[1] This requirement may be waived in some cases, if the student can provide documentation of a current American Heart Association BLS for Health Provider card.

See Overview page for complete Program Prerequisites and Entrance Requirements (p. 327).

(13 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 13 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
EMSS 1116	BLS Clinical Preparations	1
EMSS 1120	Emergency Medical Technician Lecture	6
EMSS 1120L	Emergency Medical Technician Laboratory	2
EMSS 1121	Emergency Medical Technician Clinical	1
EMSS 1153 or BIOL 1130G or BIOL 2210 or BIOL 2225	Introduction to Anatomy and Physiology for the EMS Provider or Introductory Anatomy & Physiology (non-majors) or Human Anatomy and Physiology I or Human Anatomy and Physiology II	3
	Credits	**13**
	Total Credits	**13**

[1] This requirement may be waived in some cases, if the student can provide documentation of a current American Heart Association BLS for the Healthcare Provider card.,

EMT - Intermediate - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(9 credits)

This program, which prepares students for EMT–Intermediate licensure, is also designed for those who desire to enter the workforce quickly. Graduates will be qualified to work in various settings within the emergency medical services field, including hospitals, ambulance services, and fire departments. Credits earned in this program also apply toward the associate degree in emergency medical services.

Prerequisites for Entry into EMT–Intermediate Program

See overview page, Program Prerequisites and Entrance Requirements (p. 327).

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 9 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
EMSS 2120	Advanced EMT Lecture	5
EMSS 2120L	Advanced EMT Laboratory	2
EMSS 2121	Advanced EMT Clinical	2
Total Credits		**9**

See Overview page for complete Program Prerequisites and Entrance Requirements (p. 327).

(9 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 9 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
EMSS 2120	Advanced EMT Lecture	5
EMSS 2120L	Advanced EMT Laboratory	2
EMSS 2121	Advanced EMT Clinical	2
	Credits	**9**
	Total Credits	**9**

EMT Paramedic - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

The EMT-Paramedic certificate program consists of a minimum of 49 credits while the associate of applied science degree program is a minimum of 69 credits in length. Students may take the general education courses for the associate of applied science degree at any time; however, courses listed in the "Technical Program Requirements" section (which are common to both the associate degree and certificate programs) must be taken in the prescribed sequence. In order to progress through the program, students must meet specific departmental grading criteria in every course taken. This portion of the program must be completed in the timeline required by accreditation. Thus, those opting to study on a part-time basis are advised to plan carefully in order to take courses in the correct sequence.

Applications for the Paramedic program may be requested from the EMS office (room DASR 220, telephone 575-528-7039).

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Prerequisites for Entry into the Paramedic Program (11 credits)

See overview page, Program Prerequisites and Entrance Requirements (p. 327).

Prefix	Title	Credits
EMSS 2240	Introduction to Paramedic Practice [1]	2
EMSS 2245	Human Systems, Pathophysiology and Development [1]	3
EMSS 2250	Introduction to Advanced Patient Assessment and Clinical Decision Making	1
EMSS 2255	Emergency Pharmacology [1]	2
EMSS 2255L	Emergency Pharmacology Laboratory [1]	1
EMSS 2650	Advanced EMS Operations [1]	2

(38 credits)

Prefix	Title	Credits
Technical Requirements		
EMSS 2310	Airway and Respiratory Emergencies	2
EMSS 2310L	Airway and Respiratory Emergencies Laboratory	1
EMSS 2410	Cardiac Emergencies	4
EMSS 2410L	Cardiac Emergencies Laboratory	2
EMSS 2510	Medical Emergencies	3
EMSS 2510L	Medical Emergencies Laboratory	3
EMSS 2610	Paramedic Trauma Care	2
EMSS 2610L	Paramedic Trauma Care Laboratory	1
EMSS 2710	Advanced Care of Special Populations	2
EMSS 2710L	Advanced Care of Special Populations Laboratory	1
EMSS 2890	Paramedic Clinical I	6
EMSS 2895	Paramedic Clinical II	6
EMSS 2998	Paramedic Internship	5
Total Credits		**38**

1. Courses must be successfully completed before applying for entrance into the paramedic program.
2. Students applying to the Paramedic Program must hold a current, unencumbered New Mexico EMT license.

See Overview page for complete Program Prerequisites and Entrance Requirements (p. 327). Specific entrance requirements/prerequisites vary depending on the qualifications of the applicant and the level of training/licensure sought.

(49 credits)

A Suggested Plan of Study - The following plan is for courses required AFTER admission to the program.

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

The EMT-Paramedic certificate program consists of a minimum of 49 credits while the associate of applied science degree program is a minimum of 69 credits in length. Students may take the general education courses for the associate of applied science degree at any time; however, courses listed in the "Technical Program Requirements" section (which are common to both the associate degree and certificate programs) must be taken in the prescribed sequence. In order to progress through the program, students must meet specific departmental grading criteria in every course taken. This portion of the curriculum must be completed within the timeline required by accreditation standards. Thus, those opting to study on a part-time basis are advised to plan carefully in order to take courses in the correct sequence.

Applications for the Paramedic program may be requested from the EMS office (room DASR 220, telephone 575-528-7039).

To graduate with a certificate or an associate degree, students must earn a C or better in all EMSS courses, and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 49 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
EMSS 2245	Human Systems, Pathophysiology and Development	3
EMSS 2240	Introduction to Paramedic Practice	2
EMSS 2250	Introduction to Advanced Patient Assessment and Clinical Decision Making	1
EMSS 2255	Emergency Pharmacology	2
EMSS 2255L	Emergency Pharmacology Laboratory	1
EMSS 2410	Cardiac Emergencies	4
EMSS 2410L	Cardiac Emergencies Laboratory	2
EMSS 2650	Advanced EMS Operations	2
	Credits	**17**
Semester 2		
EMSS 2310	Airway and Respiratory Emergencies	2
EMSS 2310L	Airway and Respiratory Emergencies Laboratory	1
EMSS 2510	Medical Emergencies	3
EMSS 2510L	Medical Emergencies Laboratory	3
EMSS 2710	Advanced Care of Special Populations	2
EMSS 2710L	Advanced Care of Special Populations Laboratory	1
EMSS 2890	Paramedic Clinical I	3
	Credits	**15**
Semester 3		
EMSS 2890	Paramedic Clinical I	3
EMSS 2610	Paramedic Trauma Care	2
EMSS 2895	Paramedic Clinical II	3
	Credits	**8**
Semester 4		
EMSS 2610L	Paramedic Trauma Care Laboratory	1
EMSS 2895	Paramedic Clinical II	3
EMSS 2998	Paramedic Internship	5
	Credits	**9**
	Total Credits	**49**

First Responder Prehospital - Certificate of Achievement

Doña Ana Community College 2026-2027 Catalog

(4 credits)

This program provides instruction and laboratory experiences to prepare students to assist in workplace medical and trauma emergencies, in non-transport situations or industrial settings. Some fire and law enforcement require First Responder certification as minimum requirement for employment.

To graduate with a certificate or an associate degree, students must earn a C or better in all OEEM courses, and achieve a cumulative grade-point average of at least 2.0.

Prefix	Title	Credits
Technical Requirements		
EMSS 1116	BLS Clinical Preparations	1
EMSS 1110	Emergency Medical Responder Lab/Lecture	3
Total Credits		**4**

See Overview page for complete Program Prerequisites and Entrance Requirements (p. 327).

(4 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C or better in all OEEM courses and achieve a cumulative grade-point average of at least 2.0.

Semester 1		Credits
EMSS 1110	Emergency Medical Responder Lab/Lecture	3
EMSS 1116	BLS Clinical Preparations	1
	Credits	**4**
	Total Credits	**4**

Environmental and Energy Technologies

Associate of Applied Science Degree

- Environmental and Energy Technologies

Certificates of Completion

- Solar Energy Technology

The Environmental and Energy Technologies Program provides students with a strong foundation in Solar Technology or Energy Technology along with relevant theory and concepts necessary to become successful in these fields. Within each technology emphasis, certificates are designed to be “stackable” and transferable into the associate of applied science degree allowing students to tailor their studies to their own interest and career goals.

This program is designed to provide students with a well-rounded curriculum that encompasses both lecture and hands-on laboratory exercises. Some of the certificates and the degree may assist students in preparation for nationally recognized credentials within those disciplines.

Whether taking classes or working on a job site, students enrolled in this program will be required to perform the same job duties and be able to meet the same physical requirements that they will as graduates in the field. Depending where they find employment, graduates may be required to lift up to 50 pounds from the ground, work safely around hazardous chemicals using appropriate safety equipment, ascend and descend stairs and ladders to reach equipment, work safely around heavy equipment and electricity, work safely and effectively on uneven surfaces, and stand for long periods of time on concrete floors.

Environmental and Energy Technologies - Associate of Applied Science (p. 341)

Solar Energy Technology - Certificate of Completion (p. 343)

TCEN 101. Energy for the Next Generation
3 Credits (2+2P)

This course will survey a broad range of sources of energy, types of energy, energy storage, and the forms of energy. Students will be exposed to theory in the classroom, laboratory exercises, and field trips to provide them with a solid foundation for all subsequent energy related environmental courses. Crosslisted with: OETS 101.
Prerequisite(s)/Corequisite(s): OETS 118 or MATH 1215. Restricted to: Community Colleges only.

Learning Outcomes

1. Analyze cost comparisons for different types of energy applications to assess their relative value.
2. Apply energy consumption analysis techniques to accurately evaluate energy usage.
3. Identify safety hazards and demonstrate compliance with relevant safety regulations.
4. Collaborate effectively as a team.
5. Apply course-specific calculations accurately to solve problems and make informed decisions.

TCEN 105. Building Analyst I
3 Credits (2+2P)
This course is designed to provide the foundational knowledge and expertise necessary for the energy auditor and home performance contractor. Crosslisted with: OETS 105. Restricted to: Community Colleges only.

Learning Outcomes

1. Express technical information through oral communication.
2. Explain technical information through written communication.
3. Interpret information and instructions.
4. Work effectively as a team.
5. Demonstrate an understanding of sustainable and alternative building practices (i.e., LEED/Green).
6. Demonstrate how related industry theories apply to real world settings.
7. Evaluate mechanical processes found in building trades.
8. Locate data and information utilizing various sources.
9. Interpret information and instructions. 1
10. Determine the appropriate ethical action that should occur in a given circumstance. 1
11. Differentiate between situational and the other various theories of ethics.

TCEN 106. Building Analyst II
3 Credits (2+2P)
Designed to prepare the student for the BPI Building Analyst Certification. This course will walk the student through the hands-on process of conducting visual building inspections, diagnostic testing, identifying improvement opportunities, documenting a home's performance and preparing a scope of work. Crosslisted with: OETS106.
Prerequisite(s)/Corequisite(s): TCEN 105 or OETS 105. Restricted to: Community Colleges only.

Learning Outcomes

1. Describe sustainable and alternative building practices (i.e., LEED/Green).
2. Formulate how current changes can create future issues within a structure.
3. Assess environmental problems arising from conventional building practices.
4. Evaluate mechanical processes found in building trades.
5. Work effectively as a team.
6. Demonstrate an understanding of sustainable and alternative building practices (i.e.,LEED/Green).
7. Present technical information through oral communication.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Identify appropriate governing bodies and associated regulations.

TCEN 110. Photovoltaic Application
4 Credits (3+2P)
This course will provide an introduction to Photovoltaic (PV) installation. The course will provide instruction on site selection, prep, installation, and maintenance for photovoltaic applications. Students that complete the course and have the opportunity to take the entry level exam with the North American Board of Certified Energy Practitioners (NABCEP) en route to becoming Certified Installers. Restricted to: Community Colleges only. May be repeated up to 4 credits.
Prerequisite/Corequisite: TCEN 101.

Learning Outcomes

1. Write a detailed analysis using a 6-step problem solving approach to an equipment or process problem
2. Categorize and document system malfunctions, which will be discussed during the pass-down period in a production environment
3. Organize relevant training material to be discussed during teamwork training sessions
4. Identify safety hazards associated with electro-mechanical industrial production systems
5. Use a systematic approach to troubleshoot, identify, and perform corrective maintenance procedures in a system
6. Identify the subsystems of an industrial system and their function
7. Demonstrate the startup, operation, and power down programming sequences for an automated system
8. Apply automated troubleshooting programs to locate / identify fault in a production system
9. Evaluate real time statistical process control data (SPC) to determine (+ -) control limit corrections in a production environment 1
10. Identify personal areas in which student may be able to strengthen student's professional skills 1
11. Assess personal "development" paths, which will ensure a constant advancement through evolving technology careers 1
12. Demonstrate required skills for changing or creating and evaluating real time statistical process control (SPC) data associated with an industrial production process/program

TCEN 111. Basic Electrical Principles I, DC Circuits
4 Credits (3+2P)
Course begins with the basics of electricity and DC circuits. Includes categorization of material properties within conductors, semiconductors, and insulators. Gradual progression tackles more complex topics like DC circuit analysis of series and parallel circuits, including Kirchhoff's laws, Thevenin's & Norton's theorems, and superposition. Finally DC combination circuits, magnetism and electromagnetism, generators and motors are covered. Emphasis on safety throughout. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): OETS 104 or MATH 1215. Restricted to Community Colleges campuses only.

TCEN 112. PV Power Generation Design Fundamentals
3 Credits (2+2P)
A study of photo voltaic design basics, photo voltaic (PV) Cells, modules, and system components; electrical circuits; grid-tied/grid-interactive

PV system design and sizing for use on homes; solar electric products and applications; and understanding energy conversion from sunlight to electricity, and working with solar conversion equipment. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): TCEN 111 and (OETS 104 or MATH 1215). Restricted to Community Colleges campuses only.

TCEN 113. OSHA 10 Hour Construction Hazard Identifications
1 Credit
Intended for entry-level participants to provide instruction on a variety of construction safety and health standards. Topics include Introduction to OSHA, Electrical, Ladder, Excavation, Scaffold, and Forklift Hazards, Fall Protection, Materials Handling, Personnel Protective Equipment and Confined Space Entry Hazards. Meets OSHA 10-Hour Requirements.

TCEN 115. Wind Power Generation Design Fundamentals
3 Credits (2+2P)
Course covers wind turbine module descriptions and functions and wind system installation, operation, and troubleshooting. Additional topics include wind energy harvesting and the conversion process from the generator system to electricity. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): TCEN 111 and (OETS 104 or MATH 1215). Restricted to Community Colleges campuses only.

TCEN 121. Basic Electrical Principles II, AC Circuits
4 Credits (3+2P)
Course begins with an overview of the primary components of AC circuits, such as resistors, inductors, rectifiers, transformers and capacitors, and then gradually introduces new, more complicated topics like applying AC principles in power generation and generators, motors, parallel and combination circuits, troubleshooting and evaluation of circuit conditions. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): TCEN 111 and (OETS 104 or MATH 1215). Restricted to Community Colleges campuses only.

TCEN 156. Building Envelope
3 Credits (2+2P)
Designed to prepare the student for the BPI Building Envelope Certification. This course will provide the principles behind building performance testing and the purpose of completing a comprehensive energy audit. Through lecture and subsequent field training, the student will learn how to use building diagnostics to develop a prescriptive plan for enhancing comfort, health & safety, building durability, and energy savings. The student will learn how to outline the follow-up process required after completion of the retrofit. Crosslisted with: OETS156. Restricted to: Community Colleges only. Campus restriction updated to reflect description of community colleges only.
Prerequisite(s): Grade of C- or better in TCEN 106 or OETS 106.
Learning Outcomes
1. Apply oral communication skills to effectively present technical information.
2. Apply written communication skills to effectively present technical information.
3. Demonstrate the correct identification and safe use of hand tools and/or power tools for a specific application.
4. Collaborate effectively as a team.
5. Employ various sources to locate data and information.
6. Analyze and interpret information and instructions.
7. Differentiate between situational ethics and other various theories of ethics.
8. Identify relevant governing bodies and associated regulations.
9. Describe sustainable and alternative building practices (e.g., LEED/Green). 1
10. Apply related industry theories to real-world settings. 1
11. Evaluate mechanical processes in building trades. 1
12. Assess environmental problems resulting from conventional building practices.

TCEN 205. NEC for Alternative Energy
4 Credits (2+4P)
This hands-on course will cover the National Electrical Code specifics concerning photovoltaic installation. Also code compliant wiring of basic electrical systems will be covered. Existing installations will be visited and studied. Restricted to Community College campuses only. May be repeated up to 4 credits.
Prerequisite: TCEN 101 and ELT 105.
Learning Outcomes
1. Identify all code sections relevant to the different types of Alternative energy systems.
2. Locate problems in alternative energy sources and provide solutions to correct them.
3. Student will have a basic understanding of different types of renewable energy and how to apply the NEC to each type of renewable energy source.
4. Explain what types of renewable energies work best for different geographical locations.
5. Students will also gain hands on experience working with solar photovoltaics, wind turbines and solar thermal panels.
6. Effectively present technical information through written communication
7. Accurately perform course specific calculations
8. Work effectively as a team
9. Locate data and information utilizing the NEC and other various sources 1
10. Interpret information and instructions 1
11. Identify appropriate governing bodies and associated regulations 1
12. Assess cost comparisons for different types of energy applications 1
13. Accurately perform energy production analysis

TCEN 220. Cooperative Experience
1-3 Credits (1-3)
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. May be repeated up to 6 credits. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): MAT 235. Prerequisite(s): TCEN 180. Restricted to: TCEN majors. Graded: S/U Grading (S/U, Audit). Restricted to: Community Colleges only.

TCEN 221. Roofing Materials and Methods
3 Credits (2+2P)
Covers application techniques and estimation of asphalt and wood roofing products and accesories including gutters and flashing. Presents roof penetration, roof loading issues, and energy system installation requirements for mounting photo voltaic or solar thermal systems.
Prerequisite(s): TCEN 112.

TCEN 222. Photo Voltaic Grid Tie Installation
4 Credits (3+2P)
This is a more advanced course culminating in a PV system-to-grid connection. This course includes gathering site specific data, design, wire type and sizing specific to project, installation of all solar modules and balance of system (BOS)components, and grounding and bonding of system components, all in accordance with the latest

NEC. Upon project design approval a system will be commissioned for the grid. Decommissioning will commence after measurements and troubleshooting as directed by the instructor. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): TCEN 121 and TCEN 223. Prerequisite(s): TCEN 111 and TCEN 112. Restricted to Community Colleges campuses only.

TCEN 223. National Electric Code Principles in Relation to Photo Voltaic
2 Credits (2+1P)
Focuses on all sections of the National Electrical Code and local code requirements applicable to photo voltaic electrical installation. A partial list of areas covered is chapters one through four and section 690, "Solar Photovoltaic Systems" of the National Electrical Code.
Prerequisite: TCEN 112.
Prerequisite/Corequisite: TCEN 222.
Learning Outcomes
1. Identify the requirements for safe and practical solar PV installations.
2. Accurately reference, read, and interpret NEC code as it relates to PV installations (Code 690).
3. Present a compelling case of when the PV electricity market will reach "grid¬ parity."

TCEN 224. Field Experience
1-3 Credits (1-3)
Student will collaborate with instructor in proposing, defining, implementing, and analyzing outcomes of a project in the Environmental and Energy fields of study. May be repeated up to 6 credits. Consent of Instructor required. Restricted to: TCEN majors. Restricted to: Community Colleges only.

TCEN 246. Building Weatherization & Auditor Fundamentals
3 Credits (3)
Course provides information on how to locate air leaks and identify heat losses or gains through specific testing. Students will learn how to inspect and evaluate building envelopes, mechanical systems, and ventilation systems to determine the safety and energy consumption for each system. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): TCEN 113 and OETS 104.
Corequisite(s): TCEN 221.

TCEN 251. Advanced Photo Voltaic On/Off Grid Installation
3 Credits (2+2P)
Photo Voltaic advanced topics to include panel racking and installation, battery storage, charge controllers, mechanical integration of arrays on buildings, and key elements involved in choosing a mounting system. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): TCEN 222. Restricted to Community Colleges campuses only.

TCEN 252. NABCEP Entry-Level Exam Review
2 Credits (2)
Course presents knowledge, key terms, and concepts of photovoltaic systems and solar hot water systems as related to the NABCEP Entry-level exam. This exam is for those wanting to enter the workforce in either solar thermal or solar PV. Scheduling and taking the exam is the responsibility of the student. Consent of Instructor required. Restricted to Community Colleges campuses
Prerequisite(s): TCEN 222.
Learning Outcomes
1. Analyze photovoltaic markets and application trends
2. Complete practice questions for the NABCEP PV Associate Exam
3. Develop a practice of safe work environment as it relates to the installation and maintenance of photovoltaic systems according to OSHA standards
4. Apply electrical concepts to the operation and maintenance of photovoltaic systems and related equipment
5. Apply solar energy fundamentals, i.e. photovoltaic module essentials, system components, system sizing principles, system electrical design, system mechanical design, performance analysis, maintenance, and troubleshooting
6. Pass the NABCEP PV Associate exam with at least 70 percentile.

TCEN 254. Renewable Energy Internship
2 Credits (2)
Student will receive industry-related renewable energy experiences at an approved industry location. Typical areas of hands-on practices will be installing solar PV, solar hot-water systems, or wind energy systems. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.
Prerequisite(s): TCEN 112 and 113 and 222.

Name: Kevin Gall, Associate Professor

Office Location: DAWD 126A

Phone: (575) 528-7443

Website: https://dacc.nmsu.edu/academics/programs/environmental-and-energy-technology/index.html#degree (https://dacc.nmsu.edu/academics/programs/environmental-and-energy-technology/#degree)

Environmental and Energy Technologies - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog (67-68 credits)

NOTE: Students must earn a final grade of C- or better in all required TCEN courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 67-68 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, III and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1220G	College Algebra [3]	
Area III: Laboratory Sciences		

CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [3]	
or CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics [3]	
General Education Elective		
ENGL 2210G	Professional and Technical Communication [3]	
COMM 1115G	Introduction to Communication [3]	
or COMM 1130G	Public Speaking	
Core Requirements		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab [3]	4
Related Requirements		
OETS 102	Career Readiness Certification Preparation	1
Select 3 credits from the following:		3
BCIS 1110	Introduction to Information Systems [3]	
OECS 105	Introduction to Information Technology	
OECS 215	Spreadsheet Applications	
Major Requirements		
Technical Requirements		
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 2217	Building and the Environment	3
DRFT 151	Construction Principles and Print Reading	3-4
or CNST 1120	Construction Drawings	
ELT 105	Basic Electricity and Electronics	3
TCEN 101	Energy for the Next Generation	3
TCEN 105	Building Analyst I	3
TCEN 106	Building Analyst II	3
TCEN 110	Photovoltaic Application	4
TCEN 156	Building Envelope	3
TCEN 205	NEC for Alternative Energy	4
Select 6 credits from the following:		6
DRFT 109	Computer Drafting Fundamentals	
DRFT 130	General Building Codes	
CNST 1133	Introduction to Construction Laboratory	
Electives, to bring the total credits to 67		**6**
Total Credits		**67-68**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus. The remaining courses are applicable toward the bachelor of applied studies degree offered by the NMSU College of Extended Learning.

(67-68 credits)

A Suggested Plan of Study

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NOTE: Students must receive a final grade of C- or better in all required TCEN courses/Technical Requirements/Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 67 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
FALL		
Area IV: Social/Behavioral Sciences		3
ECON 1110G	Survey of Economics	
TCEN 101	Energy for the Next Generation	3
TCEN 105	Building Analyst I	3
TCEN 106	Building Analyst II	3
Elective		3
	Credits	**15**
Semester 2		
SPRING		
DRFT 151 or CNST 1120	Construction Principles and Print Reading or Construction Drawings	3-4
ELT 105	Basic Electricity and Electronics	3
TCEN 110	Photovoltaic Application	4
TCEN 156	Building Envelope	3
TCEN 205	NEC for Alternative Energy	4
	Credits	**17-18**
Semester 3		
SUMMER		
Area II: Mathematics		3
MATH 1220G	College Algebra	
	Credits	**3**
Semester 4		
FALL		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area III: Laboratory Sciences		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
BCIS 1110 or OECS 105 or OECS 215	Introduction to Information Systems or Introduction to Information Technology or Spreadsheet Applications	3
OETS 102	Career Readiness Certification Preparation	1
Elective		3
	Credits	**15**
Semester 5		
SPRING		
Area III: Laboratory Sciences		4
CHEM 1120G or CHEM 1215G	Introduction to Chemistry Lecture and Laboratory (non majors) or General Chemistry I Lecture and Laboratory for STEM Majors	
General Education Elective - Area I: Communications		3

ENGL 2210G or COMM 1115G or COMM 1130G	Professional and Technical Communication or Introduction to Communication or Public Speaking	
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
CNST 2217	Building and the Environment	3
Elective		3
	Credits	**17**
	Total Credits	**67-68**

Solar Energy Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(26 credits)

NOTE: Students must earn a final grade of C- or better in all required TCEN courses/Core Requirements/Core and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 26 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Core Requirements		
MATH 1215 or OETS 118	Intermediate Algebra [1] Mathematics for Technicians	3
OETS 102	Career Readiness Certification Preparation	1
TCEN 101	Energy for the Next Generation	3
Select 3 credits from the following:		3
BCIS 1110	Introduction to Information Systems [1]	
OECS 105	Introduction to Information Technology	
OECS 215	Spreadsheet Applications	
Related and Technical Requirements		
ENGL 1110G or OETS 103	Composition I [1] Technical Career Skills	4
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
TCEN 110	Photovoltaic Application	4
TCEN 205	NEC for Alternative Energy	4
Total Credits		**26**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(26 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of C- or better in all required TCEN courses/Core Requirements/Core and Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 26 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
BCIS 1110 or OECS 105 or OECS 215	Introduction to Information Systems or Introduction to Information Technology or Spreadsheet Applications	3
ENGL 1110G or OETS 103	Composition I [1] or Technical Career Skills	4
MATH 1215 or OETS 118	Intermediate Algebra or Mathematics for Technicians	3
TCEN 101	Energy for the Next Generation	3
	Credits	**13**
Semester 2		
CNST 1121	Introduction to Construction I	2
CNST 1122	Introduction to Construction II	2
OETS 102	Career Readiness Certification Preparation	1
TCEN 110	Photovoltaic Application	4
TCEN 205	NEC for Alternative Energy	4
	Credits	**13**
	Total Credits	**26**

[1] While OETS 103 Technical Career Skills meets program requirements, it does not meet the NM General Education Area I: Communications - English Composition Level 1 requirements.

Fire Science Technology

Fire Science Technology: Associate of Applied Science Degree

Certificate of Completion: Basic Firefighter

(575) 528-7321

Every year, fires and other emergencies claim thousands of lives and cause billions of dollars in property damage. Firefighters play a critical role in protecting communities by responding to emergencies, extinguishing fires, providing medical aid, and ensuring public safety. They are often the first responders at traffic accidents, medical crises, and hazardous situation, and at the same time performing vital lifesaving functions.

The demand for trained firefighters continues to grow. According to the United States Fire Administration, nearly 70% of fire companies rely on volunteer firefighters, with many transitioning to paid positions. Employment opportunities are expected to expand due to this shift, as well as the need to replace retiring firefighters or those advancing into other emergency service roles.

Doña Ana Community College's **Fire Science Technology Program**, accredited by the International Fire Service Accreditation Congress (IFSAC), provides comprehensive training for individuals seeking to enter or advance in the fire service profession. Students gain foundational knowledge in firefighting principles and participate in **live training exercises** to develop real-world experience.

This program offers two academic pathways:

- **Associate of Applied Science (AAS) in Fire Science Technology** - Designed for those pursuing a career in fire protection or seeking career advancement.
- **Certificate of Completion in Firefighting** - Provides essential training and certification for entry-level positions

This program serves:

- **Aspiring firefighters -** Equipping them with the fundamental skills and knowledge necessary to enter the profession.
- **Current firefighters** - Includes career, volunteer, and NMSU student firefighters who seek to enhance their skills, improve job performance, and prepare for leadership roles.

With a combination of technical instruction and general education courses, students graduate ready to serve their communities as highly skilled fire service professionals.

NOTE: An articulation agreement with the N.M. Firefighters Training Academy makes it possible to receive college credit for experience and IFSAC certification. All courses in this program may be applied toward a Bachelor of Applied Studies or Bachelor of Individualized Studies degree at NMSU.

NOTE: Students wishing to enter the fire service will benefit from the educational background provided and may receive certifications in various fire-related areas through the New Mexico Firefighters Training Academy in Socorro, N.M., and the IFSAC.

Program Accreditation

The Fire Science Program is accredited by the International Fire Service Accreditation Congress (https://ifsac.org/).

Medical Clearances and Background Checks

Several courses in the program may require the student to submit a medical clearance physical, mask fit test, and a background check. See a program advisor for details.

NOTE: A criminal history may prohibit students from being hired or certified by agencies. Students are encouraged to check with the prospective agency and identify that agency's specific requirements prior to enrolling in this program.

Physical Abilities

This program requires that the student be able to:

- lift, carry and balance up to 125 pounds (250 pounds with assistance)
- assume a variety of postural positions and be capable of physical maneuvers ranging from crawling, kneeling, squatting, twisting, turning, and bending, to climbing stairs and ladders
- withstand varied environmental conditions such as extreme heat, cold, and moisture

Technology Competencies

In an effort to assist students with adequate preparation for their coursework at DACC, technology competencies have been identified and established. These competencies are in effect for all courses taken in the Fire Science Technology program. Students must possess the following minimum competencies. Additional competencies may be required for particular courses/programs:

- Access course and program material on the Web using CANVAS and an applicable web browser
- Correspond with DACC students and faculty using e-mail and the Web
- Read/print e-mail and attachments/files from students and faculty
- Complete, send, and receive assignments using e-mail and attachments/files
- Use the DACC Library e-books, e-journals, databases, or credible World Wide Web resources for research and completion of course assignments
- Prepare and conduct presentations in the classroom using presentation equipment as required.
- Use the appropriate software for a given course (DACC uses as standards Microsoft products, including MS Word, MS Project, MS Excel, and MS PowerPoint)
- Use an appropriate anti-virus application to ensure the files transmitted and received are virus free
- Use recommended plagiarism review software to ensure work is not plagiarized

Fire Science Technology - Associate of Applied Science (p. 349)

Basic Firefighter - Certificate of Completion (p. 350)

FIRE 102. Fire Fighter I and II
12 Credits (12)
This course will train the student as outlined in NFPA 1001, Fire Fighter Professional Qualifications. Firefighter I & II Certification issued through the New Mexico Firefighter's Training Academy (NMFTA) upon successful completion [International Fire Service Accreditation Congress (IFSAC) & Pro Board accredited]. Consent of Instructor required.
Prerequisite/Corequisite: FIRE 115, FIRE 252, OEEM 103. Restricted to Dona Ana campus only.
Learning Outcomes

1. Describe basic fire department organizational structure and operating procedures.
2. Recognize probable fire behaviors and how to manage them appropriately.
3. Identify and manage hazardous materials.
4. Identify characteristics of building construction; recognize signs of building collapse.
5. Demonstrate the safe use, cleaning, refilling, inspecting, and storing of SCBA bottles.
6. Identify and properly use portable fire extinguishers.
7. Identify and properly tie knots used in the fire service; use and maintain various types of rope used in the fire service.
8. Conduct search and rescue drills as a member of Fire Company.
9. Identify and appropriately use techniques for forcible entry tools. 1
10. Identify and demonstrate knowledge and techniques used with fire service ground and aerial ladders. 1
11. Apply ventilation practices to effectively ventilate buildings. 1
12. Learning fundamentals of water supply and securing water sources. 1

13. Demonstrate coupling, loading, and rolling fire hose. 1
14. Demonstrate hydrant connections using various lays and connections. 1
15. Identify and operate nozzles and smooth bore tips for fire streams. 1
16. Become familiar with strategies and tactics in fire extinguishment. 1
17. Become familiar with use and operation of fire sprinklers. 1
18. Perform salvage and overhaul operations. 1
19. Identify and use various fire service communications systems. 2
20. Define the types of special rescues encountered by fire fighters. 2
21. Describe the steps of a special rescue. 2
22. Describe the general procedures at a special rescue scene. 2
23. Describe how to safely approach and assist at a vehicle or machinery rescue incident. 2
24. Describe how to safely approach and assist at a confined space rescue incident. 2
25. Describe how to safely approach and assist at a rope rescue incident.

FIRE 112. Principles of Emergency Services
3 Credits (3)
This course provides an overview to fire protection and emergency services including career opportunities in fire protection and related fields. The organization and function of public and private fire protection services is studied including how fire departments fit as part of local government. An overview of laws and regulations affecting the fire service is explored along with specific fire protection functions and responsibilities including basic fire chemistry and physics, introduction to fire strategy and tactics and life safety initiatives.
Learning Outcomes
1. Illustrate and explain the history and culture of the fire service.
2. Differentiate between fire service training and education and explain the value of higher education to the professionalization of the fire service.
3. List and describe the major organizations that provide emergency response service and illustrate how they interrelate.
4. Identify fire protection and emergency service careers in both the public and private sectors.
5. Define the role of national, state, and local support organizations in fire and emergency services.
6. Discuss and describe the scope, purpose, and organizational structure of fire and emergency services.
7. Describe the common types of fire and emergency service facilities, equipment, and apparatus.
8. Compare and contrast effective management concepts for various emergency situations.
9. Identify and explain the components of fire prevention including code enforcement, public information, and public and private fire protection systems. 1
10. Recognize the components of career preparation and goal setting. 1
11. Describe the importance of wellness and fitness as it relates to emergency services.

FIRE 114. Fire Behavior and Combustion
3 Credits (3)
This course explores the theories and fundamentals of how and why fires start, spread, and are controlled. Restricted to: Community colleges only.
Learning Outcomes
1. Identify physical properties or the three states of matter.
2. Categorize the components of fire.
3. Explain the physical and chemical properties of fire.
4. Describe and apply the process of burning.
5. Define and use basic terms and concepts associated with the chemistry and dynamics of fire.
6. Discuss various materials and their relationship to fires as fuel.
7. Demonstrate knowledge of the characteristics of water as a fire suppression agent.
8. Explain types of suppression agents and strategies.
9. Compare and contrast differing methods and techniques of fire extinguishments.

FIRE 115. Hazardous Materials Awareness and Operations
3 Credits (3)
This course will train the student to the Hazardous Materials 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. Hazardous Materials Awareness and Operations certification issued through the New Mexico Firefighter's Training Academy upon successful completion (IFSAC accredited).
Learning Outcomes
1. Identify the definition of hazardous materials (or dangerous goods, in Canada) and WMD.
2. Identify typical container shapes that can indicate hazardous materials/WMD.
3. Identify the UN/DOT hazard classes and divisions of hazardous materials and identify common examples of materials in each hazard class or division.
4. Identify the difference between hazardous materials/WMD incidents and other incidents.
5. Identify typical occupancies and locations in the community where hazardous materials/WMD are manufactured, transported, stored, used, or disposed of.
6. Identify facility and transportation markings and colors that indicate hazardous materials/WMD.
7. Identify sources of information for determining the correct mass decontamination procedures and identify how to access those resources in a hazardous material/WMD incident.
8. Identify the supplies and equipment required to set up and implement technical decontamination operations.
9. Identify procedures, equipment, and safety precautions for communicating with crowds and crowd management techniques that can be used at incidents where a large number of people might potentially be contaminated. 1
10. Describe products potentially encountered in the incident associated with WMD suspicious letter, package, illicit laboratory, WMD agent and environmental crimes. 1
11. Describe the procedures for maintaining the evidentiary integrity of any item removed from the crime scene. 1
12. Select the personal protective equipment required to support evidence preservation and sampling at hazardous materials/WMD incidents based upon local procedures. 1
13. Select the personal protective equipment required to support victim rescue and recovery at hazardous materials/WMD incidents based on local procedures.

FIRE 120. Fire Protection Hydraulics and Water Supply
3 Credits (3)
This course will train students on skill requirements for becoming a safe and effective fire apparatus driver/operator. The focus will be on pump

operation, construction, testing, and mathematical calculation required for effective pump operation and fire control. Responsibilities of the driver/operator will be taught and assessed consistent with applicable NFPA standards and the New Mexico Firefighters' Training Academy (NMFTA) guidelines. Students who meet all course requirements will be eligible for International Fire Service Accreditation Congress (IFSAC) certification through the NMFTA. Consent of Instructor required. Restricted to Community Colleges campuses.
Prerequisite/Corequisite: FIRE 128.
Learning Outcomes

1. Define and explain hydraulic applications within the fire service.
2. Analyze the chemical and physical properties of water including latent heat and specific heat.
3. Examine the use of water as an extinguishing agent and how it relates to BUT's absorbed and generated steam.
4. Calculate pressure, force an area using hydraulic formulas.
5. Explain the six principles of pressure as they apply to water.
6. Discuss the use of basic fireground formulas to estimate effective pump operations.
7. Explain and apply the formulas used by the fire service, determining: Gallons per minute, nozzle pressure, friction loss, and pump discharge pressure.
8. Identify the pumps used by the fire service and demonstrate their operations.
9. Discuss the importance of understanding pump operating principles and construction. 1
10. Analyze the laws of physics that permit drafting operations. 1
11. Explain and apply the formulas used by the fire service for determining: vertical and horizontal range of fire streams, nozzle reaction, back pressure, and relay operations. 1
12. Identify the source of water used for firefighting. 1
13. Evaluate other fire ground formulas used for the proper operation of sprinkler systems, standpipes, and hydrants. 1
14. List and discuss the role of hose, nozzles, and appliances used during pump operations. 1
15. Distinguish among types of foam used in the fire service. 1
16. Identify foam application techniques. 1
17. Install and operate an inline foam eductor. 1
18. Evaluate the relationship of flow, pressure, shape, and nozzle reaction in the design and operation of a nozzle.

FIRE 126. Fire Prevention
3 Credits (3)
This course will educate students about the principles and techniques of fire prevention and life-safety inspection and code compliance in accordance to NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plan Examiner, Level I. Students who meet all course requirements will be eligible for International Fire Service Accreditation Congress (IFSAC) certification through the New Mexico Firefighters' Training Academy (NMFTA). Restricted to Community Colleges campuses only.
Learning Outcomes

1. Define the national fire problem and the role of fire prevention.
2. Identify and describe fire prevention organizations and associations.
3. Define laws, rules, regulations, and codes and identify those relevant to fire prevention of the authority having jurisdiction.
4. Define the functions of a fire prevention bureau.
5. Describe inspection practices and procedures.
6. Identify and describe the standards for professional qualifications for Fire Marshal, Plan examine, Fire Inspector, Fire and Life Safety Educator, and Fire Investigator.
7. List opportunities in professional development for fire prevention personnel.
8. Describe the history and philosophy of fire prevention.

FIRE 128. Apparatus and Equipment
2 Credits (2)
The course will train students on attitude and skill requirements for becoming a safe and effective fire apparatus driver/operator. The focus will be on apparatus inspection, operation, maintenance, and specification. Responsibilities of the driver/operator will be taught and assessed consistent with applicable NFPA standards and the New Mexico Firefighters' Training Academy (NMFTA) guidelines. Students pursuing certification must posses a current and valid New Mexico driver's license. Students who meet all course requirements will be eligible for International Fire Service Accreditation Congress (IFSAC) certification through the NMFTA. Restricted to Community Colleges campuses only.
Learning Outcomes

1. Identify the pumps used by the fire service and demonstrate their operations.
2. Discuss the importance of understanding pump operating principles and construction.
3. Identify the sources of water used for firefighting.
4. Assess the basic attributes of a good driver and how basic vehicle operations, defensive driving, speed, and environmental conditions affect safe driving.
5. Explain the importance of preventive maintenance and its documentation.
6. Describe features and capacities of various fire department apparatus.
7. Identify the considerations taken when selecting qualified driver/operators.
8. Safely drive fire apparatus and successfully complete the NFPA obstacle course.
9. Describe apparatus positioning as it applies to different types of apparatus. 1
10. Describe the characteristics of water. 1
11. Summarize facts about performance testing of fire pumps. 1
12. Distinguish among performance tests for puming apparatus.

FIRE 130. Principles of Fire and Emergency Services Safety and Survival
3 Credits (3)
This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Consent of instructor required. Restricted to: Community colleges only.
Learning Outcomes

1. Define cultural change.
2. Evaluate methods for enhancing accountability.
3. Apply risk management techniques.
4. List steps for eliminating unsafe acts.
5. Identify training and certification standards.
6. identify medical and fitness standards.
7. Explain how using available technology enhances safety.

8. Identify the NIOSH top five and apply them to case studies in evaluating prevention measures.
9. Describe the importance of establishing response standards. 1
10. Evaluate considerations for response to violent incidents. 1
11. Evaluate methods for providing emotional support.

FIRE 200. Special Topics
1-12 Credits (1-12)
Specific subjects to be announced in the Schedule of Classes. Course may be repeated for credit as topics change. May be repeated up to 12 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.

FIRE 201. Independent Study
1-3 Credits
Research on an approved topic to meet graduation requirements. Meets or exceeds NFPA standards. May be repeated for total of 9 credits.
Prerequisite: consent of instructor.

FIRE 203. Fire and Emergency Services Administration
3 Credits (3)
This course will provide students entry-level training in company operations and administration at the first-line supervisory level. The student will learn how to effectively manage human resources and community/public relations. Students will learn about fire department organization and administration; including budgets, reports, and planning. Students will learn the process involved in fire inspection, investigation, public education, emergency service delivery, and safety, per NFPA Standard 1021, Fire Officer Professional Qualifications.
Learning Outcomes
1. Acknowledge career development opportunities and strategies for success.
2. Recognize the need for effective communication skills both written and verbal.
3. Identify and explain the concept of span and control, effective delegation, and division of labor.
4. Select and implement the appropriate disciplinary action based upon an employee's conduct.
5. Explain the history of management and supervision methods and procedures.
6. Discuss the various levels of leadership, roles, and responsibilities within the organization.
7. Describe the traits of effective versus ineffective management styles.
8. Identify the importance of ethics as it relates to fire and emergency services.
9. Identify the roles of the National Incident Management System (NIMS) and Incident Management System (ICS).

FIRE 210. Building Construction for Fire Protection
3 Credits (3)
This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. Restricted to: Community colleges only.
Learning Outcomes
1. Describe building construction as it relates to firefighter safety, building codes, fire prevention, code inspection, firefighting strategy, and tactics.
2. Classify major types of building construction in accordance with a local/model building code.
3. Analyze the hazards and tactical considerations associated with the various types of building construction.
4. Explain the different loads and stresses that are placed on a building and their interrelationships.
5. Identify the function of each principle structural component in typical building design.
6. Differentiate between fire resistance, flame spread, and describe the testing procedures used to establish ratings for each.
7. Classify occupancy designations of the building code.
8. identify the indicators of potential structural failure as they relate to firefighter safety.
9. Identify the role of GIS as it relates to building construction.

FIRE 214. Hazardous Materials Technician
3 Credits (3)
Knowledge and skills about hazardous materials mitigation needed to certify as a Hazardous Materials Technician Level III. Meets or exceeds NFPA 471, 472, 473 standards, and OSHA 1910.102 part Q, and New Mexico HMER plan.
Prerequisite/Corequisite: FIRE 216.
Learning Outcomes
1. Acquire the skills and knowledge required to perform the functions of a firefighter.
2. Apply the appropriate critical thinking skills necessary to develop an incident action plan using appropriate strategies and tactics to safely manage incidents.

FIRE 215. Hazardous Materials Technician Manipulative Skills
4 Credits (4P)
Successful students will learn to perform as hazardous materials technicians, in a lab setting. They will learn how to respond to hazardous materials / weapons of mass destruction (WMD) incidents using a risk-based response process by which they analyze problems involving hazardous materials/WMD. Students will select applicable decontamination procedures and control a release using specialized protective clothing and control equipment. Incident termination will include following industry accepted practices and documentation while maintaining scene control and safety.
Prerequisite: FIRE 115, FIRE 216.
Corequisite: FIRE 214.
Learning Outcomes
1. Acquire the skills and knowledge required to perform the functions of a firefighter.
2. Apply the appropriate critical thinking skills necessary to develop an incident action plan using appropriate strategies and tactics to safely manage incidents.

FIRE 216. Hazardous Materials Chemistry
3 Credits (3)
This course provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services. Restricted to: Community colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Acquire the skills and knowledge required to perform the functions of a firefighter.

FIRE 220. Cooperative Experience I
1-3 Credits

Supervised cooperative work program. Student is employed in an approved occupation and rated by the employer and instructor. May be repeated for a maximum of 6 credits. Graded S/U.
Prerequisite: consent of instructor.

FIRE 221. Cooperative Experience II
3 Credits (3)
Apply advanced firefighting knowledge and skills while working with fire protection agencies. Meets or exceeds NFPA standards. Consent of instructor required. Graded: S/U. Restricted to: Community Colleges only.
Prerequisite(s): FIRE 220.

FIRE 223. Fire Investigations I
3 Credits (3)
This course meets the requirements set forth in NFPA 1033 Professional Qualifications for Fire Investigator. This course will give a comprehensive understanding of the principles of fire investigation, scene examination, documentation, evidence collection/preservation, interview techniques, and post-incident investigations. Student who meet all course requirements are eligible for International Fire Service Accreditation Congress (IFSAC) certification through New Mexico Firefighters' Training Academy (NMFTA). Restricted to Community Colleges campuses only.
Learning Outcomes
1. The student will be able to understand fire science, fire chemistry, thermodynamics, fire dynamics, and exploding of dynamics.
2. The student will be able to understand fire investigations, fire investigations methodology, fire investigation technology, and fire analysis.
3. The student will be able to understand evidence documentation, collection, and preservation.
4. The student will be able to understand computer fire modeling, failure analysis and analytical tools, fire protection systems, electricity and electrical systems, and hazardous materials.

FIRE 224. Strategy and Tactics
3 Credits (3)
Provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment and extinguishing agents on the fire ground. Covers the development of systematic action plans for emergency situations. Includes recognizing and prioritizing emergency scene needs and developing related strategies, tactics and contingencies. Educates students on how resources should be deployed to implement those plans. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Explain the importance of a fire ground commander.
2. Explain the importance of having standard operating procedures during fire ground operations.
3. Analyze fires by their classification and identify what constitutes a fuel.
4. Describe heat transfer and identify their distinct characteristics.
5. Describe the phases that a fire progresses through and their specific approach to extinguishment.
6. Describe the methods for making proper assumptions in fire situations.
7. Identify and list unique building construction techniques, and their specific approach to extinguishment.
8. Identify the principles behind reduce, fire control, and fire stream operations.
9. Evaluate fire scenarios and apply the appropriate tactics and strategies.

FIRE 225. Fire Protection Systems
3 Credits (3)
This course provides information relating to the features and design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. Restricted to: Community colleges only.

FIRE 230. Fire Service Instructor
3 Credits (3)
Provides the instructor candidate with methods and techniques of instruction including oral communications, preparing lesson plans, writing performance objectives, use of audio and other training aids, and the selection, evaluation and preparation of performance tests. Meets and exceeds NFPA 1041 Level I standards. Restricted to: Community Colleges only.
Learning Outcomes
1. The student shall be able to summarize professional responsibilities of the fire and emergency services instructor.
2. The student shall be able to discuss characteristics of adult learning and describe the different learning domains and learning styles.
3. The student shall be able discuss instructional preparation as it relates to training aid selection, class continuity, and class consistency.
4. The student shall be able discuss instructional materials and equipment and how they are used in the classroom and training environments.
5. The student shall be able discuss the classroom and training ground environments.
6. The student shall be able to discuss skills-based training and safely.

FIRE 232. Firefighter Internship
3 Credits (3)
Application of knowledge, skills and abilities in a fire service department, as a firefighter intern and integrated member of a fire affiliated agency. Restricted to majors.
Prerequisites: FIRE 101, FIRE 102, FIRE 115, FIRE 202 and EMT-B and consent of instructor.

FIRE 252. Vehicle Extrication
2 Credits (1+2P)
This course will train the student to the Vehicle & Machinery Extrication level I as outlined in NFPA 1006, Standard for Technical Rescuer Professional Qualifications. Vehicle & Machinery Extrication certification issued through the New Mexico Firefighter's Training Academy upon successful completion (IFSAC accredited). May be repeated up to 2 credits.
Learning Outcomes
1. Define extrication, disentanglement, and rescue.
2. Identify organizations relevant to extrication operations.
3. Describe the roles performed by organizations relevant to extrication operations.
4. Identify the responsibilities of the rescue organizations.

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Fire Science Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required FIRE and FIRE related-elective courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, III, IV and V; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area III: Laboratory Sciences		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [3]	
Area IV: Social/Behavioral Sciences		
POLS 1120G	American National Government [3]	
or POLS 1110G	Introduction to Political Science	
Area V: Humanities		
HIST 1110G	United States History I [3]	
or HIST 1120G	United States History II	
General Education Elective		
COMM 1130G	Public Speaking [3]	3
or COMM 1115G	Introduction to Communication	
Core Requirements		
Select 3 credits in Mathematics - Area II of the New Mexico General Education Requirements. [2]		3
Select 3 credits from the following:		3
PSYC 1110G	Introduction to Psychology [3]	
SOCI 1110G	Introduction to Sociology [3]	
or SOCI 2310G	Contemporary Social Problems	
Major Requirements		
Technical Requirements		
FIRE 112	Principles of Emergency Services	3
FIRE 114	Fire Behavior and Combustion	3
FIRE 120	Fire Protection Hydraulics and Water Supply	3
FIRE 126	Fire Prevention	3
FIRE 130	Principles of Fire and Emergency Services Safety and Survival	3
FIRE 203	Fire and Emergency Services Administration	3
FIRE 210	Building Construction for Fire Protection	3
FIRE 223	Fire Investigations I	3
FIRE 224	Strategy and Tactics	3
FIRE 225	Fire Protection Systems	3
FIRE/LAWE 233	Practical Approach to Terrorism	3
FIRE-related Electives		
Select 4 credits from the following:		4
EMSS 1120	Emergency Medical Technician Lecture	
EMSS 1120L	Emergency Medical Technician Laboratory	
EMSS 1121	Emergency Medical Technician Clinical	
FIRE 102	Fire Fighter I and II	
FIRE 115	Hazardous Materials Awareness and Operations	
FIRE 128	Apparatus and Equipment	
FIRE 230	Fire Service Instructor	
FIRE 252	Vehicle Extrication	
Total Credits		**60**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required FIRE and FIRE related-elective courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FALL		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences		3
POLS 1110G or POLS 1120G	Introduction to Political Science or American National Government	
FIRE 112	Principles of Emergency Services	3
FIRE 114	Fire Behavior and Combustion	3
	Credits	**13**
Semester 2		
SPRING		
Area II: Mathematics - any Area II course listed in the NM General Education Requirements of the NMSU/DACC Catalog.		3

FIRE 120	Fire Protection Hydraulics and Water Supply	3
FIRE 126	Fire Prevention	3
FIRE 130	Principles of Fire and Emergency Services Safety and Survival	3
	Credits	**12**
Semester 3		
SUMMER		
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
SOCI 2310G	Contemporary Social Problems	
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
	Credits	**6**
Semester 4		
FALL		
Area III: Laboratory Sciences		4
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
Area V: Humanities		3
HIST 1110G or HIST 1120G	United States History I or United States History II	
FIRE 203	Fire and Emergency Services Administration	3
FIRE 210	Building Construction for Fire Protection	3
FIRE 223	Fire Investigations I	3
	Credits	**16**
Semester 5		
SPRING		
FIRE 224	Strategy and Tactics	3
FIRE 225	Fire Protection Systems	3
FIRE 233 or LAWE 233	Practical Approach to Terrorism or Practical Approach to Terrorism	3
Fire-Related Elective(s) - Choose from the following:		4
FIRE 102	Fire Fighter I and II	
FIRE 115	Hazardous Materials Awareness and Operations	
FIRE 128	Apparatus and Equipment	
FIRE 230	Fire Service Instructor	
FIRE 252	Vehicle Extrication	
EMSS 1120 & 1120L	Emergency Medical Technician Lecture and Emergency Medical Technician Laboratory	
EMSS 1121	Emergency Medical Technician Clinical	
	Credits	**13**
	Total Credits	**60**

Basic Firefighter - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(30 credits)

NOTE: Students must earn a final grade of C- or better in all required Core Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Core Requirements		
FIRE 115	Hazardous Materials Awareness and Operations	3
FIRE 102	Fire Fighter I and II	12
FIRE 252	Vehicle Extrication	2
HLED 1110	American Heart Association Heartsaver First Aid CPR/AED	1
EMSS 1153	Introduction to Anatomy and Physiology for the EMS Provider	3
EMSS 1120	Emergency Medical Technician Lecture	6
EMSS 1120L	Emergency Medical Technician Laboratory	2
EMSS 1121	Emergency Medical Technician Clinical	1
Total Credits		**30**

(30 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Core Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 30 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FIRE 102	Fire Fighter I and II	12
FIRE 115	Hazardous Materials Awareness and Operations	3
FIRE 252	Vehicle Extrication	2
HLED 1110	American Heart Association Heartsaver First Aid CPR/AED	1
	Credits	**18**
Semester 2		
EMSS 1120 & 1120L	Emergency Medical Technician Lecture and Emergency Medical Technician Laboratory	8
EMSS 1121	Emergency Medical Technician Clinical	1
EMSS 1153	Introduction to Anatomy and Physiology for the EMS Provider	3
	Credits	**12**
	Total Credits	**30**

General Engineering

Associate of Science Degree

The job market for qualified engineering professionals has entered a new age. Regardless of industry trends and forecasts, one thing remains certain—engineers are an essential component to developing new ideas, and furthering the many fields of engineering. From mechanical engineering to environmental engineering, to civil engineering, there is opportunity for graduates to put their professional practice where passion lies.

If a student has thought about the field of engineering or any of its many subfields as a career, an associate degree can be a good starting point to pursue higher education. Within an associate's degree program, students become familiar with the many subfields of engineering, allowing them to identify where their specific professional interests lie when they progress to a four-year institution.

The small classes at DACC result in a student/instructor ratio that allows personal interaction, which strengthens the educational process. This is particularly a great benefit in higher levels of math and science courses. Community colleges have a higher retention rate and success rate. In addition, the cost of attending a community college for the first two years greatly reduces the cost of an engineering degree.

The General Engineering degree is designed to provide students a set of courses that will articulate into the four-year engineering programs at New Mexico State University, the University of New Mexico, and New Mexico Tech as well as the Bachelor of Science in Engineering Technology at New Mexico State University. This program will make available to a far wider range of students the ability to pursue their dreams of becoming engineers. Within the program, they will learn the business aspects of engineering, a foundation of what it takes to be successful in the field and the trends in a growing, energy-conscience market.

Once students have completed the associate's degree, they are well on their way to a bachelor's degree program in their selected field. The individual students must work closely with an Advisor to select the best options for successful transition to the four-year institution of their choice.

For high school students who are interested in a career in engineering, courses in mathematics and science are essential.

General Engineering - Associate of Science (p. 353)

ENGR 100G. Introduction to Engineering
3 Credits (2+3P)
An introduction to the various engineering disciplines, the engineering approach to problem solving, and the design process. Projects emphasize the importance of teamwork, written & oral communication skills, as well as ethical responsibilities. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): MATH 1220G or above.
Learning Outcomes

1. Analyze the engineering road maps and have a solid curriculum plan for each semester including summers.
2. Discuss the importance of information on engineering student organizations.
3. Demonstrate an understanding of the design process from initial conception to final solution through the application of critical thinking while learning important team building skills approaches to problem solving.
4. Identify the different engineering fields,the engineering profession, career paths open to engineers, and the process to professional licensure.
5. Apply clear communication and critical thinking skills by collecting, organizing, and analyzing data in a complete, clearly written, and oral presentation of their work.
6. Make use of basic knowledge and skills in Microsoft Excel to complete engineering assignments.
7. Identity, compute, and apply how dimensions, length, time, mass, force, temperature, electric current, energy and power, and related parameters are related to the different fields of engineering.
8. recognize ethical and professional responsibilities in engineering situations and make informed judgements.

ENGR 100GH. Introduction to Engineering Honors
3 Credits (2+3P)
An introduction to the various engineering disciplines, the engineering approach to problem solving, and the design process. Projects emphasize the importance of teamwork, written & oral communication skills, as well as ethical responsibilities. May be repeated up to 3 credits. Crosslisted with: ENGR 100.
Prerequisite(s)/Corequisite(s): MATH 1220G or above.
Learning Outcomes

1. Analyze the engineering road maps and have a solid curriculum plan for each semester including summers.
2. Discuss the importance of information on engineering student organizations.
3. Demonstrate an understanding of the design process from initial conception to final solution through the application of critical thinking while learning important team building skills approaches to problem solving.
4. Identify the different engineering fields,the engineering profession, career paths open to engineers, and the process to professional licensure.
5. Apply clear communication and critical thinking skills by collecting, organizing, and analyzing data in a complete, clearly written, and oral presentation of their work.
6. Make use of basic knowledge and skills in Microsoft Excel to complete engineering assignments.
7. Identity, compute, and apply how dimensions, length, time, mass, force, temperature, electric current, energy and power, and related parameters are related to the different fields of engineering.
8. recognize ethical and professional responsibilities in engineering situations and make informed judgements.

ENGR 110. Introduction to Engineering Design
3 Credits (2+3P)
Sketching and orthographic projection. Covers detail and assembly working drawings, dimensioning, tolerance specification, and design project
Learning Outcomes

1. Students will learn the fundamentals of part modeling and assemblies using modeling techniques in the SolidWorks solid modeling software.
2. They will learn how to put these parts and assemblies into production drawings using proper Geometric Dimensioning.

ENGR 111. Mathematics for Engineering Applications
3 Credits (3)
An introduction to engineering mathematics and basic programming skills needed to perform elementary data manipulation and analysis. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): MATH 1250G. Prerequisite(s): MATH 1220G.

ENGR 120. DC Circuit Analysis
4 Credits (3+3P)
An introduction to DC circuit analysis using Ohm's law, Kirchoff's laws, and Thevenin's theorem. Topics include delta-wye and source transformations, node-voltage and mesh-current analysis, and superposition.
Prerequisite/Corequisite: MATH 1250G.
Learning Outcomes
1. Convert decimal numbers to engineering notation using metric prefixes and units.
2. Relate electric charge, current, resistance, voltage, energy, and power.
3. Analyze circuits with voltage and current sources, ideal and real, independent and dependent.
4. Apply Ohm's Law and Kirchoff's Voltage and Current Laws to DC circuits.
5. Create equivalent circuits using series/parallel combinations, delta-wye and source transformations, and Thevinin's Theorem.
6. Analyze circuits using the node voltage method, mesh current method, and superposition.
7. Create a functioning prototype of DC circuits, including taking voltage, current, and resistance measurements.

ENGR 130. Digital Logic
4 Credits (3+3P)
An introduction to logic design and the basic building blocks of digital systems. Topics include numbering systems, Boolean algebra, digital logic theory, combinational logic, sequential logic, and applications such as adders, multiplexers, encoders, counters, and registers. Includes hands-on laboratory.
Prerequisite: A grade of C- or better in MATH 1220G or higher.
Learning Outcomes
1. Explain the behavior of the six logic gates using the truth table (AND, OR, NOT, NAND, NOR, XOR, XNOR).
2. Create the truth tables for any logic gate or Boolean function.
3. Apply Boolean Algebra rules OR K-maps to any logic function expression to simplify it.
4. Create complete circuit designs using combinational logic functions and sequential logic functions.
5. Convert numerical values to the commonly used digital representations.
6. Apply arithmetic operations using different numbering systems.
7. Build digital circuits using breadboard and Integrated circuits.

ENGR 140. Introduction to Programming and Embedded Systems
4 Credits (3+3P)
An introduction to programming and to the field of embedded systems. Starting from the basic concepts of programming, this course uses microcontrollers, sensors, motors, and other peripheral devices to support the learning and application of the problem-solving process through embedded systems. This course focuses on reading, writing, debugging, testing, and documenting computer programs.
Prerequisite/Corequisite: E T 182 or ENGR 130 or PHYS 1310G.
Learning Outcomes
1. Set up and use a rich programming environment for programming.
2. Employ effective use of the problem-solving process.
3. Analyze existing code.
4. Write, debug and test code given software requirements.
5. Apply testing and documentation best practices.
6. Transfer and apply programming knowledge to an Arduino-based environment.

ENGR 190. Introduction to Engineering Mathematics
4 Credits (4)
Engineering applications involving involved Math topics most heavily used in first and second-year engineering courses. Topics include engineering applications of algebra, trigonometry, vectors, complex numbers, sinusoids and signals, systems of equations and matrices, derivatives, integrals and differential equations.
Prerequisite: A grade of C- or better in MATH 1250G or higher.
Learning Outcomes
1. Ability to solve systems of linear equations by use of matrices
2. Ability to use complex numbers and periodic function to solve engineering problems
3. Ability to solve problems using various coordinate system
4. Write and Solve problems with 2-D 3D vectors
5. Write and Solve problems with derivatives
6. Write and solve problems with integrals

ENGR 198. Special Topics in Engineering
1-3 Credits
Directed individual study of topics in engineering. Written reports covering work required. May be repeated for a maximum of 6 credits. Restricted to engineering majors. Graded S/U.
Prerequisite: consent of academic dean.

ENGR 217. Manufacturing Processes
3 Credits (3)
An introduction to modern manufacturing processes and their application. Students will be introduced to manufacturing concepts such as traditional and non-traditional machining operations, tooling, material selection, thermal joining, geometric dimensioning & tolerancing, metrology, additive manufacturing, assembly and inspection, g-code, and automated manufacturing using CAM packages.
Prerequisite: A grade of C- or better in both, ENGR 110 and (MATH 1220G or higher).
Learning Outcomes
1. Identify the different manufacturing processes and their applications
2. Use, set up, and calibrate measuring tools.
3. Apply geometric tolerances to engineering drawings
4. Demonstrate basic knowledge of materials and material properties
5. Demonstrate basic knowledge of GM codes and their application
6. Proficiently use CAM packages such as SolidWorks CAM
7. Identify different tooling, their use, and manufacturing application

ENGR 217 L. Manufacturing Processes Lab
1 Credit (3P)
A hands-on application of the concepts introduced in ENGR 217. This lab will expose the students to hands-on exercises and manufacturing methods used in industry.
Corequisite: ENGR 217.

Learning Outcomes

1. Understand how a product goes from design to being manufactured
2. Gain knowledge of industry tools and technology
3. Learn how to design for manufacturing
4. Engage students in critical thinking and the design process
5. Gain an appreciation for, and skills for effective communication, teamwork, ethics
6. Increase student knowledge of Geometric Dimensioning and Tolerancing (GDT)
7. Use of other tools such as drawing software, mathematics, economics, etc. knowledge of dimensions, length, time, mass, force, temperature, electric current, energy and power, and related parameters in engineering
8. Understand industry and NMSU safety practices and apply them whenever applicable.

ENGR 230. AC Circuit Analysis
4 Credits (3+3P)
An introduction to AC circuit analysis techniques, RC/RL and RLC transients, phasors, complex power, filter response, and operational amplifiers.
Prerequisite: A grade of C- or better in both, ENGR 120 and (MATH 1440 or MATH 1521G or higher) or ENGR 190)).
Learning Outcomes

1. Apply Ohm's Law and Kirchoff's Laws to AC circuits.
2. Determine transient responses of RL/RC and RLC circuits.
3. Use phasor techniques to analyze AC circuits.
4. Compute RMS quantities and complex power.
5. Analyze and design Op-Amp circuits.
6. Design and proto-type AC circuits and measure AC voltages and currents.

ENGR 233. Engineering Mechanics I
3 Credits (3)
Engineering mechanics using vector methods. Force systems, resultants, equilibrium, distributed forces, area moments, and friction.
Prerequisite: A grade of C- or better in ENGR 190 or MATH 1521G.
Prerequisite/Corequisite: PHYS 1310G or PHYS 1230G.
Learning Outcomes

1. Have an understanding of the force systems, resultants, equilibrium, distributed forces, area moments, and friction.
2. Be able to apply the acquired knowledge to formulate, solve and interpret solutions of engineering mechanics problems.

ENGR 234. Engineering Mechanics II
3 Credits (3)
Kinetics of particles, kinematics and kinetics rigid bodies, systems of particles, energy and momentum principles, and kinetics of rigid bodies in three dimensions.
Prerequisite: A grade of C- or better in M E 236 or C E 233 or ENGR 233.
Learning Outcomes

1. Have a good understanding of the kinetics of particles, kinematics and kinetics rigid bodies, energy and momentum principles, and kinetics of rigid bodies.
2. Be able to apply the acquired knowledge to formulate, solve and interpret solutions of engineering mechanics problems

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Website: https://dacc.nmsu.edu/academics/programs/general-engineering/index.html (https://dacc.nmsu.edu/academics/programs/general-engineering/)

General Engineering - Associate of Science

Doña Ana Community College 2026-2027 Catalog

(60 credits)

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1 [3]		
ENGL 1110G	Composition I	4
English Composition - Level 2		
ENGL 2210G	Professional and Technical Communication Honors	3
Oral Communication		
COMM 1115G	Introduction to Communication	3
or COMM 1130G	Public Speaking	
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I	4
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*11*
ECON 2110G	Macroeconomic Principles	
Select 8 credits from the following: [1]		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOL 1110G	Physical Geology	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Other approved lab-science course(s)		
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II	4
Core Requirements		
Engineering and Related Courses		
ENGR 100G	Introduction to Engineering	3
ENGR 110	Introduction to Engineering Design	3

Select at least 6 credits from the following:		6
C E 151	Introduction to Civil Engineering	
C E 233	Mechanics-Statics	
CHME 201	Energy Balances & Basic Thermodynamics	
MATH 2530G	Calculus III	
Or any ENGR courses		
Major Requirements		
Select an additional 8 credits from the following, the courses selected must be different from the ones used for Area III: [1]		8
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOL 1110G	Physical Geology	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Other approved lab-science courses(s)		
Electives to bring total credits to 60		**5**
Total Credits		**60**

1 Students must complete at least 16 credits of Laboratory Science coursework for this degree.

2 See the General Education (https://catalogs.nmsu.edu/dona-ana/general-education-and-transfer-options/transfer-new-mexico-institutions/) section of the catalog for a full list of courses

3 Or, other approved NM General Education Area I courses listed in Level 1 in the current DACC/NMSU catalog.

(60 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level I		4
ENGL 1110G	Composition I	
Area II: Mathematics		4
MATH 1511G	Calculus and Analytic Geometry I	
Area III: Laboratory Sciences - Choose one from the following (total of 16 credits from different prefixes/areas):		4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOL 1110G	Physical Geology	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Or other approved Area III NM General Education course in the NMSU/DACC Catalog.		
ENGR 100G	Introduction to Engineering	3
	Credits	**15**

Semester 2		
Area III: Laboratory Sciences - Choose one from the following (total of 16 credits from different prefixes/areas):		4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOL 1110G	Physical Geology	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Or other approved Area III NM General Education course in the NMSU/DACC Catalog.		
Area IV: Social/Behavioral Sciences		3
ECON 2110G	Macroeconomic Principles	
General Education Elective - Area II: Mathematics		4
MATH 1521G	Calculus and Analytic Geometry II	
ENGR 110	Introduction to Engineering Design	3
	Credits	**14**

Semester 3		
Area I: Communications - English Composition Level 2		3
ENGL 2210G	Professional and Technical Communication Honors	
Area I: Communications - Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area III: Laboratory Sciences - Choose one from the following (total of 16 credits from different prefixes/areas):		4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOL 1110G	Physical Geology	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Or other approved Area III NM General Education course in the NMSU/DACC Catalog.		
Engineering and Related Course - Choose one from the following:		3
C E 151	Introduction to Civil Engineering	
C E 233	Mechanics-Statics	
CHME 201	Energy Balances & Basic Thermodynamics	
MATH 2530G	Calculus III	
Or any ENGR course		
Approved Elective		3
	Credits	**16**

Semester 4		
Area III: Laboratory Sciences - Choose one from the following (total of 16 credits from different prefixes/areas):		4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
GEOL 1110G	Physical Geology	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
Or other approved Area III NM General Education course in the NMSU/DACC Catalog.		
Area V: Humanities [1]		3
Area VI: Creative and Fine Arts [1]		3
Engineering and Related Course - Choose one from the following:		3
C E 151	Introduction to Civil Engineering	
C E 233	Mechanics-Statics	
CHME 201	Energy Balances & Basic Thermodynamics	
MATH 2530G	Calculus III	
Or any ENGR course		
Approved Elective		2
	Credits	**15**
	Total Credits	**60**

[1] See the General Education (https://catalogs.nmsu.edu/dona-ana/general-education-and-transfer-options/transfer-new-mexico-institutions/) section of the catalog for a full list of courses

Health Information Technology

Associate of Applied Science Degree

Certificate of Completion

Health Information Technicians are counted among the many highly qualified health professionals necessary to meet the growing needs of the healthcare industry. One of the things that sets this field apart is that there is little or no direct contact with patients.

The following are a sampling of the duties health information technicians typically perform:

- Analyzing and evaluating health records that comply with health information standards and regulations;
- Coding symptoms, diseases, operations, procedures, and other therapies for maximum reimbursement;
- Ensuring that health information is complete and available to legitimate users while protecting patient privacy and maintaining information security; and
- Maintaining and utilizing a variety of health record indexes and storage and retrieval systems.

DACC offers a rigorous course of study to prepare graduates for employment as health information technicians. It includes medical terminology, anatomy and physiology, pathophysiology, pharmacology, health data requirements and standards, classification and coding systems, healthcare reimbursement methods, healthcare statistics, computer literacy, professional practice skills, and life skills such as critical analytical thinking, problem solving, and good study habits.

Upon successful completion of the program, graduates will have numerous options. Job prospects for HIT professionals are very good because their skills are necessary throughout the entire healthcare industry. Typical work settings are physician practices, hospitals, managed care organizations, long-term care facilities, behavioral health facilities, ambulatory care facilities, rehabilitation centers, home healthcare providers, pharmaceutical companies, insurance companies, consulting and law firms, skilled nursing facilities, and federal and state governmental agencies. Current salary ranges and the job outlook for this field can be found in the *Occupational Outlook Handbook* at the U.S. Department of Labor website: bls.gov (https://www.bls.gov)

Graduates of the Health Information Technology program are eligible to apply to take several different certification examinations, which include those offered by the following professional organizations (among others):

- **American Academy of Professional Coders (AAPC)** – Certified Professional Coder (CPC), Certified Professional Coder–Hospital Based (CPC-H), and Certified Professional Coder–Payer (CCP-P)
- **American Health Information Management Association (AHIMA)** – Certified Coding Associate (CCA), Certified Coding Specialist (CCS), and Certified Coding Specialist–Physician Based (CCS-P)

To graduate from the HIT program, students must complete an internship work-experience component. Because this work takes place in a health-care setting, the employer/site may require students to complete and pass a security background check. Past criminal violations could prevent a student from completing the degree or from obtaining employment in the field.

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HITP 1110. Electronic Health Records
3 Credits (3)
Current electronic health record principles, methods and procedures, and computerized medical record concepts and software applications will be introduced.
Learning Outcomes

1. Define the concept of an electronic health record.
2. Describe key issues related to privacy and security of EHRs.
3. Set up new patients, edit patient information, and export patient lists.
4. Set up new insurance companies.
5. Set up, edit, and print addresses in the physician, employee, pharmacy, and testing facility categories.
6. Add patients and notes to the schedule.
7. Use the Patient Tracker to track and locate a patient with the medical setting.
8. Describe the layout of an electric chart.
9. Create office visit notes. 1
10. Describe how to order lab, imaging, and medical tests.

HITP 1120. Health Information Introduction to Pharmacology
3 Credits (3)
Introduction to the principles of pharmacology, including drug terminology; drug origins, forms, and actions; routes of administration; as well as the use of generic name drugs, trade name drugs and categories of drugs to treat multiple and specific body systems.

Learning Outcomes

1. List and define the major pharmacological drugs and common generics used in healthcare.
2. Distinguish between local, systemic, therapeutic, allergic, and side effects of the drugs.
3. Describe the pharmacological action of common drugs and drug categories used to treat each body system, including usage, dosage, adverse effects, contraindications, indications, and key client education information.
4. Identify basic laws and ethics associated with pharmacological preparation and distribution.
5. Describe the principal mechanisms of actions, usage, dosage, adverse effects, contraindications, indications, and key client education information for drug classifications affecting multiple body systems, also list several routes of drug administration and describe their advantages and disadvantages.

HITP 1140. Health Information Introduction to Pathophysiology
3 Credits (3)
Introduction to the nature of disease and its effect on body systems. Disease processes affecting the human body via an integrated approach to specific disease entities will be presented including a review of normal functions of the appropriate body systems. Diseases will be studied in relation to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.
Learning Outcomes

1. Describe basic disease concepts, including mechanisms of disease, neoplasms, inflammation, and infection.
2. Examine the basic anatomy and physiology of the body systems, etiology of various diseases and conditions, important signs and symptoms of disorders, common diagnostics, typical course and management of disorders, preventive measures, and the effects of aging.
3. Identify the terminology, etiology, signs and symptoms, common diagnostics, typical course and management of disorders, and preventive measures associated with genetic and developmental disorders, childhood diseases, and mental health disorders.
4. Recognize important medical terminology related to the understanding of human diseases.
5. State the drug classifications and examples of medications in each class used to treat diseases, disorders and conditions related to each body system.

HITP 2208. Medical Office Procedures
3 Credits (2+2P)
Introduction of current and efficient administrative medical office procedures. The emphasis will be on practical, current strategies for maintaining accurate, organized and compliant documentation.
Prerequisite: HLSC 1510.
Learning Outcomes

1. Identify key medical terminology as it relates to administrative medical office operations.
2. Explain the roles, responsibilities, and professional ethics of an administrative medical assistant in various healthcare setting.
3. Demonstrate effective communication skills with patients, families, proxies and healthcare professionals.
4. Apply accurate updated policy to scheduling techniques, office and records management, and billing procedures in a medical office environment.
5. Apply techniques for efficient patient, office, and administrative workflows to enhance medical office management.
6. Identify medical office technology applications that promote efficient administrative duties and accurate documentation.

HITP 2240. Health Information Quality Management
3 Credits (3)
Introduction to basic concepts of quality and performance improvement as they apply to health record systems and the health care industry. Introduction to quality assessment, requirements of licensing, accreditation, and fiscal considerations.
Learning Outcomes

1. Identify responsibilities in medical facilities to develop leadership skills for success.
2. Abstract data for facility-wide quality management performance improvement programs.
3. Identify techniques utilized by quality improvement organizations to evaluate and track medical treatments and services to improve the health information performance.
4. Demonstrate an understanding of healthcare compliance, patient consent, documentation, reporting, the creation of policies and procedures, and fundamentals of the Human Resource Department.
5. Explain the purpose and procedure of audits, regulatory agencies, marketing, and compliance in the health care setting.

HITP 2248. Medical Coding I
3 Credits (2+2P)
Comprehensive overview of the fundamentals, coding conventions, and principles of ICD-10-CM/PCS diagnostic and procedure codes.
Prerequisite: HITP 2228.
Learning Outcomes

1. Identify diagnoses, procedures, services while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate diagnostic codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.
5. Demonstrate proper medical record management techniques.

HITP 2258. Medical Coding II
3 Credits (2+2P)
Comprehensive overview of the fundamentals, coding conventions, and principles of CPT and HCPCS diagnostic and procedure codes.
Prerequisite: HITP 2248.
Learning Outcomes

1. Identify procedures and services in various healthcare settings while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate procedural codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.
5. Demonstrate proper medical record management techniques.

HITP 2268. Health Information Systems
3 Credits (3)

Overview of health data management, work planning, and organization principles; an introduction to health care information systems; and review of the fundamentals of information systems for managerial, clinical support, and information systems.

Learning Outcomes

1. Identify the role of health information management in the healthcare system.
2. Identify the ethical and legal challenges in health information management.
3. Describe health care data and information management systems used in healthcare organizations.
4. Maintain data security in accordance with all laws and regulations.
5. Evaluate compliance with regulatory requirements and reimbursement methodologies.
6. Explain the role of the health information technician (HIT) in systems planning and development.
7. Identify the different types of health service organizations and delivery systems.

HITP 2288. Medical Insurance Billing
3 Credits (2+2P)

Comprehensive overview of the insurance concepts and applications required for successfully and accurately completing and submitting insurance claims and reimbursement processes for various insurance carriers, both private and government, will be emphasized.

Prerequisite: HLSC 1510.

Learning Outcomes

1. Comprehend the ramifications of a breach of confidentiality regarding patient information.
2. Follow requirements of different insurance carriers—i.e., HMO's Independent Provider Organizations, Medicare, Medicaid, Workmen's Compensation—in processing patient claims.
3. Process insurance claim form an initial patient visit through receipt of payment from insurance carrier.
4. Match ICD-10 code to appropriate diagnosis.
5. Analyze patient records to construct the insurance claim form and apply the requirements of different insurance carriers to that claim.
6. Classify and explain the various reimbursement systems and how they impact billing.
7. Identify issues of fraud and abuse and follow ethical principles by reviewing inpatient and outpatient cases.

HITP 2996. Health Information Technology Topics
3 Credits (3)

Varies. May be repeated up to 6 credits.

Learning Outcomes

1. Varies.

HITP 2998. Health Information Technology Internship
3 Credits (3)

Varies.

Learning Outcomes

1. Varies.

HLSC 1510. Medical Terminology
3 Credits (3)

The study and understanding of medical terminology as it relates to diseases, their causes and effects, and the terminology used in various medical specialties. This course includes word construction, spelling, comprehension, pronunciation, application and abbreviations.

Learning Outcomes

1. Apply prefixes, suffixes, and combining forms to build medical terms.
2. Identify terms for body regions, planes, cavities and membranes.
3. Select medical terminology names, locations and functions of the major organs of the body systems.
4. Identify the medical terms associated with major disease processes and procedures.
5. Demonstrate correct medical linguistic skills.

HLSC 1515. Advanced Medical Terminology
3 Credits (3)

Builds upon the concepts covered in (abbreviation numbering for Medical Terminology) providing greater understanding of how to properly use and apply medical terminology used in the various health fields. Medical terminology associated with the body system's anatomy and physiology, diagnostic and therapeutic procedures, pharmacology, and abbreviations will be emphasized.

Prerequisite: HLSC 1510.

Learning Outcomes

1. State the derivation of most healthcare terms.
2. Build medical terms to their accurate plural form.
3. Identify appropriate terms to the associated organization, position, and direction of the body.
4. Identify appropriate terms to the associated organ systems of the body.

HLSC 1520. Anatomy and Physiology for Health Careers
4 Credits (3+3P)

This introductory course explores the fundamental principles of human anatomy and physiology. Providing a foundation in essential concepts of the function and structure of the human body for those interested in health careers. May be repeated up to 4 credits.

Learning Outcomes

1. Describe the structural organization of the human body.
2. Identify the major body systems and their key functions.
3. Use anatomical terminology to describe body planes, directions, regions, and cavities.
4. Identify the major organs within each body system and their anatomical locations.
5. Explain how the structure and function of the human body change across the lifespan.
6. Identify common pathologies, signs, symptoms, etiology, diagnostic measures, and treatment modalities related to each body system.

HLSC 1530. Pathophysiology for Health Sciences
3 Credits (3)

Introduction to the nature of disease and its effect on body systems. Disease processes affecting the human body via an integrated approach to specific disease entities will be presented including a review of normal functions of the appropriate body systems. Diseases will be studied in relation to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.

Learning Outcomes

1. Describe basic disease concepts, including mechanisms of disease, neoplasms, inflammation, and infection.
2. Examine the basic anatomy and physiology of the body systems, etiology of various diseases and conditions, important signs and symptoms of disorders, common diagnostics, typical course and

management of disorders, preventive measures, and the effects of aging.

3. Identify the terminology, etiology, signs and symptoms, common diagnostics, typical course and management of disorders, and preventive measures associated with genetic and developmental disorders, childhood diseases, and mental health disorders.
4. Recognize important medical terminology related to the understanding of human diseases.
5. State the drug classifications and examples of medications in each class used to treat diseases, disorders and conditions related to each body system.

HLSC 1540. Legal and Ethical Issues in Health Care
3 Credits (3)
This course examines the legal and ethical considerations inherent in healthcare delivery. Students will analyze real-world case studies to understand the impact of professional actions on patients, families, and employers, while exploring the legal and ethical responsibilities of healthcare professionals, researchers, and policymakers.

Learning Outcomes

1. Analyze and apply ethical principles and legal frameworks to complex healthcare scenarios, including those related to patient rights, professional liability, and emerging bioethical issues.
2. Describe and evaluate the structure and function of the U.S. legal system as it pertains to healthcare professionals, including key legal terms, doctrines, and workplace regulations.
3. Discuss and address contemporary issues in healthcare, such as patient confidentiality, record keeping in the digital age, and the national healthcare crisis, within an ethical and legal context.
4. Explain the significance of integrating scientific knowledge, clinical expertise, and professional conduct in healthcare practice, and analyze how societal values and public law shape healthcare decision-making.
5. Apply theories and methods of ethical decision-making to resolve dilemmas encountered in healthcare practice, including understanding the interplay of public and private law.

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Health Information Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(67-68 credits)

NOTE: Students must earn a final grade of C- or better in all required BCIS, HITP, and HLSC courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 67 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV, and V; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (Recommended, any Area II accepted.) [3, 4]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics [3]	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy [3]	
or PHIL 2110G	Introduction to Ethics	
General Education Elective [2]		*3-4*
Core Requirements		
BUSA 1180	Business Mathematics	3
BUSA 2230G	Human Relations in Business	3
Related/Professional Requirements (21 credits)		
HITP 1110	Electronic Health Records	3
HITP 2240	Health Information Quality Management	3
HITP 2268	Health Information Systems	3
HITP 2998	Health Information Technology Internship	3
or OTEC 2998	Internship I	
BCIS 1750	Microsoft Outlook and Office Procedures	3
BUSA 2175	Personal Development	3
Major Requirements (27 credits)		
Technical Requirements		
HITP 1120	Health Information Introduction to Pharmacology	3
HITP 1140	Health Information Introduction to Pathophysiology	3
HITP 2208	Medical Office Procedures	3
HITP 2288	Medical Insurance Billing	3
HITP 2248	Medical Coding I	3
HITP 2258	Medical Coding II	3
HLSC 1510	Medical Terminology	3
HLSC 1520	Anatomy and Physiology for Health Careers	0-4
HLSC 1540	Legal and Ethical Issues in Health Care	3
Total Credits		**64-69**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. MATH 1130G Survey of Mathematics is required for the degree but students may need to take any prerequisites needed to enter MATH 1130G first.

[5] HITP 2998 Health Information Technology Internship/OTEC 2998 Internship I are restricted to majors.

(67-68 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required BCIS, HITP, and HLSC courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 67 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FALL		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
BUSA 1180	Business Mathematics	3
HLSC 1510	Medical Terminology	3
HITP 2208	Medical Office Procedures	3
BUSA 2175	Personal Development	3
	Credits	**16**
Semester 2		
SPRING		
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics (Recommended, any Area II accepted.)	
HITP 2288	Medical Insurance Billing	3
HLSC 1520	Anatomy and Physiology for Health Careers	0-4
HLSC 1540	Legal and Ethical Issues in Health Care	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
	Credits	**12-16**
Semester 3		
SUMMER		
General Education Elective - See NM General Education Requirements section of NMSU/DACC Catalog.		3-4
HITP 1110	Electronic Health Records	3
	Credits	**6-7**
Semester 4		
FALL		
Area IV: Social/Behavioral Science		3
ECON 1110G	Survey of Economics	
Area V: Humanities		3
PHIL 1115G	Introduction to Philosophy	
BUSA 2230G	Human Relations in Business	3
HITP 1140	Health Information Introduction to Pathophysiology	3
HITP 2248	Medical Coding I	3
	Credits	**15**
Semester 5		
SPRING		
HITP 1120	Health Information Introduction to Pharmacology	3
HITP 2240	Health Information Quality Management	3
HITP 2258	Medical Coding II	3
HITP 2268	Health Information Systems	3
HITP 2998 or OTEC 2998	Health Information Technology Internship or Internship I	3
	Credits	**15**
	Total Credits	**64-69**

Health Information Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(31 credits)

NOTE: Students who lack prior health and/or general office experience may need to take course-related prerequisites.

NOTE: Students must earn a final grade of C- or better in all required HITP, BUSA and HLSC courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Core Requirements (7 Credits)		
BUSA 1180	Business Mathematics	3
ENGL 1110G	Composition I [1]	4
Related Requirements (9 credits)		
HITP 1110	Electronic Health Records	3
HLSC 1540	Legal and Ethical Issues in Health Care	3
BUSA 2175	Personal Development	3
Technical Requirements (15 credits)		
HITP 1140	Health Information Introduction to Pathophysiology	3
HITP 2208	Medical Office Procedures	3
HLSC 1510	Medical Terminology	3
HLSC 1520	Anatomy and Physiology for Health Careers	0-4
HITP 2288	Medical Insurance Billing	3
Total Credits		**28-32**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(31 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to

create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required HITP, BUSA, and HLSC and courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 31 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
BUSA 1180	Business Mathematics	3
HLSC 1510	Medical Terminology	3
HLSC 1520	Anatomy and Physiology for Health Careers	0-4
BUSA 2175	Personal Development	3
	Credits	**13-17**
Semester 2		
HLSC 1540	Legal and Ethical Issues in Health Care	3
HITP 1110	Electronic Health Records	3
HITP 1140	Health Information Introduction to Pathophysiology	3
HITP 2208	Medical Office Procedures	3
HITP 2288	Medical Insurance Billing	3
	Credits	**15**
	Total Credits	**28-32**

Heating, Ventilation, Air Conditioning and Refrigeration

Associate of Applied Science Degree

Certificates of Completion

- HVAC/R

The climate in New Mexico creates a demand for skilled technicians in both heating and cooling because people prefer to live and work in comfort. Every new home, hospital, university building, shopping mall, or office complex requires installation mechanics, service technicians, operating engineers, maintenance foremen, and trained crews to keep complex environmental systems operating efficiently.

The heating, air conditioning, and refrigeration industry is one of the country's most stable. The supply of qualified, trained people has not kept pace with the demand, and new opportunities are constantly developing. The demand for trained HVAC/R graduates is also increasing due to Environmental Protection Agency requirements that refrigerants be handled by a certified technician.

Technicians knowledgeable in heating, air conditioning, and refrigeration are also needed in defense, space exploration, and manufacturing. Because climate control is important wherever microprocessors are used in manufacturing or scientific research, skilled technicians are in demand in these fields. Many experienced technicians own and manage their own businesses.

The Heating, Ventilation, Air Conditioning and Refrigeration program at DACC uses training facilities equipped with the most modern test equipment and tools available. As a student, you will learn to—

- service, repair, and maintain heating, air conditioning, and refrigeration systems;
- read and interpret technical drawings, schematics, and symbols to diagnose and troubleshoot problems in a system;
- evaluate, diagnose, and service various mechanical and electrical controls;
- apply the mathematics related to the heating, air conditioning, and refrigeration trade;
- handle customer relations, shop management procedures, and record keeping relative to the trade;
- properly use special tools and testing equipment; and
- become certified in Section 608, EPA Certification.

Students will complete a one-credit Job Shadowing course during their first semester that will allow the student the opportunity to see firsthand the daily activities of a HVAC technician. A unique practicum training program is offered during the final semester to provide students with field experiences. Working side by side with journeymen technicians, students are offered an opportunity to practice and refine their new skills.

After the first semester, full-time heating, air conditioning, and refrigeration students must purchase a personal set of technician's tools (approximate cost, which may vary, $1300). The tool set includes the basic tools that most employers require on the job. Part-time students will purchase only those tools required by the specific course(s) in which they are enrolled. Students must also purchase an iPad at the approximate cost of $400 that will be used to access course materials and document completion of course competencies.

Students will also provide their own medical/accident insurance. They need to be in good physical condition and possess the ability and desire to work with their minds and hands.

The curriculum is competency and performance based and uses multimedia classroom instruction and hands-on laboratory exercises. Classroom and laboratory hours are listed in the Schedule of Classes.

All heating, air conditioning, and refrigeration students are eligible to join SkillsUSA. Membership provides students an opportunity to develop their leadership skills and to become proficient in public speaking and parliamentary procedure. SkillsUSA also offers students a chance to demonstrate their occupational skills. Skill competitions are conducted each year in New Mexico for all post-secondary students.

Whether taking classes or working on a job site, students enrolled in this program will be required to perform the same job duties and be able to meet the same physical requirements that they will as a graduate in the field. Depending where they find employment, graduates may be required to

- work in inclement weather,
- lift up to 50 pounds from the ground,
- have good eye-hand coordination,
- work safely around electrical hazards using the appropriate safety equipment,
- work safely using hand and power tools,

- ascend and descend stairs and ladders, and
- stand, squat, stoop, or kneel for long periods of time.

Licensure for journeyman gas fitters, journeyman refrigeration workers, and journeyman sheet metal workers require both a written and practical exam. Not all licensing agencies provide special testing accommodations.

NOTE: Students must earn a final grade of C- or better in all required HVAC courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Heating, Ventilation, Air Conditioning and Refrigeration - Associate of Applied Science (p. 363)

HVAC/R - Certificate of Completion (p. 364)

Residential HVAC - Certificate of Completion (p. 365)

HVAC 1105. Introduction to Fundamentals of Refrigeration
4 Credits (3+2P)
Demonstrate the ability to perform HVAC/R Technician duties in a safe manner. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems. Professionally communicate in oral and written forms. Demonstrate the use of current industry techniques including tools, testing equipment, manufacturers' apps. Determine the appropriate ethical action that should occur in a given circumstance. Work effectively in a team-based environment. Possess a mastery of the refrigeration cycle and its components.
Learning Outcomes
1. Demonstrate working knowledge of heat theory, safety, and temperature/pressure/volume gas laws as they relate to the refrigeration cycle.
2. Identify and demonstrate heat transfer by conduction, convection, and radiation and describe their effects on temperature change using latent and sensible heat transfer.
3. Safely demonstrate the refrigeration process using system components such as compressors, condensers, evaporators, metering (expansion) devices and accessories.
4. Demonstrate a knowledge of industry standards for system installation of equipment and tubing and safely demonstrate tubing operations including cutting, reaming, flaring, swaging, and brazing.

HVAC 1110. Introduction to Fundamentals of Electricity
4 Credits (3+2P)
Introduces the student to electrical theory, generation and distribution, OHM's Law, series and parallel circuits, A/C / D/C, practical applications and electrical safety.
Learning Outcomes
1. Demonstrate the use of industry practices: safety, use of lockout/tagout, diagnosing , repairing, and installing electrical components in HVAC/R equipment and systems; use of test instruments both digital and analog, comprehension of wiring diagrams, proper use of tools specific to the industry, mastery of electrical theory and circuits, single-phase and three-phase applications; use of symbols and terminology, and the ability to communicate professionally in oral and written forms.

HVAC 1111. EPA Clean Air Act: Section 608
1 Credit (1)
Refrigerant certification preparation to include basics of refrigerant bearing equipment, ozone depletion and the new legislation, technician categories covered and the certification examination.
Learning Outcomes
1. Use oral communication effectively, use written communication effectively.
2. Accurately perform calculations related to refrigeration.
3. Accurately perform calculations related to refrigeration.
4. Accurately perform calculations related to air conditioning.
5. Accurately perform conversions between various units.

HVAC 1125. Electrical and Mechanical Controls I
4 Credits (3+2P)
Applications of basic electrical and mechanical controls. Reading and drawing diagrams of simple refrigerating equipment. Safe use of testing equipment.
Prerequisite: HVAC 1105 and HVAC 1110, or consent of instructor.
Learning Outcomes
1. Use oral communication and written communication effectively.
2. Determine the appropriate ethical action that should occur in a given circumstance.
3. Perform technician duties safely.
4. Service refrigeration systems, repair refrigeration systems, maintain refrigeration systems.
5. Accurately perform calculations related to refrigeration.
6. Work effectively as a team.
7. Troubleshoot refrigeration systems.
8. Accurately perform conversions between various units.

HVAC 1233. Professional Development and Leadership
1 Credit (1)
As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. Students competing in Skills USA are required to register for the course. May be repeated up to 6 credits.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.

HVAC 1238. Introduction to Sheet Metal Fabrication
4 Credits (3+2P)
Introduction to sheet metal fabrication to include hands-on practical laboratory applications, cutting and forming procedures, identifying types and gauges. Design and layout techniques.
Prerequisite: OETS 118 or equivalent math or consent of instructor.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.
3. Demonstrate sheet metal design and layout techniques to fabricate ducting and associated fittings accurately.
4. Determine the appropriate ethical action that should occur in a given circumstance.
5. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.

HVAC 1243. Residential Air Conditioning Systems
4 Credits (3+2P)
Applications and types of equipment used in comfort cooling. Preventive maintenance, service, and repairs common to evaporative coolers and refrigerated air conditioning systems. Air properties and psychometrics. May be repeated up to 4 credits.
Prerequisite: C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Use oral and written communication effectively.
2. Work effectively as a team.
3. Determine the appropriate ethical action that should occur in a given circumstance.
4. Troubleshoot heating systems accurately perform conversions between various units, accurately perform calculations related to heating systems.

HVAC 1245. Gas Heating Furnaces
4 Credits (3+2P)
The study and application of gas furnaces including installation, operation, service, maintenance and controls. The students will learn about natural gas, and electric heating systems used for residential and/or light commercial heating systems including furnace and boiler package systems and alternative heating sources. Highlights electrical and electronic trouble shooting, service, maintenance, repair and replacement of residential and light commercial heating systems. The course will include service, maintenance and troubleshooting.
Prerequisite: C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Identify the components and describe the sequence of operation of gas furnaces.
2. Use proper procedures to troubleshoot gas furnaces.
3. Describe and demonstrate proper procedures for conducting service calls and delivering customer service.
4. Demonstrate the use of proper procedures for preventative maintenance of gas furnaces.
5. Describe how gas pressure is measured, what unit of measurement is used and what is the purpose of a water manometer, gas combustion, four means of proof flame, why there is a fan-on and fan-off delay, flue gas venting systems, gas piping adjacent to the gas valve, calculate the correct orifice size, derate sea level input for altitude, calculate the correct gas pipe sizing for a one-story building with several gas appliances.

HVAC 1250. Heat Pump Systems
4 Credits (3+2P)
The student will acquire the knowledge to identify heat pump components, explain the sequence of operation, and develop troubleshooting skills for both mechanical and electrical issues associated with reverse cycle refrigeration systems used in comfort heating and cooling, a while utilizing the proper tools and equipment.
Prerequisite: C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose HVAC/R systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of HVAC/R equipment and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of HVAC/R equipment and systems.
7. Determine the appropriate ethical action that should occur in each circumstance.

HVAC 1410. Commercial Refrigeration Systems
4 Credits (3+2P)
This course covers the installation, service, and maintenance of a wide range of refrigeration equipment, including reach-in and walk-in coolers, ice machines, ice cream machines, as well as mechanical and electrical troubleshooting of refrigeration systems. Encompassing the service and maintenance of commercial refrigeration equipment, which involves procedures for evacuation and charging, understanding electrical diagrams, and handling compressors and related accessories.
Prerequisite: Grade of C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Read and interpret model numbers, nomenclature, and component capacities.
2. Use industry techniques and equipment for diagnosing and repairing HVAC/R systems.
3. Perform service and maintenance on HVAC/R equipment and systems.
4. Determine ethical actions in given circumstances.
5. Demonstrate safe HVAC/R Technician duties.
6. Work effectively in a team-based environment.
7. Accurately perform HVAC/R calculations and interpret results.
8. Communicate professionally, both orally and in writing.
9. Perform leak checks, repairs, recovery, evacuation, and recharging of refrigeration systems. 1
10. Identify components and troubleshoot parallel refrigeration systems. 1
11. Start up, troubleshoot, and explain Lab Systems.1
12. Address various refrigeration accessories. 1
13. Assemble, pipe, pressure test, and operate systems. 1
14. Troubleshoot refrigeration defrost timer systems. 1
15. Calculate heat gain and specify refrigeration systems. 1
16. Understand the use of water and brines as secondary refrigerants. 1
17. Diagnose and repair refrigerant side problems. 1
18. Set controls for temperature regulation. 1
19. Locate information in reference sources. 2
20. Evaluate system performance using data. 2
21. Size and assemble refrigeration systems to meet customer needs. 2
22. Handle refrigerant, including recovery, recycling, and reclamation. 2
23. Identify and troubleshoot various safety controls. 2
24. Troubleshoot line voltage thermostats and compressor contactors. 2
25. Diagnose and repair air side problems. 2
26. Troubleshoot electrical problems using schematics. 2
27. Use pressure/enthalpy charts and understand the refrigeration cycle.

HVAC 2098. Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience
1 Credit (1)
The course will provide students with actual hands-on exposure to HVAC/R fieldwork, offering insights into the expectations of field technicians

as they shadow experienced HVAC/R professionals. Students will gain practical experience through supervised training at an approved Heating, Ventilation, Air Conditioning, and Refrigeration workplace.

Learning Outcomes

1. Effectively utilize verbal and written communication, collaborate efficiently within a team, diagnose issues in refrigeration systems, precisely execute unit conversions, accurately conduct refrigeration-related calculations, identify the ethical course of action in specific situations, safely execute technician responsibilities, provide maintenance for refrigeration systems, conduct repairs on refrigeration systems, and service refrigeration systems.

HVAC 2210. Commercial Air Conditioning and Heating Systems
4 Credits (3+3P)
Covers troubleshooting mechanical and electrical problems associated with HVAC equipment in commercial buildings. Includes gas, electric, and heat pump systems.
Prerequisite: Grade of C- or better in HVAC 1105 & HVAC 1110.
Learning Outcomes

1. Professionally communicate in oral and written forms.
2. Determine the appropriate ethical action that should occur in a given circumstance.
3. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.
4. Demonstrate the use of current industry techniques and equipment in the installation of HVAC/R equipment and systems.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of HVAC/R equipment and systems.
6. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
7. Demonstrate the use of current industry techniques and equipment to diagnose HVAC/R systems and perform appropriate repairs.
8. Work effectively in a team-based environment.

HVAC 2990. Practicum
3 Credits (3)
Working in the field with journeymen service technicians. Develop and apply job skills.
Prerequisite: HVAC 2098.
Learning Outcomes

1. Varies.

HVAC 2996. Special Topics
1-6 Credits
Topics to be announced in the Schedule of Classes. May be repeated up to 12 credits.
Learning Outcomes

1. Varies.

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Website: https://dacc.nmsu.edu/academics/programs/heating-ventilation-and-air-control/index.html (https://dacc.nmsu.edu/academics/programs/heating-ventilation-and-air-control/)

Heating, Ventilation, Air Conditioning and Refrigeration - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-61 credits)

NOTE: Students must earn a final grade of C- or better in all required HVAC courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires a course from Area I; students must select three courses from the remaining areas to complete General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area III: Laboratory Sciences [2,3]		
Area IV: Social and Behavioral Sciences [2,3]		
Area V: Humanities [2,3]		
Area VI: Creative and Fine Arts [2,3]		
General Education Elective		
COMM 1115G	Introduction to Communication [3]	3
Or other approved New Mexico General Education Area I course listed in Oral Communication in the current DACC/NMSU Catalog		
Core Requirements		
Choose one of the following:		
OETS 118	Mathematics for Technicians	3
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
Major Requirements		
Technical Requirements		
HVAC 1111	EPA Clean Air Act: Section 608 [4]	1

HVAC 1105	Introduction to Fundamentals of Refrigeration	4
HVAC 1110	Introduction to Fundamentals of Electricity	4
HVAC 1125	Electrical and Mechanical Controls I	4
HVAC 2098	Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience	1
HVAC 1410	Commercial Refrigeration Systems	4
HVAC 1243	Residential Air Conditioning Systems	4
HVAC 1245	Gas Heating Furnaces	4
HVAC 2210	Commercial Air Conditioning and Heating Systems	4
HVAC 1250	Heat Pump Systems	4
HVAC 2990	Practicum	3
Electives, to bring the total credits to 60-61		
Approved Technical Elective (AUTO, WELD, HVAC, CNST, BMGT, BUSA, BCIS 1110, ELT)		3-4
Total Credits		**60-61**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.
2 See the General Education (p. 56) section of the catalog for a full list of courses.
3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4 A fee of $55 is required for study guide and testing; must pass Type 1 and Type 2 tests.

(60-61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all HVAC courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
HVAC 1111	EPA Clean Air Act: Section 608	1
HVAC 1105	Introduction to Fundamentals of Refrigeration	4
HVAC 1110	Introduction to Fundamentals of Electricity	4
HVAC 2098	Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience	1
	Credits	**14**
Semester 2		
HVAC 1250	Heat Pump Systems	4
HVAC 1243	Residential Air Conditioning Systems	4
HVAC 2210	Commercial Air Conditioning and Heating Systems	4
OETS 118	Mathematics for Technicians	3
	Credits	**15**
Semester 3		
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.n Areas III, IV, V, and VI.		3-4
HVAC 1125	Electrical and Mechanical Controls I	4
HVAC 1410	Commercial Refrigeration Systems	4
HVAC 1245	Gas Heating Furnaces	4
	Credits	**16**
Semester 4		
General Education Elective - Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
Select two courses from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.n Areas III, IV, V, and VI.		6
HVAC 2990	Practicum	3
Approved Technical Elective (AUTO, WELD, HVAC, BMGT, BUSA, BCIS 1110, CNST, ELT)		3-4
	Credits	**15-16**
	Total Credits	**60-61**

HVAC/R - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(44-45 credits)

The following curriculum is designed for students who choose the certificate option in HVAC/R. The certificate program requires approximately a year and a half to complete.

NOTE: Students must receive a final grade of C- or better in all required HVAC courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 44 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
OETS 103	Technical Career Skills	4
or ENGL 1110G	Composition I	
Choose one of the following:		3-4
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
Technical Requirements		
HVAC 1111	EPA Clean Air Act: Section 608 [1]	1
HVAC 1105	Introduction to Fundamentals of Refrigeration	4
HVAC 1110	Introduction to Fundamentals of Electricity	4
HVAC 1125	Electrical and Mechanical Controls I	4
HVAC 2098	Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience	1

HVAC 1410	Commercial Refrigeration Systems	4
HVAC 1243	Residential Air Conditioning Systems	4
HVAC 1245	Gas Heating Furnaces	4
HVAC 2210	Commercial Air Conditioning and Heating Systems	4
HVAC 1250	Heat Pump Systems	4
HVAC 2990	Practicum	3
Total Credits		**44-45**

[1] A fee of $55 is required for study guide and testing; must pass Type 1 and Type 2 tests.

(44-45 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required HVAC courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 44 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
HVAC 1111	EPA Clean Air Act: Section 608	1
HVAC 1105	Introduction to Fundamentals of Refrigeration	4
HVAC 1110	Introduction to Fundamentals of Electricity	4
Choose one from the following:		3-4
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
	Credits	**12-13**
Semester 2		
HVAC 2098	Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience	1
HVAC 1243	Residential Air Conditioning Systems	4
HVAC 2210	Commercial Air Conditioning and Heating Systems	4
HVAC 1250	Heat Pump Systems	4
	Credits	**13**
Semester 3		
HVAC 1125	Electrical and Mechanical Controls I	4
HVAC 1410	Commercial Refrigeration Systems	4
HVAC 1245	Gas Heating Furnaces	4
ENGL 1110G or OETS 103	Composition I or Technical Career Skills	4
	Credits	**16**
Semester 4		
HVAC 2990	Practicum	3
	Credits	**3**
	Total Credits	**44-45**

[1] While OETS 103 Technical Career Skills meets program requirements, it does not meet the NM General Education Area I: Communications - English Composition Level 1 requirements.

Residential HVAC - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(32-33 credits)

The following curriculum, which requires approximately one year to complete, is designed to prepare a student to install, service, and maintain residential heating and air conditioning systems.

NOTE: Students must earn a final grade of C- or better in all required HVAC courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements to total at least 32 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
Related Requirements		
OETS 103 or ENGL 1110G	Technical Career Skills Composition I	4
Choose one of the following:		3-4
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit course))	
Technical Requirements		
HVAC 1111	EPA Clean Air Act: Section 608 [2]	1
HVAC 1105	Introduction to Fundamentals of Refrigeration	4
HVAC 1110	Introduction to Fundamentals of Electricity	4
HVAC 2098	Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience	1
HVAC 1243	Residential Air Conditioning Systems	4
HVAC 1245	Gas Heating Furnaces	4
HVAC 2990	Practicum	3
HVAC 1238	Introduction to Sheet Metal Fabrication	4
Total Credits		**32-33**

[2] A fee of $55 is required for study guide and testing; must pass Type 1 and Type 2 tests.

(32-33 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students much achieve a cumulative grade-point average of 2.0, a final grade of C- or better in ENGL 1110G Composition I, and a C- or better in all required courses.

Students must complete all University certificate requirements to total at least 32 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Choose one from the following:		3-4
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
HVAC 1111	EPA Clean Air Act: Section 608	1
HVAC 1105	Introduction to Fundamentals of Refrigeration	4
HVAC 1110	Introduction to Fundamentals of Electricity	4
	Credits	**12-13**
Semester 2		
HVAC 2098	Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience	1
HVAC 1243	Residential Air Conditioning Systems	4
HVAC 1238	Introduction to Sheet Metal Fabrication	4
ENGL 1110G or OETS 103	Composition I or Technical Career Skills	4
	Credits	**13**
Semester 3		
HVAC 1245	Gas Heating Furnaces	4
HVAC 2990	Practicum	3
	Credits	**7**
	Total Credits	**32-33**

[1] While OETS 103 Technical Career Skills meets program requirements, it does not meet NM General Education Area I: Communications - English Composition Level 1 requirements.

Hospitality and Tourism

Associate of Applied Science Degree

- Food and Beverage Concentration
- Lodging and Tourism Concentration

Hospitality and tourism is one of the fastest growing industries in the U.S. and in New Mexico it is the largest employment sector. The industry is highly promoted in Las Cruces, as well as throughout the state.

One reason the hospitality industry has such broad appeal is because there are so many different types of positions available in such a large variety of settings. Graduates may work in—

- front-office operations and reservations
- sales and promotion
- food and beverage operations
- culinary arts, banquets, and catering
- travel and tours
- finance and accounting

in such settings as—

- resorts
- cruise lines
- hotels and motels
- convention facilities
- restaurants

The Hospitality and Tourism associate of applied science degree has two options:

- Food and Beverage, and
- Lodging and Tourism.

Training is offered in supervision, communication, marketing, finance, and operations, as well as in subject matter specific to the option chosen. Through classroom work, volunteering at industry-sponsored events, culinary laboratory experience, and on-site training, students acquire the skills needed to succeed in the hospitality-services industry.

This program is designed for people who are entering the hospitality and tourism field, as well as for those who are already employed in the industry and who want to upgrade their professional skills.

The majority of the credits earned in the DACC Hospitality and Tourism program may be applied toward a bachelor's degree in Hospitality, Restaurant and Tourism Management at NMSU.

Hospitality and Tourism - Associate of Applied Science (p. 371)

Hospitality and Tourism (Food & Beverage) - Associate of Applied Science (p. 372)

Hospitality and Tourism (Lodging & Tourism) - Associate of Applied Science (p. 373)

HOST 155. Special Topics
1-3 Credits (1-3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 9 credits.
Learning Outcomes
1. Varies.

HOST 201. Introduction to Hospitality Industry
3 Credits (3)
Overview of hospitality industry; organization and operation of lodging, food and beverage, and travel and tourism segments; focus on career opportunities and future trends of hospitality industry. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze the interrelationship between lodging, food beverage operations, and the travel and tourism industry.

2. Evaluate the scope of the travel and tourism industry and assess its economic impact at the local, national, and international levels.
3. Investigate and propose opportunities for education, training, and career development in the hospitality industry.
4. Analyze the effects of globalization on the hospitality industry and predict future trends.
5. Critically examine and discuss major factors, developments, and trends that have affected lodging and food service operations in recent years and anticipate their future impact on the industry.
6. Analyze the effects of franchising, management contracts, referral organizations, independent and chain ownership, and condominium growth on the industry, and develop a comparative analysis of their implications.
7. Classify hotels based on their general characteristics and evaluate the distinctive features of each classification.
8. Identify and describe the common divisions or functional areas of hotel organization (rooms, food beverage, engineering, marketing and sales, accounting, human resources, and security), and analyze the interdependence and collaboration among these divisions in achieving organizational goals.

HOST 202. Front Office Operations
3 Credits (3)
Hotel/motel front office procedures detailing flow of business, beginning with reservations and extending to the night audit process. Restricted to: Community College campuses only.

Learning Outcomes

1. Analyze and differentiate the responsibilities for each job description in the front office.
2. Evaluate the significance of important factors in the day-to-day operation of the front office and propose strategies for optimal performance.
3. Explain front office technology and assess its impact on operational efficiency and guest satisfaction.
4. Develop and implement operational procedures/tasks that are critical to the registration process.
5. Demonstrate effective techniques for handling guest complaints and create a set of best practices for complaint resolution.
6. Analyze the key points regarding front office security functions and develop a comprehensive security plan.
7. Define and explain key terms in front office accounting and apply them to real-world scenarios.
8. Analyze the functions and tasks involved in the night audit processes and develop a step-by-step guide for conducting a successful night audit.

HOST 203. Hospitality Operations Cost Control
3 Credits (3)
Management of Food & Beverage facilities using cost control techniques. Functional training in menu analysis and development with all phases of product flow through a Food & Beverage organization explored. Restricted to: Community Colleges only.

Learning Outcomes

1. Explain the concept of "control" and analyze its importance in the management system.
2. Analyze the purposes and applications of standard costs and evaluate the uses of standard cost tools.
3. Evaluate the role of budget standards in planning and control and create cost-volume-profit analysis models for food and beverage operations.
4. Analyze and compare methods for estimating allowable food and beverage costs based on forecasted sales levels.
5. Evaluate subjective and objective menu pricing methods and create menu prices that incorporate profit requirements.
6. Apply principles and procedures important in controlling the purchasing and receiving processes and analyze the need to incorporate quality requirements in purchasing and receiving activities.
7. Analyze sales history records and time series data to create accurate production forecasts.
8. Evaluate the importance of standard recipes (including computerized standard recipes) as production tools and create a plan for incorporating production planning time.
9. Apply the basic formula for calculating cost of sales and analyze sources of information for each component of the formula. 1
10. Analyze the role of analysis, corrective action, and evaluation in the control process, and create a plan for implementing these steps effectively.

HOST 204. Promotion of Hospitality Services
3 Credits (3)
Organization of hotel marketing functions; developing a marketing plan to sell the varied services of the hotel/motel property. Restricted to: Community College campuses only.

Learning Outcomes

1. Analyze the distinctive aspects of marketing within service industries in relation to the intangibility of services, service encounters, service chains, and service quality.
2. Create an appropriate marketing mix to meet guest needs and achieve company goals.
3. Evaluate several methods of segmenting and targeting markets and apply market segmentation criteria effectively.
4. Analyze the kinds of marketing data needed for effective marketing efforts, apply the marketing research process to solve marketing problems, and create marketing information, systems that meet a hospitality company's real marketing needs.
5. Design a product/service mix (or product offer) that meets guest and company needs.
6. Develop and implement a distribution mix of hospitality networks to deliver hospitality products and services effectively and efficiently.
7. Evaluate and apply pricing mix strategies and tactics as an active and critical component of the overall marketing plan.
8. Analyze the components and interrelationships of the communications mix.
9. Evaluate and apply advertising, public relations, personal selling, merchandising, and promotion to better achieve company goals and objectives.

HOST 205. Housekeeping, Maintenance, and Security
3 Credits (3)
Function of housekeeping departments, including personnel, sanitation, maintenance, and materials. A survey of security procedures to include guest protection and internal security of hotel/motel assets. Restricted to: Community College campuses only.

Learning Outcomes

1. Analyze and differentiate various positions and job descriptions within the housekeeping, maintenance, and security departments.
2. Apply and evaluate various scheduling methods to optimize departmental efficiency.
3. Evaluate the role of the Maintenance department in the success of the operation and propose strategies for effective collaboration with other departments.
4. Identify and classify various types of floor, wall, and ceiling coverings and develop a comprehensive care and maintenance plan for each type.
5. Analyze the sanitation responsibilities of the Housekeeping department and develop a detailed sanitation protocol.
6. Evaluate the importance of an effective security program and design a comprehensive security plan for a hospitality establishment.
7. Investigate and recommend innovative technologies and practices that can enhance the efficiency and effectiveness of housekeeping, maintenance, and security operations.
8. Develop and implement training programs for housekeeping, maintenance, and security staff to ensure consistent quality and adherence to industry standards.
9. Analyze the impact of sustainable practices in housekeeping, maintenance, and security operations and develop a sustainability plan for these departments. 1
10. Evaluate the role of effective communication and collaboration among housekeeping, maintenance, security, and other departments in ensuring guest satisfaction and operational success.

HOST 206. Travel and Tourism Operations
3 Credits (3)
Transportation, wholesale and retail operations, attractions, the traveler, tourism development, and operational characteristics of tourism business. Restricted to: Community College campuses only.

Learning Outcomes

1. Analyze the economic importance of travel and its impact on local, national, and global economies.
2. Evaluate the historical evolution of travel and its influence on contemporary tourism practices.
3. Identify and explain the roles of various travel and tourism organizations in promoting and regulating the industry.
4. Compare and contrast various modes of transportation, assessing their strengths, weaknesses, and suitability for different types of travel.
5. Investigate and categorize barriers to tourism, proposing strategies to mitigate their impact on the industry.
6. Develop a comprehensive understanding of the global tourism landscape, including popular destinations, emerging markets, and niche travel segments.
7. Analyze the social, cultural, and environmental impacts of tourism on host communities and propose sustainable tourism practices.
8. Evaluate the role of technology in shaping the travel and tourism industry, including its influence on booking systems, customer experiences, and destination marketing.
9. Create a hypothetical travel itinerary that showcases an understanding of transportation logistics, destination management, and customer preferences. 1
10. Assess the importance of customer service in the travel and tourism industry and develop strategies for delivering exceptional experiences to travelers.

HOST 208. Hospitality Supervision
3 Credits (3)
Strategies for directing, leading, managing change and resolving conflict. Prepares students to meet expectations of management, guests, employees, and governmental agencies. Restricted to: Community College campuses only.

Learning Outcomes

1. Apply the management process to business activities, analyzing its effectiveness in achieving organizational goals.
2. Evaluate the importance of the communication process in relation to productivity and morale and develop strategies for effective communication within the organization.
3. Analyze and select appropriate recruitment channels and apply interviewing and screening skills to identify and hire the most qualified employment candidates.
4. Develop and implement effective orientation and training programs to prepare employees for their roles and responsibilities.
5. Integrate standard operating procedures into performance evaluation processes and utilize coaching and ongoing training techniques to support employee development.
6. Evaluate and apply motivational tools to maximize productivity levels while implementing labor cost reduction strategies.
7. Analyze special management concerns, including EEO policy, sexual harassment, safety and security, ethics, substance abuse, and unions, and develop policies and procedures to address these issues effectively.
8. Apply conflict management, communication, and motivational skills to build and lead effective work teams.
9. Evaluate professional development needs and future trends and create strategies for managing change within the organization. 1
10. Design and implement a performance management system that aligns with organizational objectives, incorporates employee feedback, and supports continuous improvement.

HOST 210. Catering and Banquet Operations
3 Credits (3)
Teaches the basics of catering and banquet operations, including computer coordination, planning, set up, service, and completion.

Learning Outcomes

1. Identify and analyze the types of caterers and customer markets, evaluating their unique characteristics and needs.
2. Evaluate and apply various marketing methods used in catering to effectively reach target audiences and promote catering services.
3. Analyze the process of client negotiation and problem resolution and develop strategies for effective communication and conflict management in catering.
4. Apply knowledge of menu planning, truth-in-menu guidelines, pricing, and types of meal functions to create and execute successful catering events.
5. Evaluate beverage service considerations, including pricing, types of beverage functions, liquor laws, and third-party liability, and develop strategies for responsible and profitable beverage service in catering.
6. Analyze special set up considerations, such as space requirements, cleaning and maintenance, equipment, and client services

(audiovisual, entertainment, and lighting), and create comprehensive event plans that address these factors.
7. Evaluate recruitment, orientation, training, and compensation practices in catering, and develop strategies for building and managing effective catering teams.
8. Apply understanding of the banquet event order, contract, change order, and other related reports to effectively manage catering events and maintain accurate documentation.
9. Analyze payroll cost control techniques, credit management, and food and beverage cost control methods, and apply these concepts to optimize profitability in catering operations. 1
10. Develop and implement a comprehensive risk management plan for catering operations, addressing issues such as food safety, liability, and emergency preparedness.

HOST 214. Purchasing and Kitchen Management
3 Credits (3)
Technical purchasing concepts, product selection, and specifications. Safety and sanitation as they relate to food service establishments. Prepares student for work with HACCP programs.
Prerequisite: Grade of C- or better in HOST 203.
Learning Outcomes
1. Analyze and apply government and industry standards and specifications to ensure compliance and maintain quality in food service operations.
2. Create detailed specifications for a product or service, taking into account operational requirements, quality standards, and cost considerations.
3. Evaluate the appropriateness of bid purchasing programs for various operational types, considering factors such as volume, frequency, and supplier relationships.
4. Analyze and select the most cost-effective bids by compiling and calculating relevant data, such as price, quality, and delivery terms.
5. Identify and assess the benefits of labor-saving equipment in kitchen operations, and develop strategies for their effective implementation and use.
6. Design and implement a procedural method for improving kitchen efficiency, considering factors such as workflow, ergonomics, and resource optimization.
7. Analyze the inherent dangers found in kitchens and develop a comprehensive safety plan to mitigate risks and protect staff and customers.
8. Identify the major microbial causes of Food Borne Illnesses (FBI), and evaluate their origins, transmission methods, and potential impacts on public health.
9. Apply food safety principles and develop a comprehensive food safety management system to minimize hazards in kitchen environments. 1
10. Evaluate the role of state and local health departments, CDC, WHO, and the HACCP model in controlling Food Borne Illnesses, and incorporate their guidelines and best practices into kitchen operations.

HOST 216. Event, Conference and Convention Operations
3 Credits (3)
The ability to successfully plan, organize, arrange, and execute special events is critical to the success of many hospitality organizations. This course gives the student a grounding in the skills necessary to achieve success in this area. A variety of events are discussed and the similarities and differences with conferences and conventions are explored. Students are taught to organize and plan events of varying type and durations. Sales, logistics, and organizing skills are emphasized. Restricted to: Community College campuses only.
Learning Outcomes
1. Identify and analyze the major requirements for successful event production, including organizational, financial, and operational factors.
2. Create a marketing plan for an event, incorporating strategies for target audience segmentation, promotional activities, and ROI measurement.
3. Demonstrate and apply effective customer service techniques and negotiating skills in the context of event planning and implementation.
4. Design and optimize the layout and functional space for an event, considering factors such as guest flow, accessibility, and aesthetic appeal.
5. Analyze the importance of financial contracts and controls in event planning, and develop strategies for budgeting, cost management, and revenue generation.
6. Evaluate the legal responsibilities of event planners and develop a risk management plan to mitigate potential liabilities and ensure compliance with relevant regulations.
7. Assess and select appropriate vendors and suppliers for events, considering factors such as quality, reliability, and cost-effectiveness.
8. Develop and implement a comprehensive project management plan for an event, including timelines, milestones, and contingency plans.
9. Analyze post-event data and feedback to identify areas for improvement and develop strategies for enhancing future event outcomes. 1
10. Evaluate the sustainability and environmental impact of events and develop strategies for incorporating Eco-friendly practices into event planning and execution.

HOST 219. Safety, Security and Sanitation in Hospitality Operations
3 Credits (3)
It is the responsibility of the manager to provide appropriate security, sanitation, and safety precautions in hospitality operations. Preparation for internal and external disasters is an important task for the Hospitality Manager. This course uses the National Restaurant Association ServSafe¬ training material.
Learning Outcomes
1. Analyze the steps of the HACCP process and evaluate the significance of each in ensuring food safety in hospitality operations.
2. Design an effective accident prevention program for a hospitality operation, incorporating strategies for hazard identification, risk assessment, and employee training.
3. Evaluate how equipment and facility design impacts employee and guest safety and propose improvements to enhance safety in hospitality settings.
4. Develop and implement loss control/theft prevention policies, considering factors such as asset protection, inventory management, and employee accountability.
5. Create a comprehensive emergency response procedure for hotels and restaurants, including protocols for evacuation, communication, and coordination with local authorities.
6. Analyze the impact of 9/11 on security in the hospitality industry and evaluate the effectiveness of subsequent security measures and policies.

7. Assess the importance of cyber-security in the hospitality industry, and develop strategies for protecting sensitive data, preventing breaches, and responding to cyber incidents.
8. Apply principles of risk management to identify and mitigate potential safety and security threats in hospitality operations.
9. Evaluate the role of technology in enhancing safety and security in the hospitality industry, and propose the adoption of innovative solutions, such as biometrics and AI-based surveillance. 1
10. Analyze the legal and ethical implications of safety and security practices in the hospitality industry and develop policies that prioritize guest and employee well-being while complying with relevant regulations.

HOST 220. Experiential Travel
1-3 Credits (1-3)
Course provides an opportunity for students to plan, prepare for and experience travel to destinations they might not otherwise have visited. Students experience local culture and peoples. Restricted to Community Colleges campuses only. May be repeated up to 9 credits.
Prerequisite: Grade of C- or better in HOST 201 or consent of instructor.
Learning Outcomes
1. Evaluate the marketing and promotional material used by the destination service providers to determine the target market demographics.
2. Recognize and discuss the cultural variations of the host venue and their impact on tourism.
3. Develop plans for cost effective utilization of the services of transportation, activity and lodging providers.
4. Prepare a detailed itinerary for the planned travel to manage time maximizing traveler's experiences.
5. Discuss the economic, cultural and political issues in the destination country and their impact on the tourism industry.
6. Describe customer service strengths and weaknesses experienced at the destination during the travel event.

HOST 221. Internship I
1,3 Credits (1,3)
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate proficiency in performing assigned tasks and responsibilities and contribute meaningfully to the internship host company's operations.
2. Evaluate personal strengths, weaknesses, and areas for improvement based on feedback received during the internship and develop a professional development plan.
3. Create a portfolio showcasing the skills, knowledge, and experiences gained during the internship, and reflect on how these align with career goals and industry expectations.
4. Develop a professional network within the hospitality industry, and leverage internship experiences to explore career opportunities and pathways.
5. Evaluate the internship experience holistically and provide constructive feedback and recommendations to the internship host company and the academic program for continuous improvement.

HOST 222. Cooperative Experience II
3 Credits (3)
Continuation of HOST 221. Restricted to majors. May be repeated up to 3 credits. Restricted to: Community College campuses only. Restricted to HOST majors.
Prerequisite: Grade of C- or better in HOST 221.
Learning Outcomes
1. Student Learning Outcomes vary.

HOST 239. Introduction to Hotel Management
3 Credits (3)
This course covers basic management functions in hotels, resorts, Boutique Hotels, Bed & Breakfast establishments, and other lodging operations. All aspects of the operation are covered including guest management, operations, and sales and marketing. Restricted to: Branch campuses only.
Learning Outcomes
1. Analyze the historical evolution of hotels and evaluate how they have developed into their current form.
2. Describe and explain the basic operational structure of lodging operations.
3. Analyze the different divisions in hotels and evaluate how they interact and contribute to the overall success of the property.
4. Evaluate the functions of the Front Office area and assess its impact on other departments and overall guest experience.
5. Analyze the various functions of the housekeeping department and develop strategies for optimizing its efficiency and effectiveness.
6. Evaluate the role of the sales and marketing department in driving occupancy and revenue.
7. Identify and explain the duties of the Human Resources department in a lodging operation and propose strategies for effective talent management and employee engagement.
8. Analyze the operation of a Food Beverage department in a lodging property, and develop strategies for enhancing its profitability and guest satisfaction.
9. Evaluate the importance of safety and security in a hotel operation and design a comprehensive risk management plan that addresses potential threats and emergencies. 1
10. Compare and contrast the various types of properties in the specialty hotel/lodging market, and analyze their unique characteristics, target markets, and operational requirements.

HOST 255. Special Topics
3 Credits (3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 9 credits.
Learning Outcomes
1. Course Learning Outcomes are based on the topical outline for the Special Topic.

HOST 298. Independent Study
1-3 Credits (1-3)
Individual studies directed by consenting faculty with prior approval of department chair. May be repeated for a maximum of 3 credits. Restricted to: Community College campuses only.
Prerequisite(s): Minimum 3.0 GPA and sophomore standing.

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Department Chair, Business and Hospitality Services Departments

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Name: Devin Taillon

Office Location: DASR 220Q

Phone: (575) 528-7412

Hospitality and Tourism - Associate of Applied Science

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Program Requirements

NOTE: Students must earn a final grade of C- or better in all required Professional Requirements, Major Requirements, and Concentration courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G (https://catalogs.nmsu.edu/search/?P=ENGL%201110G) Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program-specific credits to total at least 61-62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
ENGL 1110G	Composition I (or ENGL 2110G, Grade of C- or better required)	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH, grade of C- required)	3
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON)	3
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or any Area V)	3
General Education Elective		
BUSA 2230G	Human Relations in Business	3
Related/Professional Requirements (12 Credits)		
BMGT 201	Work Readiness and Preparation	3
BLAW 2110	Business Law I	3
ACCT 2110	Principles of Accounting I (or ACCT 1115)	3
BCIS 1110	Introduction to Information Systems	3
Major Requirements (15 credits)		
HOST 201	Introduction to Hospitality Industry	3
HOST 203	Hospitality Operations Cost Control	3
HOST 208	Hospitality Supervision	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
HOST 221	Internship I	3
or BMGT 221	Internship I	
Concentration Coursework (18 credits)		
Select 18 credits from the following:		*18*
HOST 202	Front Office Operations	
HOST 204	Promotion of Hospitality Services	
HOST 155	Special Topics	
HOST 205	Housekeeping, Maintenance, and Security	
HOST 206	Travel and Tourism Operations	
HOST 216	Event, Conference and Convention Operations	
HOST 239	Introduction to Hotel Management	
CHEF 125	Introductory Cake Decorating	
CHEF 126	Intermediate Cake Decorating	
CHEF 127	Chocolate Work	
CHEF 128	Advanced Chocolate Work	
CHEF 129	Wedding Cake Design and Construction	
CHEF 233	Culinary Arts Fundamentals I	
CHEF 234	Culinary Arts Fundamentals II	
CHEF 240	Baking Fundamentals I	
CHEF 241	Baking Fundamentals II	
CHEF 260	Nutrition for Chefs	
Total Credits		**61**

(61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional Requirements, Major Requirements, and Concentration courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Freshman		
Fall		**Credits**
ENGL 1110G	Composition I (or ENGL 2110G; grade of C- or better required)	4
HOST 201	Introduction to Hospitality Industry	3
MATH 1130G	Survey of Mathematics (or higher MATH; grade of C- or better required)	3
BMGT 201	Work Readiness and Preparation	3
Concentration courses - Choose one		3
	Credits	**16**
Spring		
ECON 1110G	Survey of Economics (or higher ECON)	3

PHIL 1115G	Introduction to Philosophy (or any other Area V course)	3
BCIS 1110	Introduction to Information Systems	3
Concentration courses - Choose two		6
	Credits	**15**
Summer		
BUSA 2230G	Human Relations in Business	3
	Credits	**3**
Sophomore		
Fall		
BLAW 2110	Business Law I	3
ACCT 2110	Principles of Accounting I (or ACCT 1115)	3
HOST 208	Hospitality Supervision	3
Concentration courses - Choose 2		6
	Credits	**15**
Spring		
HOST 203	Hospitality Operations Cost Control	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
HOST 221 or BMGT 221	Internship I or Internship I	3
Concentration courses - Choose one		3
	Credits	**12**
	Total Credits	**61**

Hospitality and Tourism (Food & Beverage) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61-62 credits)

NOTE: Students must earn a final grade of C- or better in all required Professional Requirements, Major Requirements, and Concentration courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program-specific credits to total at least 61-62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV, and V; students need to take ONE additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I (or ENGL 2210G; grade of C- or better required) [3]	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH; grade of C- or better required) [4]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON)	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or any other Area V course)	
General Education Elective [2]		*3-4*
Core Requirements (3 credits)		
BUSA 2230G	Human Relations in Business	3
Related/Professional Requirements (15 Credits)		
BMGT 201	Work Readiness and Preparation	3
BLAW 2110	Business Law I	3
ACCT 1115 or ACCT 2110	Accounting Principles I Principles of Accounting I	3
BCIS 1110	Introduction to Information Systems	3
Major Requirements (15 credits)		
HOST 201	Introduction to Hospitality Industry	3
HOST 203	Hospitality Operations Cost Control	3
HOST 208	Hospitality Supervision	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
HOST 221 or BMGT 221	Internship I (restricted to HOST majors) Internship I	3
Concentration Coursework (15 credits)		
Select 15 credits from the following:		15
CHEF 125	Introductory Cake Decorating	
CHEF 126	Intermediate Cake Decorating	
CHEF 127	Chocolate Work	
CHEF 128	Advanced Chocolate Work	
CHEF 129	Wedding Cake Design and Construction	
CHEF 233	Culinary Arts Fundamentals I	
CHEF 234	Culinary Arts Fundamentals II	
CHEF 240	Baking Fundamentals I	
CHEF 241	Baking Fundamentals II	
CHEF 260	Nutrition for Chefs	
HOST 210	Catering and Banquet Operations	
HOST 214	Purchasing and Kitchen Management	
Total Credits		**61-62**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(61-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional Requirements, Major Requirements, and Concentration courses and achieve a cumulative grade-point average of at least 2.0.

A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
FALL		
ENGL 1110G	Composition I (or ENGL 2210G)	4
MATH 1130G	Survey of Mathematics (or higher MATH)	3
BMGT 201	Work Readiness and Preparation	3
HOST 201	Introduction to Hospitality Industry	3
Concentration Courses (Food & Beverage) - Choose ONE from the following:		3
CHEF 125	Introductory Cake Decorating	
CHEF 126	Intermediate Cake Decorating	
CHEF 127	Chocolate Work	
CHEF 128	Advanced Chocolate Work	
CHEF 129	Wedding Cake Design and Construction	
CHEF 233	Culinary Arts Fundamentals I	
CHEF 234	Culinary Arts Fundamentals II	
CHEF 240	Baking Fundamentals I	
CHEF 241	Baking Fundamentals II	
CHEF 260	Nutrition for Chefs	
HOST 210	Catering and Banquet Operations	
HOST 214	Purchasing and Kitchen Management	
	Credits	**16**
Semester 2		
SPRING		
ECON 1110G	Survey of Economics (or higher ECON)	3
PHIL 1115G	Introduction to Philosophy (or another Area V course)	3
BUSA 2230G	Human Relations in Business	3
BCIS 1110	Introduction to Information Systems	3
Concentration Courses (Food & Beverage) - Choose ONE course from the list in Semester 1.		3
	Credits	**15**
Semester 3		
SUMMER		
General Education Elective - Choose one course from the NM General Education Requirements in the NMSU/DACC Catalog.		3-4
	Credits	**3-4**
Semester 4		
FALL		
BLAW 2110	Business Law I	3
HOST 208	Hospitality Supervision	3
ACCT 1115 or ACCT 2110	Accounting Principles I or Principles of Accounting I	0-3
Concentration Courses (Food & Beverage) - Choose TWO courses from the list found in Semester 1.		6
	Credits	**12-15**
Semester 5		
SPRING		
HOST 203	Hospitality Operations Cost Control	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
HOST 221 or BMGT 221	Internship I or Internship I	3
Concentration Courses (Food & Beverage) - Choose ONE course from the list in Semester 1.		3
	Credits	**12**
	Total Credits	**58-62**

Hospitality and Tourism (Lodging & Tourism) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61-62 credits)

NOTE: Students must earn a final grade of C- or better in all required Professional Requirements, Major Requirements, and Concentration courses and achieve a cumulative grade-point average of at least 2.0.
A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program-specific credits to total at least 61-62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, IV, and V; students need to take ONE ADDITIONAL course to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I (or ENGL 2110G; grade of C - or better required) [3]	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or higher MATH; grade of C- or better required) [3,4]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON)	
Area V: Humanities		
PHIL 1115G	Introduction to Philosophy (or other AREA V course)	
General Education Elective [2]		*3-4*
Core Requirements (3 credits)		
BUSA 2230G	Human Relations in Business	3
Related/Professional Requirements (15 Credits)		
BMGT 201	Work Readiness and Preparation	3
BLAW 2110	Business Law I	3
ACCT 1115 or ACCT 2110	Accounting Principles I or Principles of Accounting I	3
BCIS 1110	Introduction to Information Systems	3
Major Requirements (15 Credits)		
HOST 201	Introduction to Hospitality Industry	3
HOST 203	Hospitality Operations Cost Control	3

HOST 208	Hospitality Supervision	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
HOST 221	Internship I (restricted to HOST majors)	3
or BMGT 221	Internship I	
Concentration Coursework (15 Credits)		
Select 15 credits from the following: [4]		15
HOST 202	Front Office Operations	
HOST 204	Promotion of Hospitality Services	
HOST 205	Housekeeping, Maintenance, and Security	
HOST 206	Travel and Tourism Operations	
HOST 216	Event, Conference and Convention Operations	
HOST 239	Introduction to Hotel Management	
Total Credits		**61-62**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 Work with your Faculty Advisor to select Concentration courses that meet your career goals.

(61-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Professional Requirements, Major Requirements, and Concentration courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program-specific credits to total at least 64 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
FALL		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I (or ENGL 2110G grade of C- or better required)	
Area II: Mathematics		3
MATH 1130G	Survey of Mathematics (or higher MATH; grade of C- or better required)	
BMGT 201	Work Readiness and Preparation	3
HOST 201	Introduction to Hospitality Industry	3
Concentration Courses (Lodging & Tourism) - Choose one from the following:		3
HOST 202	Front Office Operations	
HOST 204	Promotion of Hospitality Services	
HOST 205	Housekeeping, Maintenance, and Security	
HOST 206	Travel and Tourism Operations	
HOST 216	Event, Conference and Convention Operations	
HOST 239	Introduction to Hotel Management	
	Credits	**16**
Semester 2		
SPRING		
Area IV: Social/Behavioral Sciences		3
ECON 1110G	Survey of Economics (or higher ECON)	
Area V: Humanities		3
PHIL 1115G	Introduction to Philosophy (or any other AREA V course)	
BUSA 2230G	Human Relations in Business	3
Concentration Courses (Lodging & Tourism) - Choose one course from the list in Semester 1.		3
BCIS 1110	Introduction to Information Systems	3
	Credits	**15**
Semester 3		
SUMMER		
General Education Elective - Choose one course from the NM General Education Requirements in the NMSU/DACC Catalog.		3-4
	Credits	**3-4**
Semester 4		
FALL		
BLAW 2110	Business Law I	3
HOST 208	Hospitality Supervision	3
ACCT 1115 or ACCT 2110	Accounting Principles I or Principles of Accounting I	0-3
Concentration Courses (Lodging & Tourism) - Choose two courses from the list in Semester 1.		6
	Credits	**12-15**
Semester 5		
SPRING		
HOST 203	Hospitality Operations Cost Control	3
HOST 219	Safety, Security and Sanitation in Hospitality Operations	3
HOST 221 or BMGT 221	Internship I or Internship I	3
Concentration Courses (Lodging & Tourism) - Choose one course from the list in Semester 1.		3
	Credits	**12**
	Total Credits	**58-62**

Hospitality Services Management

Hospitality Services Management - Associate of Applied Science

Hospitality Services Management (Hospitality Supervision) - Associate of Applied Science

Students who earn an associate degree in Hospitality Services Management will have completed the first two years of the four-year Hotel, Restaurant and Tourism Management degree offered by the College of Agricultural, Consumer and Environmental Sciences at NMSU. Enrollment in upper-division HRTM courses requires admission to the School of HRTM.

To complete this associate degree, 60 credits are required, including the general education requirements and lower-division HRTM core (or the HOST equivalent listed here). Courses may be taken at any NMSU two-

year campus and will apply toward this degree. A minimum cumulative GPA of 2.0 is also required. A minimum of 15 of the total degree credits for the associate's degree must be completed at DACC, or any other NMSU campus.

Hospitality Services Management - Associate of Applied Science (p. 379)

Hospitality Services Management (Hospitality Supervision) - Associate of Applied Science (p. 380)

HOST 155. Special Topics
1-3 Credits (1-3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 9 credits.
Learning Outcomes
1. Varies.

HOST 201. Introduction to Hospitality Industry
3 Credits (3)
Overview of hospitality industry; organization and operation of lodging, food and beverage, and travel and tourism segments; focus on career opportunities and future trends of hospitality industry. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze the interrelationship between lodging, food beverage operations, and the travel and tourism industry.
2. Evaluate the scope of the travel and tourism industry and assess its economic impact at the local, national, and international levels.
3. Investigate and propose opportunities for education, training, and career development in the hospitality industry.
4. Analyze the effects of globalization on the hospitality industry and predict future trends.
5. Critically examine and discuss major factors, developments, and trends that have affected lodging and food service operations in recent years and anticipate their future impact on the industry.
6. Analyze the effects of franchising, management contracts, referral organizations, independent and chain ownership, and condominium growth on the industry, and develop a comparative analysis of their implications.
7. Classify hotels based on their general characteristics and evaluate the distinctive features of each classification.
8. Identify and describe the common divisions or functional areas of hotel organization (rooms, food beverage, engineering, marketing and sales, accounting, human resources, and security), and analyze the interdependence and collaboration among these divisions in achieving organizational goals.

HOST 202. Front Office Operations
3 Credits (3)
Hotel/motel front office procedures detailing flow of business, beginning with reservations and extending to the night audit process. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze and differentiate the responsibilities for each job description in the front office.
2. Evaluate the significance of important factors in the day-to-day operation of the front office and propose strategies for optimal performance.
3. Explain front office technology and assess its impact on operational efficiency and guest satisfaction.
4. Develop and implement operational procedures/tasks that are critical to the registration process.
5. Demonstrate effective techniques for handling guest complaints and create a set of best practices for complaint resolution.
6. Analyze the key points regarding front office security functions and develop a comprehensive security plan.
7. Define and explain key terms in front office accounting and apply them to real-world scenarios.
8. Analyze the functions and tasks involved in the night audit processes and develop a step-by-step guide for conducting a successful night audit.

HOST 203. Hospitality Operations Cost Control
3 Credits (3)
Management of Food & Beverage facilities using cost control techniques. Functional training in menu analysis and development with all phases of product flow through a Food & Beverage organization explored. Restricted to: Community Colleges only.
Learning Outcomes
1. Explain the concept of "control" and analyze its importance in the management system.
2. Analyze the purposes and applications of standard costs and evaluate the uses of standard cost tools.
3. Evaluate the role of budget standards in planning and control and create cost-volume-profit analysis models for food and beverage operations.
4. Analyze and compare methods for estimating allowable food and beverage costs based on forecasted sales levels.
5. Evaluate subjective and objective menu pricing methods and create menu prices that incorporate profit requirements.
6. Apply principles and procedures important in controlling the purchasing and receiving processes and analyze the need to incorporate quality requirements in purchasing and receiving activities.
7. Analyze sales history records and time series data to create accurate production forecasts.
8. Evaluate the importance of standard recipes (including computerized standard recipes) as production tools and create a plan for incorporating production planning time.
9. Apply the basic formula for calculating cost of sales and analyze sources of information for each component of the formula. 1
10. Analyze the role of analysis, corrective action, and evaluation in the control process, and create a plan for implementing these steps effectively.

HOST 204. Promotion of Hospitality Services
3 Credits (3)
Organization of hotel marketing functions; developing a marketing plan to sell the varied services of the hotel/motel property. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze the distinctive aspects of marketing within service industries in relation to the intangibility of services, service encounters, service chains, and service quality.
2. Create an appropriate marketing mix to meet guest needs and achieve company goals.
3. Evaluate several methods of segmenting and targeting markets and apply market segmentation criteria effectively.

4. Analyze the kinds of marketing data needed for effective marketing efforts, apply the marketing research process to solve marketing problems, and create marketing information, systems that meet a hospitality company's real marketing needs.
5. Design a product/service mix (or product offer) that meets guest and company needs.
6. Develop and implement a distribution mix of hospitality networks to deliver hospitality products and services effectively and efficiently.
7. Evaluate and apply pricing mix strategies and tactics as an active and critical component of the overall marketing plan.
8. Analyze the components and interrelationships of the communications mix.
9. Evaluate and apply advertising, public relations, personal selling, merchandising, and promotion to better achieve company goals and objectives.

HOST 205. Housekeeping, Maintenance, and Security
3 Credits (3)
Function of housekeeping departments, including personnel, sanitation, maintenance, and materials. A survey of security procedures to include guest protection and internal security of hotel/motel assets. Restricted to: Community College campuses only.

Learning Outcomes

1. Analyze and differentiate various positions and job descriptions within the housekeeping, maintenance, and security departments.
2. Apply and evaluate various scheduling methods to optimize departmental efficiency.
3. Evaluate the role of the Maintenance department in the success of the operation and propose strategies for effective collaboration with other departments.
4. Identify and classify various types of floor, wall, and ceiling coverings and develop a comprehensive care and maintenance plan for each type.
5. Analyze the sanitation responsibilities of the Housekeeping department and develop a detailed sanitation protocol.
6. Evaluate the importance of an effective security program and design a comprehensive security plan for a hospitality establishment.
7. Investigate and recommend innovative technologies and practices that can enhance the efficiency and effectiveness of housekeeping, maintenance, and security operations.
8. Develop and implement training programs for housekeeping, maintenance, and security staff to ensure consistent quality and adherence to industry standards.
9. Analyze the impact of sustainable practices in housekeeping, maintenance, and security operations and develop a sustainability plan for these departments. 1
10. Evaluate the role of effective communication and collaboration among housekeeping, maintenance, security, and other departments in ensuring guest satisfaction and operational success.

HOST 206. Travel and Tourism Operations
3 Credits (3)
Transportation, wholesale and retail operations, attractions, the traveler, tourism development, and operational characteristics of tourism business. Restricted to: Community College campuses only.

Learning Outcomes

1. Analyze the economic importance of travel and its impact on local, national, and global economies.
2. Evaluate the historical evolution of travel and its influence on contemporary tourism practices.
3. Identify and explain the roles of various travel and tourism organizations in promoting and regulating the industry.
4. Compare and contrast various modes of transportation, assessing their strengths, weaknesses, and suitability for different types of travel.
5. Investigate and categorize barriers to tourism, proposing strategies to mitigate their impact on the industry.
6. Develop a comprehensive understanding of the global tourism landscape, including popular destinations, emerging markets, and niche travel segments.
7. Analyze the social, cultural, and environmental impacts of tourism on host communities and propose sustainable tourism practices.
8. Evaluate the role of technology in shaping the travel and tourism industry, including its influence on booking systems, customer experiences, and destination marketing.
9. Create a hypothetical travel itinerary that showcases an understanding of transportation logistics, destination management, and customer preferences. 1
10. Assess the importance of customer service in the travel and tourism industry and develop strategies for delivering exceptional experiences to travelers.

HOST 208. Hospitality Supervision
3 Credits (3)
Strategies for directing, leading, managing change and resolving conflict. Prepares students to meet expectations of management, guests, employees, and governmental agencies. Restricted to: Community College campuses only.

Learning Outcomes

1. Apply the management process to business activities, analyzing its effectiveness in achieving organizational goals.
2. Evaluate the importance of the communication process in relation to productivity and morale and develop strategies for effective communication within the organization.
3. Analyze and select appropriate recruitment channels and apply interviewing and screening skills to identify and hire the most qualified employment candidates.
4. Develop and implement effective orientation and training programs to prepare employees for their roles and responsibilities.
5. Integrate standard operating procedures into performance evaluation processes and utilize coaching and ongoing training techniques to support employee development.
6. Evaluate and apply motivational tools to maximize productivity levels while implementing labor cost reduction strategies.
7. Analyze special management concerns, including EEO policy, sexual harassment, safety and security, ethics, substance abuse, and unions, and develop policies and procedures to address these issues effectively.
8. Apply conflict management, communication, and motivational skills to build and lead effective work teams.
9. Evaluate professional development needs and future trends and create strategies for managing change within the organization. 1
10. Design and implement a performance management system that aligns with organizational objectives, incorporates employee feedback, and supports continuous improvement.

HOST 210. Catering and Banquet Operations
3 Credits (3)
Teaches the basics of catering and banquet operations, including computer coordination, planning, set up, service, and completion.
Learning Outcomes

1. Identify and analyze the types of caterers and customer markets, evaluating their unique characteristics and needs.
2. Evaluate and apply various marketing methods used in catering to effectively reach target audiences and promote catering services.
3. Analyze the process of client negotiation and problem resolution and develop strategies for effective communication and conflict management in catering.
4. Apply knowledge of menu planning, truth-in-menu guidelines, pricing, and types of meal functions to create and execute successful catering events.
5. Evaluate beverage service considerations, including pricing, types of beverage functions, liquor laws, and third-party liability, and develop strategies for responsible and profitable beverage service in catering.
6. Analyze special set up considerations, such as space requirements, cleaning and maintenance, equipment, and client services (audiovisual, entertainment, and lighting), and create comprehensive event plans that address these factors.
7. Evaluate recruitment, orientation, training, and compensation practices in catering, and develop strategies for building and managing effective catering teams.
8. Apply understanding of the banquet event order, contract, change order, and other related reports to effectively manage catering events and maintain accurate documentation.
9. Analyze payroll cost control techniques, credit management, and food and beverage cost control methods, and apply these concepts to optimize profitability in catering operations. 1
10. Develop and implement a comprehensive risk management plan for catering operations, addressing issues such as food safety, liability, and emergency preparedness.

HOST 214. Purchasing and Kitchen Management
3 Credits (3)
Technical purchasing concepts, product selection, and specifications. Safety and sanitation as they relate to food service establishments. Prepares student for work with HACCP programs.
Prerequisite: Grade of C- or better in HOST 203.
Learning Outcomes

1. Analyze and apply government and industry standards and specifications to ensure compliance and maintain quality in food service operations.
2. Create detailed specifications for a product or service, taking into account operational requirements, quality standards, and cost considerations.
3. Evaluate the appropriateness of bid purchasing programs for various operational types, considering factors such as volume, frequency, and supplier relationships.
4. Analyze and select the most cost-effective bids by compiling and calculating relevant data, such as price, quality, and delivery terms.
5. Identify and assess the benefits of labor-saving equipment in kitchen operations, and develop strategies for their effective implementation and use.
6. Design and implement a procedural method for improving kitchen efficiency, considering factors such as workflow, ergonomics, and resource optimization.
7. Analyze the inherent dangers found in kitchens and develop a comprehensive safety plan to mitigate risks and protect staff and customers.
8. Identify the major microbial causes of Food Borne Illnesses (FBI), and evaluate their origins, transmission methods, and potential impacts on public health.
9. Apply food safety principles and develop a comprehensive food safety management system to minimize hazards in kitchen environments. 1
10. Evaluate the role of state and local health departments, CDC, WHO, and the HACCP model in controlling Food Borne Illnesses, and incorporate their guidelines and best practices into kitchen operations.

HOST 216. Event, Conference and Convention Operations
3 Credits (3)
The ability to successfully plan, organize, arrange, and execute special events is critical to the success of many hospitality organizations. This course gives the student a grounding in the skills necessary to achieve success in this area. A variety of events are discussed and the similarities and differences with conferences and conventions are explored. Students are taught to organize and plan events of varying type and durations. Sales, logistics, and organizing skills are emphasized. Restricted to: Community College campuses only.
Learning Outcomes

1. Identify and analyze the major requirements for successful event production, including organizational, financial, and operational factors.
2. Create a marketing plan for an event, incorporating strategies for target audience segmentation, promotional activities, and ROI measurement.
3. Demonstrate and apply effective customer service techniques and negotiating skills in the context of event planning and implementation.
4. Design and optimize the layout and functional space for an event, considering factors such as guest flow, accessibility, and aesthetic appeal.
5. Analyze the importance of financial contracts and controls in event planning, and develop strategies for budgeting, cost management, and revenue generation.
6. Evaluate the legal responsibilities of event planners and develop a risk management plan to mitigate potential liabilities and ensure compliance with relevant regulations.
7. Assess and select appropriate vendors and suppliers for events, considering factors such as quality, reliability, and cost-effectiveness.
8. Develop and implement a comprehensive project management plan for an event, including timelines, milestones, and contingency plans.
9. Analyze post-event data and feedback to identify areas for improvement and develop strategies for enhancing future event outcomes. 1
10. Evaluate the sustainability and environmental impact of events and develop strategies for incorporating Eco-friendly practices into event planning and execution.

HOST 219. Safety, Security and Sanitation in Hospitality Operations
3 Credits (3)
It is the responsibility of the manager to provide appropriate security, sanitation, and safety precautions in hospitality operations. Preparation for internal and external disasters is an important task for the Hospitality

Manager. This course uses the National Restaurant Association ServSafe¬ training material.

Learning Outcomes

1. Analyze the steps of the HACCP process and evaluate the significance of each in ensuring food safety in hospitality operations.
2. Design an effective accident prevention program for a hospitality operation, incorporating strategies for hazard identification, risk assessment, and employee training.
3. Evaluate how equipment and facility design impacts employee and guest safety and propose improvements to enhance safety in hospitality settings.
4. Develop and implement loss control/theft prevention policies, considering factors such as asset protection, inventory management, and employee accountability.
5. Create a comprehensive emergency response procedure for hotels and restaurants, including protocols for evacuation, communication, and coordination with local authorities.
6. Analyze the impact of 9/11 on security in the hospitality industry and evaluate the effectiveness of subsequent security measures and policies.
7. Assess the importance of cyber-security in the hospitality industry, and develop strategies for protecting sensitive data, preventing breaches, and responding to cyber incidents.
8. Apply principles of risk management to identify and mitigate potential safety and security threats in hospitality operations.
9. Evaluate the role of technology in enhancing safety and security in the hospitality industry, and propose the adoption of innovative solutions, such as biometrics and AI-based surveillance. 1
10. Analyze the legal and ethical implications of safety and security practices in the hospitality industry and develop policies that prioritize guest and employee well-being while complying with relevant regulations.

HOST 220. Experiential Travel
1-3 Credits (1-3)

Course provides an opportunity for students to plan, prepare for and experience travel to destinations they might not otherwise have visited. Students experience local culture and peoples. Restricted to Community Colleges campuses only. May be repeated up to 9 credits.

Prerequisite: Grade of C- or better in HOST 201 or consent of instructor.

Learning Outcomes

1. Evaluate the marketing and promotional material used by the destination service providers to determine the target market demographics.
2. Recognize and discuss the cultural variations of the host venue and their impact on tourism.
3. Develop plans for cost effective utilization of the services of transportation, activity and lodging providers.
4. Prepare a detailed itinerary for the planned travel to manage time maximizing traveler's experiences.
5. Discuss the economic, cultural and political issues in the destination country and their impact on the tourism industry.
6. Describe customer service strengths and weaknesses experienced at the destination during the travel event.

HOST 221. Internship I
1,3 Credits (1,3)

Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 3 credits.

Learning Outcomes

1. Demonstrate proficiency in performing assigned tasks and responsibilities and contribute meaningfully to the internship host company's operations.
2. Evaluate personal strengths, weaknesses, and areas for improvement based on feedback received during the internship and develop a professional development plan.
3. Create a portfolio showcasing the skills, knowledge, and experiences gained during the internship, and reflect on how these align with career goals and industry expectations.
4. Develop a professional network within the hospitality industry, and leverage internship experiences to explore career opportunities and pathways.
5. Evaluate the internship experience holistically and provide constructive feedback and recommendations to the internship host company and the academic program for continuous improvement.

HOST 222. Cooperative Experience II
3 Credits (3)

Continuation of HOST 221. Restricted to majors. May be repeated up to 3 credits. Restricted to: Community College campuses only. Restricted to HOST majors.

Prerequisite: Grade of C- or better in HOST 221.

Learning Outcomes

1. Student Learning Outcomes vary.

HOST 239. Introduction to Hotel Management
3 Credits (3)

This course covers basic management functions in hotels, resorts, Boutique Hotels, Bed & Breakfast establishments, and other lodging operations. All aspects of the operation are covered including guest management, operations, and sales and marketing. Restricted to: Branch campuses only.

Learning Outcomes

1. Analyze the historical evolution of hotels and evaluate how they have developed into their current form.
2. Describe and explain the basic operational structure of lodging operations.
3. Analyze the different divisions in hotels and evaluate how they interact and contribute to the overall success of the property.
4. Evaluate the functions of the Front Office area and assess its impact on other departments and overall guest experience.
5. Analyze the various functions of the housekeeping department and develop strategies for optimizing its efficiency and effectiveness.
6. Evaluate the role of the sales and marketing department in driving occupancy and revenue.
7. Identify and explain the duties of the Human Resources department in a lodging operation and propose strategies for effective talent management and employee engagement.
8. Analyze the operation of a Food Beverage department in a lodging property, and develop strategies for enhancing its profitability and guest satisfaction.
9. Evaluate the importance of safety and security in a hotel operation and design a comprehensive risk management plan that addresses potential threats and emergencies. 1

10. Compare and contrast the various types of properties in the specialty hotel/lodging market, and analyze their unique characteristics, target markets, and operational requirements.

HOST 255. Special Topics
3 Credits (3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 9 credits.
Learning Outcomes
1. Course Learning Outcomes are based on the topical outline for the Special Topic.

HOST 298. Independent Study
1-3 Credits (1-3)
Individual studies directed by consenting faculty with prior approval of department chair. May be repeated for a maximum of 3 credits. Restricted to: Community College campuses only.
Prerequisite(s): Minimum 3.0 GPA and sophomore standing.

Name: Joaquin Tadeo, MBA

Department Chair, Business and Hospitality Services Departments

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Website: https://dacc.nmsu.edu/academics/programs/hospitality-services-management/index.html (https://dacc.nmsu.edu/academics/programs/hospitality-services-management/)

Name: Devin Taillon

Office Location: DASR 220Q

Phone: (575) 528-7412

Hospitality Services Management - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61 credits)

NOTE: Students must earn a final grade of C- or better in all Major Requirements and Approved Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		
This degree requires courses from Areas I(2), II, III, and IV; students do not need to take an additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I (grade C- or higher) [3]	4
Area II: Mathematics		
MATH 1350G	Introduction to Statistics (grade C- or higher) [3]	3
Area III: Laboratory Sciences		
Select one of the following (4 credits):		4
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory [3]	
GEOG 1110G	Physical Geography [3]	
GEOL 1110G	Physical Geology [3]	
Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON) [3]	3
General Education Elective		
ENGL 2210G	Professional and Technical Communication Honors [3]	3
or ENGL 2221G	Writing in the Humanities and Social Science	
Core Requirement (9 Credits)		
COMM 1130G	Public Speaking [3]	3
or COMM 1115G	Introduction to Communication	
SOCI 1110G	Introduction to Sociology [3]	3
BUSA 2230G	Human Relations in Business	3
Major Requirement (14 Credits)		
CHEF 233	Culinary Arts Fundamentals I	4
CHEF 234	Culinary Arts Fundamentals II	4
HOST 201	Introduction to Hospitality Industry	3
ACCT 2110	Principles of Accounting I	3
Approved Electives (21 Credits)		
Select a total of 21 credits of electives in consultation with a Faculty Advisor.		21
HOST 202	Front Office Operations	
HOST 203	Hospitality Operations Cost Control	
HOST 204	Promotion of Hospitality Services	
HOST 206	Travel and Tourism Operations	
HOST 208	Hospitality Supervision [4]	
HOST 216	Event, Conference and Convention Operations [4]	
HOST 219	Safety, Security and Sanitation in Hospitality Operations	
HOST 239	Introduction to Hotel Management	
BLAW 2110	Business Law I	
Total Credits		**61**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. Courses are **NOT** accepted for upper-division credit at NMSU.

NOTES:
In order to complete the Bachelor of Science in HRTM, students are required to take 48 credits of upper division work.

(61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student

academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Major Requirements and Approved Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
ENGL 1110G	Composition I (grade C- or higher)	4
CHEF 233	Culinary Arts Fundamentals I	4
HOST 201	Introduction to Hospitality Industry	3
Approved Electives - Choose ONE from the following:		3
HOST 204	Promotion of Hospitality Services	
HOST 202	Front Office Operations	
HOST 203	Hospitality Operations Cost Control	
HOST 206	Travel and Tourism Operations	
HOST 208	Hospitality Supervision	
HOST 216	Event, Conference and Convention Operations	
HOST 219	Safety, Security and Sanitation in Hospitality Operations	
HOST 239	Introduction to Hotel Management	
BLAW 2110	Business Law I	
	Credits	**14**
Semester 2		
ENGL 2210G or ENGL 2221G	Professional and Technical Communication Honors or Writing in the Humanities and Social Science	3
MATH 1350G	Introduction to Statistics (grade C- or higher)	3
Area III: Laboratory Sciences - Choose one:		4
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
Approved Electives - Choose TWO courses from the list in Semester 1.		6
	Credits	**16**
Semester 3		
ECON 1110G	Survey of Economics (or higher ECON)	3
SOCI 1110G	Introduction to Sociology	3
ACCT 2110	Principles of Accounting I	3
CHEF 234	Culinary Arts Fundamentals II	4
Approved Elective - Choose ONE course from the list in Semester 1.		3
	Credits	**16**
Semester 4		
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	3
BUSA 2230G	Human Relations in Business	3
Approved Electives - Choose THREE courses from the list in Semester 1.		9
	Credits	**15**
	Total Credits	**61**

Hospitality Services Management (Hospitality Supervision) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(61 credits)

NOTE: Students must earn a final grade of C- or better in all Major Requirements and Approved Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Program Requirements

Prefix	Title	Credits
Any Area I: Communications		
ENGL 1110G	Composition I (grade of C- or better required)	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Any Area II: Mathematics		
MATH 1350G	Introduction to Statistics (grade of C- or higher required)	3
Any Area III: Laboratory Sciences		4
Any Area IV: Social/Behavioral Sciences		
ECON 1110G	Survey of Economics (or higher ECON)	3
General Education Elective (Select from any Area)		3
Core Requirements (9 credits)		
COMM 1115G	Introduction to Communication (or COMM 1130G)	3
or HNRS 2175G	Introduction to Communication Honors	
SOCI 1110G	Introduction to Sociology	3
BUSA 2230G	Human Relations in Business	3
Major Requirements (14 credits)		
CHEF 233	Culinary Arts Fundamentals I	4
CHEF 234	Culinary Arts Fundamentals II	4
HOST 201	Introduction to Hospitality Industry	3
ACCT 2110	Principles of Accounting I	3
Approved Electives (21 Credits)		
Select a total of 21 credits of electives in consultation with a Departmental Advisor		21
HOST 202	Front Office Operations	
HOST 203	Hospitality Operations Cost Control	
HOST 204	Promotion of Hospitality Services	
HOST 206	Travel and Tourism Operations	
HOST 208	Hospitality Supervision	
HOST 216	Event, Conference and Convention Operations	
HOST 219	Safety, Security and Sanitation in Hospitality Operations	
HOST 239	Introduction to Hotel Management	
BLAW 2110	Business Law I	
Total Credits		**61**

(61 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all Major Requirements and Approved Electives and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Roadmap

Freshman		
Fall		**Credits**
ENGL 1110G	Composition I (Grade of C- or higher)	4
CHEF 233	Culinary Arts Fundamentals I	4
HOST 201	Introduction to Hospitality Industry	3
Approved Electives - Choose ONE from the following list:		3
HOST 202	Front Office Operations	
HOST 203	Hospitality Operations Cost Control	
HOST 204	Promotion of Hospitality Services	
HOST 206	Travel and Tourism Operations	
HOST 208	Hospitality Supervision	
HOST 216	Event, Conference and Convention Operations	
HOST 219	Safety, Security and Sanitation in Hospitality Operations	
HOST 239	Introduction to Hotel Management	
BLAW 2110	Business Law I	
	Credits	**14**
Spring		
Any General Education Elective		3
MATH 1350G	Introduction to Statistics (grade of C- or higher)	3
Approved Electives - Choose TWO courses from the list in Semester 1		6
Any Area III Lab Science		4
	Credits	**16**
Sophomore		
Fall		
ECON 1110G	Survey of Economics (or higher ECON)	3
ACCT 2110	Principles of Accounting I	3
SOCI 1110G	Introduction to Sociology	3
CHEF 234	Culinary Arts Fundamentals II	4
Approved elective - choose ONE course from the list in Semester 1		3
	Credits	**16**
Spring		
COMM 1115G	Introduction to Communication (or COMM 1130G)	3
BUSA 2230G	Human Relations in Business	3
Approved Electives - Choose THREE courses from the list in Semester 1		9
	Credits	**15**
	Total Credits	**61**

Nursing

Associate in Nursing Degree and Licensed Practical Nurse Certificate

The Nursing program at DACC affords students the opportunity to become a Licensed Practical Nurse or Registered Nurse and members of a respected and rewarding profession by offering classroom and clinical education courses in nursing. Nursing is a dynamic and exciting discipline offering the rewarding experiences of helping others achieve their health care goals by providing professional nursing care, patient teaching, effective communication, and management of patient care.

Upon acceptance into the nursing program, and successful completion of all prerequisite and nursing courses, the new graduate will be prepared as an entry-level generalist in Licensed Practical Nursing or Registered Nursing. Graduates of the program are eligible to take the NCLEX-PN or NCLEX-RN licensure exams and become licensed Practical Nurses or Registered Nurses anywhere in the United States. Students should note, however, that program completion does not in and of itself guarantee licensure, which is a function of the various state boards of nursing, nor does it guarantee employment.

The DACC nursing program philosophy embraces the concepts of caring, health, and wellness. Faculty assist adult learners with achievement of their maximum educational potential through exposure to a variety of teaching and evaluation methods. Special emphasis is placed upon the nursing process, critical-thinking, clinical judgment, evidence-based practice, patient-centered care, teamwork and collaboration, safety, professionalism, nursing informatics, and the evolving teaching-learning process.

Accreditation/Approval [1]

The DACC Nursing program is approved for operation by the New Mexico Board of Nursing. Further information may be obtained by contacting the Board directly:

New Mexico Board of Nursing
6301 Indian School Road NE, Suite 710
Albuquerque, NM 87110
Phone: (505) 841-8340

[1] Please refer to the DACC Nursing program website for more information regarding the accreditation and/or approval status of the Nursing program.

Categories of Essential Functions

In order to participate in the Nursing Program, the student must be capable of performing the following:

Observation

- Visually discriminate incremental readings on various medical equipment
- Visually discriminate between different colored objects
- Discriminate between various auditory stimuli

Communication

- Communicate effectively in English using verbal, nonverbal and written formats
- Read and interpret the English language without assistance
- Communicate effectively via electronic means, including computers and "smart" devices

Motor

- Stand for long periods of time
- Lift 50 pounds
- Perform patient care procedures with manual dexterity

Intellectual

- Collect, interpret, and integrate information

Special Admission Criteria

As a professional educational program, the Nursing Program is a limited-entry program. To be considered for admission, students are required to successfully complete:

1. all prerequisites,
2. the designated entrance exam, and
3. submit all materials required for the student selection process (complete application package).

Information on requirements, transfers, and deadlines for applications are available on the Nursing program website, or by calling (575) 527-7735 or 575-874-7786

Prior to the first day of classes, each student must submit documentation of the following: current immunizations, TB test, American Heart Association CPR for Healthcare Providers, background clearance for Healthcare Providers and drug screening. Additional information regarding specific requirements is available from the Nursing Program office.

Nursing Program Prerequisites

Prior to applying to the Nursing Program, students must be admitted to DACC. Students are also responsible for understanding all of the information in the related-requirement science courses of Anatomy and Physiology I and II, regardless of when these courses were taken.

Security Background Check

Prospective students are required to successfully complete a security background check in order to participate in clinical or practicum courses. Past criminal violations may prevent a student from completing the degree and/or obtaining licensure or employment in the nursing field. Students must maintain required security clearance throughout the nursing program. Any changes to a student's background status must be reported to the program's clinical coordinator, who will determine the student's eligibility to continue in the program and complete required clinical or practicum coursework.

Requirements to Remain in the Nursing Program

To remain in the program, students must earn a **minimum cumulative course grade of 77%** and a **exam average of 80% or higher** in each course attempted.

Course Fees

In addition to tuition, a fee of $250 is charged for each of the following courses:

NURS 1121 Foundations of Nursing Practice, formerly, NURS 136 Foundations of Nursing Practice

NURS 1125 Medical Surgical I, formerly, NURS 147 Adult Health I

NURS 2225 Medical Surgical II, formerly, NURS 226 Adult Health II

NURS 2996 Nursing Topics, NCLEX Review, formerly, NURS 201 NCLEX Review

Nursing - Associate in Nursing (p. 387)

Licensed Practical Nurse - Certificate (p. 389)

NURS 1120. Fundamentals of Nursing Lecture and Laboratory
6 Credits (4+6P)
This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan. Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems. May be repeated up to 6 credits.
Corequisite: NURS 1154.
Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, standards of care and nursing leadership and management skills related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1121. Foundations of Nursing Practice
4 Credits (4)
This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan. Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems.
Prerequisite/Corequisite: NURS 1134, NURS 1134L, NURS 1121L.

Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1121L. Foundations of Nursing Lab
2 Credits (6P)
This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan. Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems.
Prerequisite/Corequisite: NURS 134, NURS 134L, NURS 136.
Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, standards of care and nursing leadership and management skills related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1125. Medical Surgical Nursing I
4 Credits (4)
This course introduces nursing care and management of the adult client with common medical-surgical conditions.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1130, NURS 1125L.
Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 1125L. Medical/Surgical Nursing I Clinical
2 Credits (6P)
Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to adults in a variety of settings.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1130, NURS 1125L.
Learning Outcomes

1. Patient Centered Care: Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Teamwork and Collaboration: Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Evidenced Based Practice: Prepare an individualized patient care plan utilizing an evidence- based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Quality Improvement: Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Safety: Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Informatics: Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 1131. Foundations of Pharmacology
5 Credits (5)
This course provides the nursing student with an introduction to the foundations of pharmacology including: science of drug action, principles of medication administration, accurate calculation of drug doses, medication therapy across the lifespan, application of medications to treat health alterations, normal and adverse responses by the client to medication therapy, medication safety, medication regulation, national patient safety goals, and appropriate nursing interventions to achieve the desired goals of medication therapy.
Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to pharmacological therapy.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly related to adverse or side effects of pharmacological therapy throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes related to the administration of pharmacological therapy.
4. Demonstrate adherence to policies, procedures, and standards of care for the administration of pharmacological therapy in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.

6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for the administration of pharmacological therapy across the lifespan.

NURS 1134. Foundation of Nursing Skills and Assessment
1 Credit (1)
This course provides nursing students with introductory nursing knowledge related to performance of nursing skills and assessment including: techniques of fundamental nursing care, basic and intermediate nursing skills, and foundational physical assessment techniques associated with care across the lifespan.
Corequisite: NURS 1134L, NURS 1121, NURS 1121L.
Learning Outcomes
1. Describe personally held values, attitudes, and beliefs related to health and wellness as measured by: Describe modifications to nursing care based on client cultural and religious influences; Demonstrate physical assessment skills for clients across the lifespan utilizing appropriate equipment and techniques.
2. Describe scopes of practice, roles and values of health care team members as measured by: Identify independent and collaborative nursing interventions.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan as measured by: Demonstrate safe performance of basic nursing procedures; Identify quality sources of information to verify skills and interventions are based on evidence.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care as measured by: Identify need/situation where reporting of incident/event/irregular occurrence/variance is appropriate.
5. Describe strategies that reduce the risk of harm to self and others as measured by: Identify methods utilized to provide safe and effective care; Identify and document changes in patient status.
6. Identify essential information that must be available in a common database to support patient care across the lifespan as measured by: Select standard technology utilized to provide basic care to clients across the lifespan; Identify approved abbreviations and standard terminology for documenting care.

NURS 1134L. Foundation of Nursing Skills and Assessment Laboratory
2 Credits (6P)
This course provides nursing students with introductory nursing knowledge related to performance of nursing skills and assessment including: techniques of fundamental nursing care, basic and intermediate nursing skills, and foundational physical assessment techniques associated with care across the lifespan.
Corequisite: NURS 1134, NURS 1121, NURS 1121L.
Learning Outcomes
1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1150. Medical Terminology
3 Credits (3)
Study and understanding of medical terminology. Emphasis will be placed on learning the basic elements of medical words, appropriate spelling and use of the terms, and abbreviations.
Learning Outcomes
1. Demonstrate proficient interpretation of medical abbreviations.
2. Explain the importance of utilizing medical terms/abbreviations in the medical field.
3. Define medical terms correctly.
4. Interpret medical language including roots, prefixes and suffixes.
5. Pronounce medical terms correctly.
6. Spell medical terms correctly.

NURS 1153. Medication & Dosage Calculation
2 Credits (2)
Techniques of dosage calculation for medication and fluid administration. May be repeated up to 2 credits.
Learning Outcomes
1. Utilize the nursing process, clinical judgment, evidenced based information and knowledge from the arts and sciences to provide safe client centered care.
2. Coordinate and collaborate effectively through verbal, nonverbal, and technological means with individuals, families and the interdisciplinary team.
3. Integrate accountability and responsibility for practice within the legal and ethical standards of the nursing profession.
4. Apply the principles of delegation, management and leadership in providing client centered care.
5. Participate in activities that promote professional development and personal growth.

NURS 1154. Physical Assessment
2 Credits (2)
Beginning techniques of physical assessment by systems will be presented using the nursing process as a guide for providing safe client centered care throughout the life span. Laboratory experiences provide an opportunity to practice assessment skills on patients across the lifespan in a variety of settings.
Prerequisite: BIOL 1130 or BIOL 2210.
Corequisite: NURS 1153, NURS 1120.
Learning Outcomes
1. Discuss the purpose, guidelines, safety factors, and equipment necessary for performing a physical exam.
2. Discuss and demonstrate techniques necessary to facilitate communication to obtain a health history.
3. Identify and demonstrate correct documentation of each body system.
4. Define ethical/legal implications as they relate to documentation and the physical assessment exam.
5. Identify and discuss the nutritional implications as they relate to the physical assessment exam.
6. Recognize key terms, exam techniques, and the anatomy and physiology on the assessment of each body system.
7. Discuss developmental and cultural differences in performing a physical assessment.
8. Identify and discuss components of the nursing process focusing on assessment and beginning to recognize self-care deficits.

9. Identify opportunities to promote self-care assessment within the physical exam. 1
10. Identify methods by which airing behaviors facilitate the nurse-patient relationship in the performance of a physical assessment.

NURS 1157. Maternal/Child Health Deviations Lecture
5 Credits (5)
This course provides the intermediate nursing student with an in-depth review of care of the childbearing woman, family structures and roles, and nursing care of the child from birth through adolescence. Emphasis includes the care of pre-partum, intra-partum and postpartum clients, the neonate and health deviations in pediatric clients. Clinical experiences in the simulation laboratory, the community, and acute care settings will provide the student with the opportunity to apply learned skills to provide total care to meet needs of up to two adult, neonatal, or pediatric clients and to apply care planning skills related to actual, psychosocial and potential problems. Students must be concurrently enrolled in both the lecture and laboratory sections of the course. Students must be admitted into the Nursing Program to enroll in this course.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L.
Prerequisite/Corequisite: NURS 1157L.
Learning Outcomes
1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the child bearing woman (19-65 years) and pediatric client (newborn-18).
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to deliver care to individuals and families across the lifespan with complex health alterations as it relates to the child bearing woman (19-65 years) and pediatrics.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to patients with chronic or acute illness across the lifespan as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).

NURS 1157L. Maternal/Child Health Deviations Laboratory
2 Credits (6P)
This course provides the intermediate nursing student with an in-depth review of care of the childbearing woman, family structures and roles, and nursing care of the child from birth through adolescence. Emphasis includes the care of pre-partum, intra-partum and postpartum clients, the neonate and health deviations in pediatric clients. Clinical experiences in the simulation laboratory, the community, and acute care settings will provide the student with the opportunity to apply learned skills to provide total care to meet needs of up to two adult, neonatal, or pediatric clients and to apply care planning skills related to actual, psychosocial and potential problems.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L.
Prerequisite/Corequisite: NURS 1157.
Learning Outcomes
1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the childbearing woman (19-65 years) and pediatric client (newborn-18).
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to deliver care to individuals and families across the lifespan with complex health alterations as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures, and standards of care as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to patients with chronic or acute illness across the lifespan as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).

NURS 2210. Pharmacological Requisites of the Childbearing Family
1 Credit (1)
Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care will be discussed focusing on medications commonly utilized with the childbearing family. Medication classes to be discussed include labor and delivery, analgesic, vitamins, respiratory, gynecological, endocrine, and anti-microbial/anti-infective drugs. May be repeated up to 1 credit.
Prerequisite: NURS 1154 and NURS 1120.
Learning Outcomes
1. Incorporate the values, preferences and expressed needs of maternal/child and pediatric clients in the administration of pharmacotherapeutics to these clients.
2. Apply principles of teaching/learning in education maternal/child and pediatric clients on the use, adverse effects and interactions of pharmacotherapeutic agents.
3. Explain how members of the health care team collaborate in the delivery of pharmacotherapeutics to maternal/child and pediatric clients.
4. Discuss pharmacokinetics and pharmacodynamics of drugs specific to the maternal/child and pediatric client.
5. Apply evidenced based information to the administration of pharmacotherapeutics to maternal/child and pediatric clients.
6. Give examples of policies, procedures and standards of care related to pharmacotherapeutics utilized in the care of maternal/child and pediatric clients.

NURS 2214. Psychiatric Mental Health Nursing Theory
3 Credits (3)

This course will allow the nursing student to develop skills necessary to provide nursing care for clients with mental health problems in various health care settings including: common mental health disorders, psychosocial dysfunction, psychosocial safety/substance abuse issues, violence, suicide, restraints, developmental age related pathophysiology, psychopharmacology, cultural/religious considerations, grief/loss, promotion of mental health, and therapeutic communication.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1130, NURS 2214L.

Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness. wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 2214L. Psychiatric Mental Health Nursing Clinical
1 Credit (3P)

This course will allow the nursing student to develop skills necessary to provide nursing care for clients with mental health problems in various health care settings including: common mental health disorders, psychosocial dysfunction, psychosocial safety/substance abuse issues, violence, suicide, restraints, developmental age related pathophysiology, psychopharmacology, cultural/religious considerations, grief/loss, promotion of mental health, and therapeutic communication. Selected clinical learning experiences in the simulation Laboratory, acute care, and community settings will allow the student to develop ability to develop: proficiency in performance of nursing skills, collaborative skills with clients, families, peers and health care team members, care planning skills related to patient actual, psychosocial, and potential problems in the delivery of total nursing care to meet needs of one client across the life span with acute/chronic mental health needs.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1134, NURS 2214.

Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 2225L. Medical Surgical Nursing Clinical II
2 Credits (6P)

Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L.
Corequisite: NURS 2225, NURS 1157, NURS 1157L.

Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the adult client with acute illness.
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to adult clients with acute illness.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to adult clients with acute illness.
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to adult clients with acute illness.
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to adult clients with acute illness.
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to adult clients with acute illness.

NURS 2225. Medical Surgical Nursing II
4 Credits (4)

This course focuses on the care of adult clients with complex medical/surgical health problems. Emphasis is placed on helping clients and their families cope with alterations in body functions. Concepts of pharmacology, health promotion and education, evidence-based practice, and interdisciplinary collaboration will be integrated throughout the course.

Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the adult client with acute illness.
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to adult clients with acute illness.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to adult clients with acute illness.
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to adult clients with acute illness.
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to adult clients with acute illness.
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to adult clients with acute illness.

NURS 2235. Medical Surgical Nursing III
3 Credits (3)
This course focuses on advanced concepts of nursing care as they relate to patients across the lifespan with complex, multisystem alterations in health. Emphasis is placed on implementing time management and organizational skills while managing the care of patients with multiple needs and collaborating with the interdisciplinary team. Complex clinical skills, as well as priority setting, clinical judgment, and tenets of legal and ethical practice, are integrated throughout the course.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L, NURS 1157, NURS 1157L, NURS 2225, NURS 2225L.
Prerequisite/Corequisite: NURS 2996, NURS 2235L.
Learning Outcomes
1. Integrate the values, preferences, attitudes, and expressed needs of the acutely ill patient into the plan of care related to the care of the adult client with complex health deviations.
2. Integrate the contributions of other members of the healthcare team into the delivery of nursing care for individuals across the lifespan with complex or multi-system health alterations related to the care of the adult client with complex health deviations.
3. Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences in the creation of a plan of care for delivery and evaluation of care for patients across the lifespan related to the care of the adult client with complex health deviations.
4. Evaluate the use of policies, procedures and standards of care in healthcare delivery systems and adapt the care as appropriate related to the care of the adult client with complex health deviations.
5. Interpret and analyze effective use of strategies to reduce risk of harm to self or others while providing professional nursing care, creating a structure for implementation of evidence- based practice, national patient safety goals, and core measures in the care of the adult client with complex health deviations.
6. Integrate use of appropriate technology and information management tools to support safe delivery of care to the adult client with complex health deviations.

NURS 2235L. Medical Surgical Nursing III Clinical
4 Credits (12P)
Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings. Experiences that facilitate entry into practice are included in this practicum.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L, NURS 1157, NURS 1157L, NURS 2225, NURS 2225L.
Prerequisite/Corequisite: NURS 2996, NURS 2235.
Learning Outcomes
1. Integrate the values, preferences, attitudes, and expressed needs of the acutely ill patient into the plan of care related to the care of the adult client with acute, chronic, or complex health deviations.
2. Integrate the contributions of other members of the healthcare team into the delivery of nursing care for individuals across the lifespan with complex or multi-system health alterations related to the care of the adult client with acute, chronic, or complex health deviations.
3. Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences in the creation of a plan of care for delivery and evaluation of care for patients across the lifespan related to the care of the adult client with acute, chronic, or complex health deviations.
4. Evaluate the use of policies, procedures, and standards of care in healthcare delivery systems and adapt the care as appropriate related to the care of the adult client with acute, chronic, or complex health deviations.
5. Interpret and analyze effective use of strategies to reduce risk of harm to self or others while providing professional nursing care, creating a structure for implementation of evidence- based practice, national patient safety goals, and core measures in the care of the adult client with acute, chronic, or complex health deviations.
6. Integrate use of appropriate technology and information management tools to support safe delivery of care to the adult client with acute, chronic, or complex health deviations.

NURS 2996. Nursing Topics
3 Credits (3)
Varies.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L, NURS 1157, NURS 1157L, NURS 2225, NURS 2225L.
Corequisite: NURS 2235, NURS 2235L.
Learning Outcomes
1. Varies.

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Nursing - Associate in Nursing

Doña Ana Community College 2026-2027 Catalog

(72 credits)

Four additional courses (15 credits) beyond the LPN program are required to complete the ADN program.

NOTE: Students must earn a final grade of C+ or better in all required *courses/Technical Requirements* and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 72 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, III, and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
or ENGL 1110M	Composition I	
or ENGL 1110H	Composition I Honors	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or Higher)	
Area IV: Social/Behavioral Sciences		
PSYC 1110G	Introduction to Psychology [3]	
or SOCI 1110G	Introduction to Sociology	
Area V: Humanities		
PHIL 2110G	Introduction to Ethics	
General Education Elective		
CEPY 1120G	Human Growth and Behavior [3]	3
Core Requirements		
BIOL 2210 & BIOL 2225	Human Anatomy and Physiology I and Human Anatomy and Physiology II (Or Anatomy and Physiology I SPMD 2210 & Anatomy and Physiology Laboratory SPMD 2210L for BIOL 2210 - Or Anatomy and Physiology II, SPMD 2225 & Anatomy and Physiology Laboratory SPMD 2225L for BIOL 2225) [3]	8
HLSC 1510	Medical Terminology	3
Major Requirements		
Common Technical Requirements		
NURS 1131	Foundations of Pharmacology	5
NURS 1134	Foundation of Nursing Skills and Assessment	0,1
NURS 1134L	Foundation of Nursing Skills and Assessment Laboratory	2
NURS 1121	Foundations of Nursing Practice	4
NURS 1121L	Foundations of Nursing Lab	2
NURS 1125	Medical Surgical Nursing I	4
NURS 1125L	Medical/Surgical Nursing I Clinical	2
NURS 2214	Psychiatric Mental Health Nursing Theory	3
NURS 2214L	Psychiatric Mental Health Nursing Clinical	1
NURS 1157	Maternal/Child Health Deviations Lecture	5
NURS 1157L	Maternal/Child Health Deviations Laboratory	2
Additional Requirements		
NURS 2225	Medical Surgical Nursing II	4
NURS 2225L	Medical Surgical Nursing Clinical II	2
NURS 2996	Nursing Topics	3
NURS 2235	Medical Surgical Nursing III	3
NURS 2235L	Medical Surgical Nursing III Clinical	4
Total Credits		**73-75**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(72 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C+ or better in all required *courses/Technical Requirements* and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 72 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
PRE-NURSING LEVEL I		
Area I: Communications		
ENGL 1110G or ENGL 1110M or ENGL 1110H	Composition I or Composition I or Composition I Honors	4
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or Higher)	3
Core Requirements		
BIOL 2210	Human Anatomy and Physiology I (Or Anatomy and Physiology I SPMD 2210 & Anatomy and Physiology Laboratory SPMD 2210L for BIOL 2210)	4
HLSC 1510	Medical Terminology	3
	Credits	**14**
Semester 2		
PRE-NURSING LEVEL II		
Core Requirments		
BIOL 2225	Human Anatomy and Physiology II (Or Anatomy and Physiology II SPMD 2225 & Anatomy and Physiology Laboratory SPMD 2225 for BIOL 2225)	4
Area IV: Social/Behavioral Sciences		
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	3
CEPY 1120G	Human Growth and Behavior	3
Area V: Humanities		
PHIL 2110G	Introduction to Ethics	3
	Credits	**13**
Semester 3		
NURSING LEVEL I		
NURS 1131	Foundations of Pharmacology	5

NURS 1134	Foundation of Nursing Skills and Assessment	0,1
NURS 1134L	Foundation of Nursing Skills and Assessment Laboratory	2
NURS 1121	Foundations of Nursing Practice	4
NURS 1121L	Foundations of Nursing Lab	2
	Credits	**13-14**
Semester 4		
NURSING LEVEL II		
NURS 2214	Psychiatric Mental Health Nursing Theory	3
NURS 2214L	Psychiatric Mental Health Nursing Clinical	1
NURS 1125	Medical Surgical Nursing I	4
NURS 1125L	Medical/Surgical Nursing I Clinical	2
	Credits	**10**
Semester 5		
NURSING LEVEL III		
NURS 1157	Maternal/Child Health Deviations Lecture	5
NURS 1157L	Maternal/Child Health Deviations Laboratory	2
NURS 2225	Medical Surgical Nursing II	4
NURS 2225L	Medical Surgical Nursing Clinical II	2
	Credits	**13**
Semester 6		
NURSING LEVEL IV		
NURS 2235	Medical Surgical Nursing III	3
NURS 2235L	Medical Surgical Nursing III Clinical	4
NURS 2996	Nursing Topics	3
	Credits	**10**
	Total Credits	**73-74**

Licensed Practical Nurse - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(57-58 credits)

This certificate program provides an option for those desiring to begin working as licensed practical nurses before finishing the Associate Degree Nursing Program (ADN) program. The certificate curriculum consists of the first two semesters of the ADN program and NURS 1157 Maternal/Child Health Deviations Lecture.

NOTE: Students must earn a final grade of C+ or better in all required courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 57 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Area I: Communications		
ENGL 1110G	Composition I (Or other approved New Mexico General Education Area I course listed in Level 1 in the current DACC/NMSU Catalog) [1]	4
or ENGL 1110H	Composition I Honors	
or ENGL 1110M	Composition I	
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or HIGHER)	3
Area IV: Social/Behavioral Sciences		
PSYC 1110G	Introduction to Psychology [1]	3
or SOCI 1110G	Introduction to Sociology	
Area V: Humanities		
PHIL 2110G	Introduction to Ethics	3
General Education Elective		
CEPY 1120G	Human Growth and Behavior [1]	3
Program Requirements		
BIOL 2210 & BIOL 2225	Human Anatomy and Physiology I and Human Anatomy and Physiology II (Or Anatomy and Physiology I SPMD 2210 & Anatomy and Physiology Laboratory SPMD 2210L for BIOL 2210 - Or Anatomy and Physiology II SPMD 3210 & Anatomy and Physiology Laboratory SPMD 3210L for BIOL 2225) [1]	8
HLSC 1510	Medical Terminology	3
Common Technical Requirements		
NURS 1131	Foundations of Pharmacology	5
NURS 1134	Foundation of Nursing Skills and Assessment	0-1
NURS 1134L	Foundation of Nursing Skills and Assessment Laboratory	2
NURS 1121	Foundations of Nursing Practice	4
NURS 1121L	Foundations of Nursing Lab	2
NURS 2214	Psychiatric Mental Health Nursing Theory	3
NURS 2214L	Psychiatric Mental Health Nursing Clinical	1
NURS 1125	Medical Surgical Nursing I	4
NURS 1125L	Medical/Surgical Nursing I Clinical	2
NURS 1157	Maternal/Child Health Deviations Lecture	5
NURS 1157L	Maternal/Child Health Deviations Laboratory	2
Total Credits		**57-58**

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(57-58 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C+ or better in all required courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 57 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1	Credits
Pre-nursing Level I	
Area I: Communication	

ENGL 1110G or ENGL 1110H or ENGL 1110M	Composition I or Composition I Honors or Composition I	4
Area II: Mathematics		
MATH 1130G	Survey of Mathematics (or Higher)	3
Program Requirements		
BIOL 2210	Human Anatomy and Physiology I (Or Anatomy and Physiology I SPMD 2210 & Anatomy and Physiology Laboratory SPMD 2210L for BIOL 2210)	4
HLSC 1510	Medical Terminology	3
	Credits	**14**
Semester 2		
PRE-NURSING LEVEL II		
Area IV: Social/Behavioral Sciences		
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	3
Area V: Humanities		
PHIL 2110G	Introduction to Ethics	3
General Education Elective		
CEPY 1120G	Human Growth and Behavior	3
Program Requirements		
BIOL 2225	Human Anatomy and Physiology II (Or Anatomy and Physiology II SPMD 3210 & Anatomy and Physiology Laboratory SPMD 3210L for BIOL 2225)	4
	Credits	**13**
Semester 3		
NURSING LEVEL I		
NURS 1131	Foundations of Pharmacology	5
NURS 1121	Foundations of Nursing Practice	4
NURS 1121L	Foundations of Nursing Lab	2
NURS 1134	Foundation of Nursing Skills and Assessment	0-1
NURS 1134L	Foundation of Nursing Skills and Assessment Laboratory	2
	Credits	**13-14**
Semester 4		
NURSING LEVEL II		
NURS 2214	Psychiatric Mental Health Nursing Theory	3
NURS 2214L	Psychiatric Mental Health Nursing Clinical	1
NURS 1125	Medical Surgical Nursing I	4
NURS 1125L	Medical/Surgical Nursing I Clinical	2
	Credits	**10**
Semester 5		
NURSING LEVEL III		
NURS 1157	Maternal/Child Health Deviations Lecture	5
NURS 1157L	Maternal/Child Health Deviations Laboratory	2
	Credits	**7**
	Total Credits	**57-58**

Office Administration Technology

Associate of Applied Science Degree

- Administrative Assistant Concentration
- Bookkeeping Assistant Concentration
- Medical Office Assistant Concentration

Certificate of Completion

- Bilingual Office Specialist Option
- General Office Assistant Option
- Medical Billing
- Medical Transcription
- Bookkeeping

Because today's business world is constantly being transformed by new information processing technologies, employment opportunities in office careers are on the rise. The smooth functioning of today's automated office depends on the support of well-trained administrative, bookkeeping, and medical office assistants.

If you find satisfaction in working as a team member, are well organized, and enjoy meeting and helping new people, Office Administration Technology could be the right program for you. Students may obtain a general office assistant certificate of completion in as little as one year and then begin earning money while studying for their associate of applied science degree.

In the second year of the associate of applied science degree program in Office Administration Technology, you can prepare for a more challenging position as either a general administrative assistant, bookkeeping assistant, or medical office assistant. You will learn to use state-of-the-art technology, become familiar with various up-to-date software applications, and become proficient in a specific area of study.

The work settings where program graduates find employment are as varied as the organizations themselves. They include educational institutions; federal, state, and local government offices; medical facilities; financial institutions; corporate settings; and small and large businesses. Not only are the work settings varied, but so are the positions within each organization. Current salary ranges can be found in the Occupational Outlook Handbook at the U.S. Department of Labor web site: http://www.bls.gov (https://www.bls.gov).

Office Administration Technology Certificates

Two Office Administration Technology certificate options are available.The General Office Administration Technology option prepares students for receptionist, clerk-typist, or other entry-level positions.The Bilingual Office Specialist option qualifies students for positions requiring Spanish-English language proficiency. Also available are 18-credit specialized certificates in Medical Billing and Medical Transcription. Coursework for the certificates are applicable toward the Office Administration Technology and/or Health Information Technology associate of applied science degrees with the exception of the SPAN 1511 Spanish for Human Services and SPAN 1420 courses. In addition, the Office Administration Technology program also has a 27-credit Bookkeeping certificate. The coursework for this certificate are fully applicable towards the Office Administration Technology-Bookkeeping associate of applied science degree.

Office Administration Technology (Administrative Assistant) - Associate of Applied Science (p. 394)

Office Administration Technology (Bookkeeping Assistant) - Associate of Applied Science (p. 396)

Office Administration Technology (Medical Office Assistant) - Associate of Applied Science (p. 397)

Bookkeeping - Certificate of Completion (p. 399)

Office Administration Technology - Certificate of Completion (p. 399)

Medical Billing - Certificate of Completion (p. 401)

Medical Transcription - Certificate of Completion (p. 401)

ACCT 1115. Accounting Principles I
3 Credits (2+2P)
This is an introductory course in the theory and practice of accounting that covers the purpose of accounting, the accounting process, and the various types of ownership structure. Also covered are types of business, career opportunities in accounting, analyzing financial transactions, adjusting entries, accounting worksheets, financial statements, and the closing process. Computerized exercise problems are used to assist student understanding and proficiency. This course is only offered for fall enrollment.

ACCT 1120. Accounting Principles II
3 Credits (2+2P)
This course is a continuation of theory and practice of accounting study began in ACCT 1115. Specialized accounting procedures for a service business and its environment, entrepreneurship, and small businesses are emphasized. Topics covered include the modified cash basis and combination journal, accounting for cash, payroll accounting, employee earnings and deductions, payroll accounting, employer taxes, and reports. Restricted to Community Colleges campuses only.
Prerequisite: ACCT 1115 or ACCT 2110.

ACCT 1150. QuickBooks
3 Credits (2+2P)
An introductory course to QuickBooks Pro accounting software, including setting up a new company and chart of accounts; recording transactions for service and merchandising businesses with customers, vendors and employees; bank reconciliations; payroll; end-of-period procedures; financial reporting; managing lists; and running reports and forms and customizing them. Restricted to Community Colleges campuses only.
Prerequisite: Working knowledge of computers and accounting or consent of instructor.
Learning Outcomes
1. Understand differences and similarities between a manual accounting system and QuickBooks Online.
2. Identify and execute the four levels of operation within QuickBooks: New Company Setup, Lists, Activities, and Reports.
3. Record sales/collections, purchase/payments, inventory, adjusting entries.
4. Set up payroll, record payroll transactions, print paychecks, and view various payroll related reports.
5. Produce a variety of reports and financial statements.
6. Analyze reports to identify and correct errors.

ACCT 1410. Personal Tax Preparation
3 Credits (3)
Introduces basic federal and state tax codes for preparing individual income tax returns. Emphasis on use of tax software. Students will be required to pass a certification exam and assist in preparing individual tax returns for low income and elderly taxpayers.
Learning Outcomes
1. Explain basic personal income tax filing status requirements.
2. Use appropriate tax software to prepare simple income tax returns for individuals.
3. Answer basic tax questions.
4. Demonstrate personal and professional interview skills in an environment that demands confidentiality issues at all levels.

ACCT 2170. Payroll Accounting
3 Credits (2+2P)
Covers payroll accounting procedures and controls, tax and employment laws, and tax reports that form the core of payroll responsibilities. Restricted to Community Colleges campuses only.
Prerequisite: ACCT 2110 or ACCT 1115.
Learning Outcomes
1. Identify payroll terminology and concepts, required payroll records, and various laws and regulations affecting payroll operations.
2. Calculate gross wages and deductions.
3. Record, journalize and post payroll transactions in accordance with GAAP using the appropriate accounting records (payroll registers, employee earnings records, journals, and ledgers).
4. Prepare and accurately complete payroll tax reports for timely filing.

ACCT 2520. Introduction to Auditing
3 Credits (3)
Surveys auditing concepts and processes used by management and assurance professionals that include audit standards, reports, professional ethics, legal liability, evidence accumulation, audit planning, internal controls, transaction cycles, other engagements and operational auditing. Restricted to Community Colleges campuses only.
Prerequisite: ACCT 1115 or ACCT 2110.
Learning Outcomes
1. Describe the attest function.
2. Identify the professional and regulatory standards that impact the auditing profession.
3. Use audit planning techniques to assess risks, calculate materiality and prepare audit programs.
4. Evaluate factual situations to identify internal control deficiencies, significant deficiencies, and material weaknesses.
5. Identify types of evidence and practice documenting the results of performing audit tests.
6. Use various audit sampling to determine whether sufficient evidence has been obtained.
7. Identify audit procedures performed in the completion of an audit.
8. Select the appropriate audit report for various factual situations.
9. Demonstrate knowledge of other attestation and assurance services performed by CPAs as well as other types of services, which independent auditors may or may not perform.

BCIS 1215. Introduction to MS Excel I
3 Credits
This course introduces Microsoft Excel spreadsheet software. Coverage includes creating, editing, manipulating, and printing workbooks, charts, features and commands, spreadsheet design, formulas, and functions.
Learning Outcomes
1. Identify the basic Excel (spreadsheet) concept.
2. Describe and apply basic skills of worksheet and cell formatting, charts, and tables.
3. Recognize and demonstrate the concepts of creating, editing, and formatting worksheets.
4. Apply and demonstrate the concepts of working with charts.
5. Apply formulas and functions.
6. Analyze data using formulas and compiling workbook data.

BCIS 1220. Introduction to MS Word
3 Credits (2+2P)
This course introduces MS Word software. Basic word processing techniques and applications will be covered. Students will create, revise, store, share and retrieve documents. Students will learn various formatting techniques, use of tables, use of references tools. May be repeated up to 6 credits.
Learning Outcomes
1. Manage documents: navigate within documents; format documents; save and share documents; and inspect documents for issues.
2. Insert and format text, paragraphs, and sections: Insert text and paragraphs; format text and paragraphs; create and configure document settings.
3. Manage tables and lists: create tables; modify tables; create and modify lists.
4. Create and manage references: create and manage reference elements; create and manage reference tabs.
5. Insert and format graphic elements: insert illustrations/text boxes; format illustrations and text boxes; add text to graphic elements; modify graphic elements.
6. Manage document collaboration: add and manage comments; manage change tracking.

BCIS 1230. Introduction to MS PowerPoint
3 Credits (3)
Introduction to the electronic presentation, specifically how to use, design and edit presentation graphics for use in a variety of personal and business applications. Students will learn how to create and work with design templates, auto layouts, and background slides. Also covered are how to add tables, charts, clip art, pictures, video, sound and animation effects.
Prerequisite: BCIS 1220 or ability to demonstrate keyboarding and Windows proficiency.
Learning Outcomes
1. Create, edit, format, and save PowerPoint presentations.
2. Create and change templates.
3. Create, apply, and customize Master slides.
4. Create, apply, and customize presentation themes.
5. Create, apply, and customize styles presentations.

BCIS 1750. Microsoft Outlook and Office Procedures
3 Credits (3)
This course provides information about office principles and procedures that are used in the fast-paced offices of today. Student will become proficient using Microsoft Outlook and other current technologies to develop the foundational skills necessary to manage email, appointments, contacts, and tasks.
Prerequisite: ENGL 1110G.
Learning Outcomes
1. Demonstrate office skills in office communications, record management, proofreading, research techniques, planning meetings and conferences, writing and dictating correspondence.
2. Describe the technologies of the modern office such as electronic mail, word processing, information processing, and telecommunications.
3. Perform a mastery of punctuation, grammar, writing skills and indexing skills.
4. Manage records, make travel arrangements, and execute general administrative duties.
5. Define ethics and ethical behavior.
6. Manage the Outlook environment efficiently within a professional business setting.
7. Manage messages in an organized way for productivity.
8. Manage schedules to clearly communicate among professionals.
9. Manage contacts and groups to effectively connect business individuals.

BCIS 2221. MS Word®II
3 Credits (2+2P)
This course provides an in-depth study of MS Word software. Students will learn how to create professional business documents, templates, customize themes, mail merge, and reports with citations and references.
Prerequisite: OTEC 1101 or keyboarding proficiency.
Learning Outcomes
1. Create, edit, format, and save Word documents.
2. Create reports using chosen reference style which includes citations and bibliography.
3. Create a multiple-page report with tables, footnotes, and endnotes.
4. Create a professional newsletter, which includes inserting section breaks, formatting columns, inserting symbols, and distinguishing between online and inline objects.
5. Create and change templates.
6. Create, apply, and customize document themes.
7. Create, apply, and customize styles.
8. Create and edit documents using mail merge with data sources and main documents.

BUSA 1210. Records Management
3 Credits (3)
Principles, methods and procedures for the selection, operation and control of manual and automated records systems.
Learning Outcomes
1. Recognize Records Control and Management systems.
2. Utilize vocabulary pertaining to records management.
3. Recognize the importance of using organized, efficient records management systems.
4. Recognize various kinds of filing equipment and supplies (paper and electronic).
5. Apply ARMA (Association for Records Managers and Administrators) rules in alphabetic card and correspondence filing exercises.
6. Apply procedures for maintaining and controlling records including: requisitioning, charging-out, returning, and reserving files.
7. Discuss records retention cycle including: control procedures for transferring, storing, and destruction of files.
8. Recognize the use of color as a method for improving efficiency in filing systems.

BUSA 2175. Personal Development
3 Credits (3)
Development of a marketable, employable office systems person, to include interview, voice, manners, and apparel.
Learning Outcomes
1. Plan, compose and create a resume, list of references, letter of application and other job search documents.
2. Research job leads.
3. Prepare for job interviews.

4. Perform self-assessment and self-examination in order to improve soft skills.
5. Develop soft skills to improve employability and job success.

HLSC 1510. Medical Terminology
3 Credits (3)
The study and understanding of medical terminology as it relates to diseases, their causes and effects, and the terminology used in various medical specialties. This course includes word construction, spelling, comprehension, pronunciation, application and abbreviations.
Learning Outcomes
1. Apply prefixes, suffixes, and combining forms to build medical terms.
2. Identify terms for body regions, planes, cavities and membranes.
3. Select medical terminology names, locations and functions of the major organs of the body systems.
4. Identify the medical terms associated with major disease processes and procedures.
5. Demonstrate correct medical linguistic skills.

HITP 2208. Medical Office Procedures
3 Credits (2+2P)
Introduction of current and efficient administrative medical office procedures. The emphasis will be on practical, current strategies for maintaining accurate, organized and compliant documentation.
Prerequisite: HLSC 1510.
Learning Outcomes
1. Identify key medical terminology as it relates to administrative medical office operations.
2. Explain the roles, responsibilities, and professional ethics of an administrative medical assistant in various healthcare setting.
3. Demonstrate effective communication skills with patients, families, proxies and healthcare professionals.
4. Apply accurate updated policy to scheduling techniques, office and records management, and billing procedures in a medical office environment.
5. Apply techniques for efficient patient, office, and administrative workflows to enhance medical office management.
6. Identify medical office technology applications that promote efficient administrative duties and accurate documentation.

HITP 2288. Medical Insurance Billing
3 Credits (2+2P)
Comprehensive overview of the insurance concepts and applications required for successfully and accurately completing and submitting insurance claims and reimbursement processes for various insurance carriers, both private and government, will be emphasized.
Prerequisite: HLSC 1510.
Learning Outcomes
1. Comprehend the ramifications of a breach of confidentiality regarding patient information.
2. Follow requirements of different insurance carriers—i.e., HMO's Independent Provider Organizations, Medicare, Medicaid, Workmen's Compensation—in processing patient claims.
3. Process insurance claim form an initial patient visit through receipt of payment from insurance carrier.
4. Match ICD-10 code to appropriate diagnosis.
5. Analyze patient records to construct the insurance claim form and apply the requirements of different insurance carriers to that claim.
6. Classify and explain the various reimbursement systems and how they impact billing.
7. Identify issues of fraud and abuse and follow ethical principles by reviewing inpatient and outpatient cases.

OTEC 1101. Beginning Keyboarding
3 Credits (2+2P)
Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five minute timings is required.
Learning Outcomes
1. Demonstrate proper keyboarding techniques.
2. Key the numeric keypad by touch.
3. Type straight copy at a minimum rate of 25 GWAM for 5 minutes with no more than 5 errors using the proper touch method (backspace key not allowed on timed writings).

OTEC 1102. Keyboard Skillbuilding
3 Credits (2+2P)
Continues development of speed and accuracy. A minimum average speed of 35 wpm on three five-minute timings is required.
Learning Outcomes
1. Demonstrate proper keyboarding techniques.
2. Type straight copy at a minimum rate of 35 GWAM for 5 minutes with no more than 5 errors using the proper touch method.
3. To be submitted for credit, timings must have no more than 5 errors (errors are not deducted from gross speed).

OTEC 1103. Keyboard Skillbuilding II
3 Credits (2+2P)
Continues development of speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required. Restricted to Community Colleges campuses.
Learning Outcomes
1. Demonstrate proper keyboarding techniques.
2. Type straight copy at a minimum rate of 45 GWAM for 5 minutes with no more than 5 errors using the proper touch method.
3. To be submitted for credit, timings must have no more than 5 errors (errors are not deducted from gross speed).

OTEC 1125. Writing, Proofreading and Editing
3 Credits (2+2P)
Develop proofreading skills: punctuation, grammar, spelling and usage errors. Edit documents for appropriate content, conciseness, clarity and point of view. Compose effective business letters, e-mails, memos, and reports. Restricted to Community Colleges campuses.
Prerequisite: BUSA 1115.
Learning Outcomes
1. Apply document formatting standards for professional business correspondence.
2. Apply standard proofreader's marks when proofreading and editing.
3. Proofread and edit letters, memos, reports, and other business documents to produce a professional copy.
4. Review English mechanics (spelling, grammar, punctuation, and format).
5. Write business memos, letters, e-mails, and informal reports.
6. Rewrite and edit the message for organization, clarity, complete information, and conciseness.
7. Produce the message utilizing the correct design and format.

OTEC 2260. Business Procedures
3 Credits (2+2P)
Covers office procedures, technology, human relations, ethics, telecommunications and job portfolio.
Learning Outcomes
1. Demonstrating strategies and tools for organizing your work area.
2. Demonstrating effective techniques for handling telecommunication.
3. Identifying unethical behavior in the workplace.
4. Demonstrating qualities of an effective team member.
5. Identifying methods for handling incoming and outgoing mail.
6. Planning and arranging domestic and international travel.
7. Planning a business meeting.
8. Demonstrating qualities of effective leaders.
9. Developing skills and qualities necessary for the administrative profession. 1
10. Completing an employment application, compose a letter of application, and prepare a resume for a specific administrative position. 1
11. Completing a mock interview.

OTEC 2270. Medical Transcription
3 Credits (2+2P)
Reinforces medical terminology and develops proficiency in transcribing medical reports, forms, and other types of medical communications using correct format, grammar, punctuation, number, abbreviation, symbol, and metric measurement rules. Restricted to Community Colleges campuses only.
Prerequisite: HLSC 1510 and HLSC 1515 and BCIS 1750.
Learning Outcomes
1. 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.
2. Apply correct grammar, word usage, and format or style.
3. Use punctuation, capitalization, abbreviations, and numbers correctly.
4. Demonstrate mastery of terminology, spelling, editing/proofreading, and transcribing skills.

OTEC 2998. Internship I
1-3 Credits
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. C- or better in the course is required.
Learning Outcomes
1. Apply decision-making and problem-solving skills by setting goals and objectives, self-reflection, and self-assessment.
2. Model soft skills appropriate for a professional business workplace.
3. Determine effective communication in various workplace relationships.
4. Develop career planning skills that include conducting a job search, collecting references, building a resume, creating a cover letter, and interviewing techniques.

OTEC 2999. Office Technology Capstone
3 Credits (2+2P)
Refines professional skills learned in the OAT program and ties all OAT coursework together. Restricted to Community Colleges campuses.
Prerequisite: OTEC 1102; and ACCT 1115; and BCIS 1750 or ENGL 2210G; and BCIS 1220.
Learning Outcomes
1. Construct professional, error-free business documents that demonstrate appropriate formats and ideas in clear, concise, and correct written and spoken language.
2. Utilize effective administration skills to enhance the productive operation of the workplace.
3. Demonstrate professional behaviors and workplace ethics for the professional office environment.
4. Demonstrate proficiency in the use of productivity software in business applications.

SPAN 1511. Spanish for Human Services
3 Credits (3)
An introductory Spanish course for professionals in the human services. The course focuses on pertinent vocabulary for situations commonly encountered by professionals in areas such as social work, counseling, case management, Social Security, Medicare, health services, food stamps, child support, vocational rehabilitation, senior citizen issues and other areas. Basic Spanish pronunciation and grammar are introduced in the context of practical social-services situations.
Learning Outcomes
1. Augment basic vocabulary pertinent to professional roles (Vocabulary Journal).
2. Display increased confidence about pronunciation of Spanish and Spanish sentence structure (Role Play Interview).
3. Identify cultural norms working with Hispanic individuals and families (interview of Hispanic Professional).
4. Translate and explain agency forms and documents (Translation of Agency Form).
5. Display listening comprehension of typical dialogues which take place in a variety of human services agencies (Final Exam).

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Office Administration Technology (Administrative Assistant) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(64-65 credits)

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 64 credits. Developmental coursework will not count towards the

degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, IV, V, and VI; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area IV: Social/Behavioral Sciences		
Choose one from the following:		
ECON 1110G	Survey of Economics [3]	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
Area V: Humanities		
Choose one from the following:		
HIST 1110G	United States History I [3]	
HIST 1120G	United States History II [3]	
HIST 1130G	World History I [3]	
HIST 1140G	World History II [3]	
HIST 1150G	Western Civilization I [3]	
HIST 1160G	Western Civilization II [3]	
PHIL 1115G	Introduction to Philosophy [3]	
PHIL 1120G	Logic, Reasoning, & Critical Thinking [3]	
PHIL 1145G	Philosophy, Law, and Ethics [3]	
PHIL 2110G	Introduction to Ethics [3]	
PHIL 2230G	Philosophical Thought [3]	
Area VI: Creative and Fine Arts		
Choose one from the following:		
ARTH 1115G	Orientation in Art [3]	
ARTS 1145G	Visual Concepts [3]	
ARTH 2110G	History of Art I [3]	
MUSC 1110G	Music Appreciation: Jazz [3]	
MUSC 1130G	Music Appreciation: Western Music [3]	
THEA 1110G	Introduction to Theatre [3]	
General Education Elective [2]		**3-4**
Core Requirements		
Related/Professional Requirements (25-27 credits)		
BUSA 1115	Business English I	3
BUSA 1180	Business Mathematics	3
OTEC 1102	Keyboard Skillbuilding	3
BUSA 1210	Records Management	3
or HITP 1110	Electronic Health Records	
ACCT 1115	Accounting Principles I	3
or ACCT 2110	Principles of Accounting I	
OTEC 2260	Business Procedures	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
OTEC 2998	Internship I	3
or HITP 2998	Health Information Technology Internship	
BUSA 2175	Personal Development	3
Major Requirements		
Concentration Coursework		
OTEC 1125	Writing, Proofreading and Editing	3
OTEC 1103	Keyboard Skillbuilding II	3
OTEC 1125	Writing, Proofreading and Editing	3
BCIS 1220	Introduction to MS Word	3
BCIS 1215	Introduction to MS Excel I	3
BCIS 1230	Introduction to MS PowerPoint	3
OTEC 2999	Office Technology Capstone	3
Total Credits		**64-65**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4. HITP 1110 Electronic Health Records should be taken only by those who plan to pursue the Medical Office Assistant option.
5. OTEC 2998 Internship I/HITP 2998 Health Information Technology Internship are restricted to majors.

(62-63 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTS 1145G	Visual Concepts	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
BUSA 1115	Business English I	3
BUSA 1180	Business Mathematics	3
OTEC 1102	Keyboard Skillbuilding	3
BCIS 1220	Introduction to MS Word	3
	Credits	**15**
Semester 2		
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
BUSA 1210 or HITP 1110	Records Management or Electronic Health Records	3
ACCT 1115 or ACCT 2110	Accounting Principles I or Principles of Accounting I	3
OTEC 1125	Writing, Proofreading and Editing	3

OTEC 1103	Keyboard Skillbuilding II	3
	Credits	**16**
Semester 3		
SUMMER		
BUSA 2175	Personal Development	3
	Credits	**3**
Semester 4		
Area IV: Social/Behavioral Sciences		3
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
General Education Elective - choose one course from the NM General Education Requriements in the NMSU/DACC Catalog		3
OTEC 2260	Business Procedures	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
BCIS 1230	Introduction to MS PowerPoint	3
	Credits	**15**
Semester 5		
Area V: Humanities - Choose one from the following:		3
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
OTEC 1125	Writing, Proofreading and Editing	3
BCIS 1215	Introduction to MS Excel I	3
OTEC 2998 or HITP 2998	Internship I or Health Information Technology Internship	3
OTEC 2999	Office Technology Capstone	3
	Credits	**15**
	Total Credits	**64**

Office Administration Technology (Bookkeeping Assistant) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog (62-65 credits)

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, IV, V, and VI; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area IV: Social/Behavioral Sciences		
Choose one from the following:		
ECON 1110G	Survey of Economics [3]	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
Area V: Humanities		
Choose one from the following:		
HIST 1110G	United States History I [3]	
HIST 1120G	United States History II [3]	
HIST 1130G	World History I [3]	
HIST 1140G	World History II [3]	
HIST 1150G	Western Civilization I [3]	
HIST 1160G	Western Civilization II [3]	
PHIL 1120G	Logic, Reasoning, & Critical Thinking [3]	
PHIL 1140G	Philosophy and World Religions [3]	
PHIL 1145G	Philosophy, Law, and Ethics [3]	
PHIL 2110G	Introduction to Ethics [3]	
PHIL 2230G	Philosophical Thought [3]	
Area VI: Creative and Fine Arts		
Choose one from the following:		
ARTH 1115G	Orientation in Art [3]	
ARTS 1145G	Visual Concepts [3]	
ARTH 2110G	History of Art I [3]	
MUSC 1110G	Music Appreciation: Jazz [3]	
MUSC 1130G	Music Appreciation: Western Music [3]	
THEA 1110G	Introduction to Theatre [3]	
General Education Elective [2]		*3-4*
Core Requirements		
Related/Professional Requirements (25-27 credits)		
BUSA 1115	Business English I	3
BUSA 1180	Business Mathematics	3
OTEC 1102	Keyboard Skillbuilding	3
BUSA 1210	Records Management	3
or HITP 1110	Electronic Health Records	
ACCT 1115	Accounting Principles I	3
or ACCT 2110	Principles of Accounting I	
OTEC 2260	Business Procedures	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
BUSA 2175	Personal Development	3
OTEC 2998	Internship I	3
or HITP 2998	Health Information Technology Internship	
Major Requirements		
Concentration Coursework		
ACCT 1120	Accounting Principles II	3
ACCT 2170	Payroll Accounting	3
ACCT 1150	QuickBooks	3
BCIS 1215	Introduction to MS Excel I	3
ACCT 2520	Introduction to Auditing	3

ACCT 1410	Personal Tax Preparation	3
OTEC 2999	Office Technology Capstone	3
Total Credits		**64-65**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.
2 See the General Education (p. 56) section of the catalog for a full list of courses.
3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
4 HITP 1110 Electronic Health Records should be taken only by those who plan to pursue the Medical Office Assistant option.
5 OTEC 2998 Internship I/HITP 2998 Health Information Technology Internship are restricted to majors.

(62-63 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTS 1145G	Visual Concepts	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
BUSA 1115	Business English I	3
BUSA 1180	Business Mathematics	3
OTEC 1102	Keyboard Skillbuilding	3
	Credits	**16**
Semester 2		
Area IV: Social/Behavioral Sciences		3
ECON 1110G or ECON 2110G or ECON 2120G	Survey of Economics or Macroeconomic Principles or Principles of Microeconomics Honors	
BUSA 1210	Records Management	3
ACCT 1115 or ACCT 2110	Accounting Principles I or Principles of Accounting I	3
BCIS 1215	Introduction to MS Excel I	3
ACCT 1150	QuickBooks	3
	Credits	**15**
Semester 3		
General Education Elective - Choose one course from the NM General Education Requirements in the NMSU/DACC Catalog.		3-4
ACCT 1120	Accounting Principles II	3
ACCT 2170	Payroll Accounting	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
OTEC 2260	Business Procedures	3
	Credits	**15-16**
Semester 4		
Area V: Humanities - Choose one from the following:		3
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
OTEC 2998 or HITP 2998	Internship I or Health Information Technology Internship	3
BUSA 2175	Personal Development	3
ACCT 2520	Introduction to Auditing	3
ACCT 1410	Personal Tax Preparation	3
OTEC 2999	Office Technology Capstone	3
	Credits	**18**
	Total Credits	**64-65**

Office Administration Technology (Medical Office Assistant) - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(62-65 credits)

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	**Title**	**Credits**
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, IV, V, and VI; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		

ENGL 1110G	Composition I [3]	
Area IV: Social/Behavioral Sciences		
Choose one from the following:		
ECON 1110G	Survey of Economics [3]	
ECON 2110G	Macroeconomic Principles [3]	
ECON 2120G	Principles of Microeconomics Honors [3]	
Area V: Humanities		
Choose one from the following:		
HIST 1110G	United States History I [3]	
HIST 1120G	United States History II [3]	
HIST 1130G	World History I [3]	
HIST 1140G	World History II [3]	
HIST 1150G	Western Civilization I [3]	
HIST 1160G	Western Civilization II [3]	
PHIL 1115G	Introduction to Philosophy [3]	
PHIL 1120G	Logic, Reasoning, & Critical Thinking [3]	
PHIL 1140G	Philosophy and World Religions [3]	
PHIL 1145G	Philosophy, Law, and Ethics [3]	
PHIL 2110G	Introduction to Ethics [3]	
PHIL 2230G	Philosophical Thought [3]	
Area VI: Creative and Fine Arts		
Choose one from the following:		
ARTH 1115G	Orientation in Art [3]	
ARTS 1145G	Visual Concepts [3]	
ARTH 2110G	History of Art I [3]	
MUSC 1110G	Music Appreciation: Jazz [3]	
MUSC 1130G	Music Appreciation: Western Music [3]	
THEA 1110G	Introduction to Theatre [3]	
General Education Elective [2]		*3-4*
Core Requirements		
Related/Professional Requirements (25-27 credits)		
BUSA 1115	Business English I	3
BUSA 1180	Business Mathematics	3
OTEC 1102	Keyboard Skillbuilding	3
HITP 1110	Electronic Health Records	3
or BUSA 1210	Records Management	
ACCT 1115	Accounting Principles I	3
or ACCT 2110	Principles of Accounting I	
OTEC 2260	Business Procedures	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
OTEC 2998	Internship I	3
or HITP 2998	Health Information Technology Internship	
BUSA 2175	Personal Development	3
Major Requirements		
Concentration Coursework		
HITP 2208	Medical Office Procedures	3
HITP 2288	Medical Insurance Billing	3
HLSC 1510	Medical Terminology	3
HLSC 1520	Anatomy and Physiology for Health Careers	0-4
BCIS 1220	Introduction to MS Word	3
OTEC 2270	Medical Transcription	3
OTEC 2999	Office Technology Capstone	3
Total Credits		**61-66**

[1] Each course selected must be from a different area and students cannot take multiple courses in the same area.

[2] See the General Education (p. 56) section of the catalog for a full list of courses.

[3] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

[4] HITP 1110 Electronic Health Records should be taken only by those who plan to pursue the Medical Office Assistant option.

[5] OTEC 2998 Internship I/HITP 2998 Health Information Technology Internship are restricted to majors.

(62-63 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 62 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area VI: Creative and Fine Arts - Choose one from the following:		3
ARTH 1115G	Orientation in Art	
ARTH 2110G	History of Art I	
ARTS 1145G	Visual Concepts	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
BUSA 1115	Business English I	3
BUSA 1180	Business Mathematics	3
OTEC 1102	Keyboard Skillbuilding	3
	Credits	**16**
Semester 2		
Area IV: Social/Behavioral Sciences		3
ECON 1110G or ECON 2110G or ECON 2120G	Survey of Economics or Macroeconomic Principles or Principles of Microeconomics Honors	
HITP 1110 or BUSA 1210	Electronic Health Records or Records Management	3
HLSC 1510	Medical Terminology	3
ACCT 1115 or ACCT 2110	Accounting Principles I or Principles of Accounting I	3
BCIS 1220	Introduction to MS Word	3
	Credits	**15**
Semester 3		
HITP 2208	Medical Office Procedures	3
HLSC 1520	Anatomy and Physiology for Health Careers	0-4
OTEC 2260	Business Procedures	3
BCIS 1750	Microsoft Outlook and Office Procedures	3

OTEC 2270	Medical Transcription	3
	Credits	**12-16**
Semester 4		
Area V: Humanities - Choose one from the following:		3
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 1145G	Philosophy, Law, and Ethics	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
General Education Elective - Choose one course from the NM General Education Requirements in the NMSU/DACC Catalog.		3-4
HITP 2288	Medical Insurance Billing	3
OTEC 2998 or HITP 2998	Internship I or Health Information Technology Internship	3
BUSA 2175	Personal Development	3
OTEC 2999	Office Technology Capstone	3
	Credits	**18-19**
	Total Credits	**61-66**

Bookkeeping - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

Students must achieve a cumulative grade-point average of 2.0 with a final grade of C- or better in all required OATS courses.

Important information about the educational debt, earnings, and completion rates of students who attend this program can be found on the following https://consumerinfo.nmsu.edu/gainful-employment/index.html *(*https://consumerinfo.nmsu.edu/gainful-employment/*).*

Prefix	Title	Credits
BUSA 1180	Business Mathematics	3
ACCT 1115	Accounting Principles I	3
ACCT 1120	Accounting Principles II	3
ACCT 2170	Payroll Accounting	3
ACCT 1410	Personal Tax Preparation	3
BCIS 1215	Introduction to MS Excel I	3
QuickBooks		3
ACCT 1150	QuickBooks	
OTEC 2999	Office Technology Capstone	3
Total Credits		**24**

Bookkeeping Simulation requires completion/concurrent enrollment in ACCT 1115 Accounting Principles I, ACCT 1120 Accounting Principles II, ACCT 2170 Payroll Accounting, ACCT 1150 QuickBooks & ACCT 1410 Personal Tax Preparation.

The contents of this roadmap may vary depending on initial student placement in mathematics. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must achieve a cumulative grade-point average of 2.0 with a final grade of C- or better in all required OATS courses.

Students must complete all University certificate requirements to total at least 24 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

First Year		
Fall		**Credits**
BUSA 1180	Business Mathematics	3
ACCT 1115	Accounting Principles I	3
ACCT 2170	Payroll Accounting	3
BCIS 1215	Introduction to MS Excel I	3
	Credits	**12**
Spring		
ACCT 1120	Accounting Principles II	3
ACCT 1410	Personal Tax Preparation	3
QuickBooks		3
ACCT 1150	QuickBooks	
OTEC 2999	Office Technology Capstone	3
	Credits	**12**
	Total Credits	**24**

Office Administration Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(33 credits)

NOTE: Students who lack prior general office experience may need to take course-related prerequisites.

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 33 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements (33 credits)		
BUSA 1180	Business Mathematics	3
BUSA 2230G	Human Relations in Business	3
OTEC 1102	Keyboard Skillbuilding	3
BUSA 1210	Records Management	3
ACCT 1115 or ACCT 2110	Accounting Principles I Principles of Accounting I	3
BCIS 1750	Microsoft Outlook and Office Procedures	3
BCIS 1220	Introduction to MS Word	3
Choose one of the following two options: (12 credits)		

Bilingual Office Specialist or General Office Assistant Options	12
Total Credits	**33**

Bilingual Office Specialist Option

Prefix	Title	Credits
BUSA 2175	Personal Development	3
OTEC 2998	Internship I	3
or HITP 2998	Health Information Technology Internship	
SPAN 1511	Spanish for Human Services	3
SPAN 1410	Spanish for Health Care Professions	3
Total Credits		**12**

General Office Assistant Option

Prefix	Title	Credits
BCIS 1215	Introduction to MS Excel I	3
OTEC 2998	Internship I	3
or HITP 2998	Health Information Technology Internship	
BUSA 2175	Personal Development	3
Select one from the following:		3
HLSC 1510	Medical Terminology	
OTEC 2260	Business Procedures	
Total Credits		**12**

1 Business English placement test will determine whether BUSA 1115 Business English I is required before taking BUSA 1210 Records Management.

2 HITP 1110 Electronic Health Records should be taken only by those who plan to pursue the Medical Office Assistant Option.

3 HLSC 1510 Medical Terminology should be taken only by those who plan to pursue the Office Administration Technology Associate of Applied Science degree with the Medical Office Assistant option and/or Medical Transcription or Medical Billing certificate(s).

Bilingual Office Specialist (33 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all major requirement courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 33 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
BUSA 1210	Records Management	3
or HITP 1110	or Electronic Health Records	
BUSA 1180	Business Mathematics	3
BUSA 2230G	Human Relations in Business	3
OTEC 1102	Keyboard Skillbuilding	3
SPAN 1511	Spanish for Human Services	3
	Credits	**15**
Semester 2		
ACCT 1115	Accounting Principles I	3
or ACCT 2110	or Principles of Accounting I	
BCIS 1750	Microsoft Outlook and Office Procedures	3
BCIS 1220	Introduction to MS Word	3
BUSA 2175	Personal Development	3
SPAN 1410	Spanish for Health Care Professions	3
	Credits	**15**
Semester 3		
OTEC 2998	Internship I	3
or HITP 2998	or Health Information Technology Internship	
	Credits	**3**
	Total Credits	**33**

General Office Assistant (33 credits)

A Suggested Plan of Study

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NOTE: Students must earn a final grade of C- or better in all required OTEC, HLSC and HITP courses and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 33 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
BUSA 1180	Business Mathematics	3
BUSA 1210	Records Management	3
or HITP 1110	or Electronic Health Records	
BUSA 2230G	Human Relations in Business	3
OTEC 1102	Keyboard Skillbuilding	3
Choose one from the following:		3
HLSC 1510	Medical Terminology	
OTEC 2260	Business Procedures	
	Credits	**15**
Semester 2		
ACCT 1115	Accounting Principles I	3
or ACCT 2110	or Principles of Accounting I	
BCIS 1750	Microsoft Outlook and Office Procedures	3
BCIS 1220	Introduction to MS Word	3
BCIS 1215	Introduction to MS Excel I	3
BUSA 2175	Personal Development	3
	Credits	**15**

Semester 3		
OTEC 2998 or HITP 2998	Internship I or Health Information Technology Internship	3
	Credits	**3**
	Total Credits	**33**

Office Administration Technology - Medical Billing - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(19 credits)

NOTE: Students who lack prior health and/or general office experience may need to take course-related prerequisites.

NOTE: Students must earn a final grade of C- or better in all required HLSC and HITP courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements (19 credits)		
HLSC 1510	Medical Terminology	3
HITP 2208	Medical Office Procedures	3
HITP 2288	Medical Insurance Billing	3
HITP 2248	Medical Coding I	3
HITP 2258	Medical Coding II	3
HLSC 1520	Anatomy and Physiology for Health Careers	4
Total Credits		**19**

(19 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required HLSC and HITP courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
HLSC 1510	Medical Terminology	3
HITP 2208	Medical Office Procedures	3
	Credits	**6**
Semester 2		
HITP 2288	Medical Insurance Billing	3
HLSC 1520	Anatomy and Physiology for Health Careers	4
	Credits	**7**
Semester 3		
HITP 2248	Medical Coding I	3
	Credits	**3**
Semester 4		
HITP 2258	Medical Coding II	3
	Credits	**3**
	Total Credits	**19**

Office Administration Technology - Medical Transcription - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(19 credits)

NOTE: Students who lack prior health and/or general office experience may need to take course-related prerequisites.

NOTE: Students must earn a final grade of C- or better in all major requirement courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Technical Requirements		
HITP 2208	Medical Office Procedures	3
HLSC 1510	Medical Terminology	3
HLSC 1520	Anatomy and Physiology for Health Careers	4
OTEC 1125	Writing, Proofreading and Editing	3
OTEC 2270	Medical Transcription	3
BCIS 1220	Introduction to MS Word	3
Total Credits		**19**

(19 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all major requirement courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0.

Students must complete all University certificate requirements to total at least 19 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
HLSC 1510	Medical Terminology	3
HITP 2208	Medical Office Procedures	3
	Credits	**6**
Semester 2		
HLSC 1520	Anatomy and Physiology for Health Careers	4
OTEC 1125	Writing, Proofreading and Editing	3
	Credits	**7**
Semester 3		
OTEC 2270	Medical Transcription	3
	Credits	**3**
Semester 4		
BCIS 1220	Introduction to MS Word	3
	Credits	**3**
	Total Credits	**19**

Pre-Business

Associate Degree: Pre-Business

NOTE: The DACC Pre-Business program is also described in the *NMSU Undergraduate Catalog*.

The associate of pre-business degree is equivalent to the first 60 credit hours of any bachelor's degree program offered through the College of Business Administration and Economics at NMSU. The DACC associate-degree program includes the general education requirements and lower-division business core.

Students seeking an Accounting degree through the NMSU College of Business Administration and Economics may start with the DACC Pre-Business Degree and transfer to NMSU after completing the Associate Degree.

DACC's Associate in Applied Science degree programs in Pre-Business, Business, Administrative Office Technology, and Health Information Technology are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). All the certificates in those programs are also accredited, with the exception of the Business Fundamentals Certificate. The ACBSP emphasizes quality in teaching and student learning outcomes in business education through efforts that demonstrate adherence to business standards and performance results. The accreditation review process provides institutions with an opportunity to examine business programs and services on a continuous basis in order to foster excellence in teaching and student learning outcomes. Participation in the review process affirms the business unit's responsibility for the quality of business education and demonstrates a commitment to continuous quality improvement.

Pre-Business - Associate Degree (p. 402)

Name: Joaquin Tadeo, MBA

Department Chair, Business and Hospitality Services Departments

Office Location: DAEM 100G

Phone: (575) 528-7041

jtadeo@dacc.nmsu.edu

Website: https://dacc.nmsu.edu/academics/programs/pre-business/pre-business.html

Name: Erica Enriquez, Teaching Tech

Office Location: DAEM 100J

Phone: (575) 528-7277

Prebusiness - Associate in Prebusiness

Doña Ana Community College 2026-2027 Catalog

(60-62 credits)

This program is administered by NMSU College of Business. All courses listed may be applied toward a degree at NMSU.

NOTE: Students must earn a final grade of C- or better in all courses designated below with footnote # 3 and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific required credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition Level 1		
ENGL 1110G	Composition I (Grade of C- or higher required) [1]	4
English Composition Level 2		
ENGL 2210G	Professional and Technical Communication (Grade of C- or higher required) [1]	3
Oral Communication		
COMM 1115G	Introduction to Communication (Grade of C- or higher required)	3
or COMM 1130G	Public Speaking	
Area II: Mathematics		
MATH 1220G	College Algebra (Grade of C- or higher required) [1, 2]	3
Area III/IV: Laboratory Sciences and Social Behavioral Sciences		
Area III: Laboratory Sciences - The recommended Area III courses are below. Any other Area III course is also acceptable.		4
ASTR 1120G	The Planets Lecture & Laboratory	
or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
CSCI 1115G	Modern Computing in Practice	
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Area IV: Social/Behavioral Sciences - The recommended Area IV courses are below. Any other Area IV course is also acceptable.		*6*
ECON 2110G	Macroeconomic Principles [3,4]	
ECON 2120G	Principles of Microeconomics Honors [3,4]	
BUSA 2230G	Human Relations in Business	
Area V: Humanities - Any Area V course is acceptable. [5]		*3*
PHIL 1115G	Introduction to Philosophy	
Area VI: Creative and Fine Arts - The recommended Area VI course is below. Any other Area VI course is also acceptable.		*3*
ARTH 1115G	Orientation in Art (or any Area VI course)	

General Education Elective		
MATH 1430G	Applications of Calculus I [1, 3]	3
Core Requirements		
ENTR 1110	Entrepreneurship	3
Business Core, Lower Division		
ACCT 2110	Principles of Accounting I	3
ACCT 2120	Principles of Accounting II	3
BCIS 1110	Introduction to Information Systems	3
BUSA 1110	Intro to Business [7]	3
or AEEC 1110	Introduction to Agricultural Economics and Business	
Electives, to bring the total to 60 credits [6]		**13**
Recommended Electives		
BFIN 2110	Introduction to Finance	
BLAW 2110	Business Law I [7]	
or AEEC 2110	Principles of Food and Agribusiness Management	
MGMT 2110	Principles of Management	
or BMGT 140	Principles of Supervision I	
MKTG 2110	Principles of Marketing [7]	
or AEEC 3210	Marketing and Food Agricultural Products	
AEEC 2140	Technology and Communication for Business Management [7]	
Total Credits		**60**

1. Grade of *C-* or better required.
2. MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G first.
3. Majors in economics must have a final grade of *C-* or better in ECON 2110G Macroeconomic Principles, ECON 2120G Principles of Microeconomics Honors, and MATH 1350G Introduction to Statistics or equivalent, and MATH 1430G Applications of Calculus I.
4. Should not be taken until sophomore year.
5. Courses listed are taught at DACC. See these categories listed under "General Education (p. 56)"
6. Electives chosen in consultation with advisor or satellite center director. In most cases, a maximum of eight applied credits (i.e., credit for technical courses) may be counted toward this degree.
7. AEEC courses are for students pursuing the BS in Agricultural Economics and Agricultural Business Degree at NMSU. AEEC 2140 Technology and Communication for Business Management is a required elective.

(60-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all courses designated in the degree plan/requirements with footnote # 3 and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and program specific requirements to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ENGL 1110G	Composition I (or ENGL 1110H, ENGL 1110M, C- grade or higher required)	4
BCIS 1110	Introduction to Information Systems (C- grade or higher required to transfer to NMSU)	3
MATH 1215	Intermediate Algebra (or MATH 1220G, or MATH 1215 (depending on placement or satisfaction of prerequisites)	3
BUSA 1110 or AEEC 1110	Intro to Business (C- grade or higher required to transfer to NMSU) or Introduction to Agricultural Economics and Business	3
BUSA 2230G	Human Relations in Business	3
	Credits	**16**
Semester 2		
COMM 1115G or COMM 1130G	Introduction to Communication (or COM 1130G, C- grade or higher required to transfer to NMSU) or Public Speaking	3
MATH 1220G	College Algebra (if prerequisites met or other elective if MATH 1220G taken first semester)	3
ACCT 2110	Principles of Accounting I	3
ECON 2110G	Macroeconomic Principles	3
Area III: Laboratory Sciences - Choose one from the following. The recommended Area III courses are listed below. Any other Area III course in the NMSU/DACC Catalog is also acceptable.		4
ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
ASTR 1120G	The Planets Lecture & Laboratory	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
CSCI 1115G	Modern Computing in Practice	
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
Required Elective (AG Economics & Ag Business students only)		
AEEC 2140	Technology and Communication for Business Management	
	Credits	**16**
Semester 3		
ENGL 2210G	Professional and Technical Communication	3
MATH 1430G	Applications of Calculus I	3
ECON 2120G	Principles of Microeconomics Honors	3
ACCT 2120	Principles of Accounting II	3
Recommended Elective		3
MKTG 2110 or AEEC 3210	Principles of Marketing or Marketing and Food Agricultural Products	
	Credits	**15**
Semester 4		
Recommended Electives		3
ENTR 1110	Entrepreneurship	3
BLAW 2110 or AEEC 2110	Business Law I or Principles of Food and Agribusiness Management	

MGMT 2110 or BMGT 140	Principles of Management or Principles of Supervision I	
BFIN 2110	Introduction to Finance	
Elective or Area VI Creative and Fine Arts (if not previously satisfied)		3
Elective		4
	Credits	**13**
	Total Credits	**60**

Public Health

Associate of Public Health Degree

The Associate of Public Health (APH) teaches the first four responsibility areas of health education: assessment, planning, implementation, and evaluation of public health programs, to improve the health of our communities.

The associate of public health provides the initial coursework to prepare students for a career in public health. Public health is an exciting area of practice which takes a population-based focus to health. Individuals in this field interpret community data to determine health needs and intervention priorities. In addition to needs assessment, they work with community leaders to plan, implement, and evaluate community health education interventions such as smoking cessation, chronic and infectious disease awareness campaigns, vaccination programs, and family planning and prenatal care initiatives. This program is ideal for those who like to work with the public, yet who also like to take the broader view of how to promote the health of communities and groups of citizens.

The associate degree program fully articulates with the bachelor of public health program offered at NMSU-Las Cruces campus in the Department of Public Health Science (https://publichealth.nmsu.edu/), which also offers the master of public health at the graduate level. The courses in this associate of public health curriculum at DACC will meet the majority of NMSU's General Education degree requirements and are designed to give students a full overview of public health and community health education. There are no special admissions criteria for this program, but prospective majors should arrange an initial degree advising session with a public health faculty member in the Arts, Humanities and Social Sciences Division. The faculty member will also be able to advise students regarding choices for elective courses.

Community Health Worker Certificate

The sixteen-credit Community Health Worker (CHW) certificate is embedded within the DACC Associate of Public Health.The Community Health Worker certificate will train students to have a basic understanding of key public health issues like maternal and child health, chronic disease and environmental health. The program includes competencies such as: effective communication, interpersonal skills, health coaching, service coordination, capacity building, advocacy, community health outreach, and community knowledge and assessment. Upon completion of the DACC CHW Certificate, students may apply for CHW endorsement from the NM Department of Health.

NOTE: The Associate Degree in Public Health and the Community Health Worker Certificate may be obtained entirely online.

Visit the public health program website here. (https://dacc.nmsu.edu/academics/programs/public-health/)

Public Health - Associate Degree (p. 405)

Community Health Worker - Certificate of Completion (p. 408)

CHSS 1110. Intro to Health & Community Services
3 Credits (3)
This course offers a holistic and multidisciplinary approach towards health promotion, wellness and a healthy lifestyle. Emphasis is placed on the major problems/issues that have the greatest significance to personal and community health. Topics to be discussed include:nutrition, fitness, stress management, sexuality, drug education and others. May be repeated up to 3 credits.

Learning Outcomes

1. Understand basic foundations of community health –history, framework and present progress: Identify key historical advances, people and events in public health; Understand Healthy People 2020 goals and objectives; Understand the levels of prevention (primary, secondary, tertiary) of public health
2. Identify organizations that help shape community health and their role in promoting health: Governmental; Quasi-Governmental; Nongovernmental; Identify local resources/agencies focused on health and human services
3. Conduct research in public health: Identify major sources for public health research; Governmental websites; Journals; Interpret and evaluate public health resources for academic use; Write a basic journal article critique
4. Understand the history and function of the school health program: Identify components of a coordinated school health program; Identify and overcome barriers common to CSHP; Apply the CSHP to contemporary issues in child/adolescent health

CHSS 2510. Service Learning
4 Credits (4)
Service Learning Experience in Human and Community Service: Exploration of contemporary social, civil, economic and ethical problems that require student participation in collaborative efforts within the community. Restricted to Community Colleges campuses only.
Prerequisite: PHLS 2110.
Prerequisite/Corequisite: PHLS 1110G, CHSS 1110, and PHLS 2120.

Learning Outcomes

1. Understand the importance of service learning in community building and civic participation.
2. Students will complete 120 hours of service learning experience with a collaborating community agency.
3. Compile and submit a list of detailed daily service learning activities including contact individuals, meetings attended, presentations, specific tasks accomplished or contributions to agency or community, new skills learned, trainings, and number of hours spent on each activity.
4. Design a service learning project incorporating the key elements of Public Health, and addressing a need in the community.
5. Provide an oral presentation and write a personal reflection of the service learning experience in class.
6. Practice critical thinking, decision making skills, and civic responsibility in promoting better health and general well-being.

PHLS 1110G. Personal Health & Wellness
3 Credits (3)
A holistic and multi-disciplinary approach towards promoting positive lifestyles. Special emphasis is placed on major problems that have greatest significance to personal and community health. Topics to include nutrition, stress management, fitness, aging, sexuality, drug education, and others.

Learning Outcomes

1. Students will identify, describe and explain human health behaviors and how they are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities. Students should: Develop an understanding of self and the world by examining content and processes used by social and behavioral sciences to discover, describe, explain, and predict human behaviors and social systems.
2. Students will articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, biology, history, and social institutions. Students should: Enhance knowledge of social and cultural institutions and the values of their society and other societies and cultures in the world.
3. Students will describe ongoing reciprocal interactions among self, society, and the environment. Students should: Understand the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life.
4. Students will apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments. Students should: Articulate their role in a global context and develop an awareness and appreciation for diverse value systems in order to understand how to be good citizens who can critically examine and work toward quality of life within a framework of understanding and justice.

PHLS 2110. Foundations of Health Education
3 Credits (3)
Role and responsibility of the health educator with emphasis on small group dynamics, oral and written communication skills, building community coalitions and introduction to grant writing. Taught with PHLS 3210. Cannot receive credit for both PHLS 2110 and PHLS 3210.
Prerequisite: PHLS 1110G or consent of instructor.
Learning Outcomes

1. Define health, three levels of prevention, health education and health promotion, and describe the major determinants of health.
2. Describe the 7 major areas of responsibility, major competencies and sub-competencies of a professional health educator and the CHES's possible roles in various community health settings.
3. Describe and examine the historical context and development of the profession of health education.
4. Identify and critique major processes and practices of health education programming.
5. Describe the steps involved in conducting needs assessments, program and intervention planning, implementation, and program evaluation.
6. Identify, examine and describe elected health behavior change theories and models and explore possible applications in health education practice.
7. Describe and discuss the process of community mobilization and building of a community coalition.
8. Identify health issues and describe effective methods/strategies in health education advocacy.
9. Describe and discuss the future trends and issues in the professional preparation and practice of professional health educators. 1
10. Demonstrate effective and appropriate oral and written communication skills for health education professionals.

PHLS 2120. Essentials of Public Health
3 Credits (3)
The course will focus on principles and major areas if public health, including ecological and total personal concept of health care system, epidemiological approaches to disease prevention and control . Consent of Instructor required.
Learning Outcomes

1. Understand the sources of public health data, and how to interpret that information.
2. Access existing health related data.
3. Analyze health related data.
4. Identify populations for health education programs.
5. Incorporate data analysis and principles of community organization.
6. Interpret results from evaluation and research.
7. Infer implications from findings for future health–related activities.
8. Have a basic understanding of health topics faced by various populations.

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Phone: (575) 528-7033

DACC Public Health Website (https://dacc.nmsu.edu/academics/programs/public-health/)

Name: Amy Collins, Professor

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DACC Public Health Website (https://dacc.nmsu.edu/academics/programs/public-health/)

Public Health - Associate of Public Health

Doña Ana Community College 2026-2027 Catalog

(60-64 credits)

NOTE: Students must earn a final grade of C- or better in all required Public Health courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I	4
English Composition - Level 2		
ENGL 2210G	Professional and Technical Communication	3
or ENGL 2221G	Writing in the Humanities and Social Science	
Oral Communication		
COMM 1130G	Public Speaking	3

or COMM 1115G	Introduction to Communication	
Area II: Mathematics		
MATH 1350G	Introduction to Statistics	3
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*10-11*
Area III: Laboratory Sciences Course (4 credits) [2]		
Choose one from the following:		
ASTR 1120G	The Planets Lecture & Laboratory	
or ASTR 1115G	Introduction to Astronomy Lecture & Laboratory	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
CSCI 1115G	Modern Computing in Practice	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
PHYS 1115G	Survey of Physics with Lab	
or PHYS 1230G/1230L	Algebra-Based Physics I	
Area IV: Social/Behavioral Sciences (3 credits) [2]		
Choose one from the following:		
ANTH 1140G	Introduction to Cultural Anthropology	
ANTH 1115G	Introduction to Anthropology	
ANTH 1160G	World Archaeology	
CEPY 1120G	Human Growth and Behavior	
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
POLS 1130G	Issues in American Politics	
POLS 2120G	International Relations	
JOUR 105G	Media and Society	
LING 2110G	Introduction to the Study of Language and Linguistics	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
SOWK 2110G	Introduction to Human Services & Social Work	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
Either an Area III/IV: Laboratory Sciences or Social/Behavioral Sciences Course (3 or 4 credits) [2]		
Area V: Humanities		
Choose one from the following:		3
ENGL 2520G	Film as Literature	
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	
PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
Area VI: Creative and Fine Arts		
Choose one from the following:		3
ARTH 1115G	Orientation in Art	
ARTS 1145G	Visual Concepts	
ENGL 2310G	Introduction to Creative Writing	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
General Education Elective [2]		*3-4*
Core Requirements		
Related Requirements [3]		
Select 12-14 credits of electives from the following:		12-14
HLSC 1510	Medical Terminology	
HLSC 1540	Legal and Ethical Issues in Health Care	
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
BIOL 2210	Human Anatomy and Physiology I	
BIOL 2225	Human Anatomy and Physiology II	
CEPY 1120G	Human Growth and Behavior	
CEPY 2110	Learning in the Classroom	
DHYG 2244	Dental Public Health Education	
ENGL 2210G	Professional and Technical Communication	
FCST 1130	Interpersonal Skills in Intimate Relationships	
FYEX 1110	First-year Seminar	
JOUR 105G	Media and Society	
MATH 1350G	Introduction to Statistics	
NUTR 2110	Human Nutrition	
SOCI 2310G	Contemporary Social Problems	
SOWK 2110G	Introduction to Human Services & Social Work	
SPAN 1110	Spanish I	
or SPAN 1220	Spanish for Heritage Learners II	
Other related requirements may be approved by the department.		
Major Requirements		
Technical Requirements [4]		*16*
PHLS 1110G	Personal Health & Wellness [5]	
CHSS 1110	Intro to Health & Community Services [6]	
CHSS 2510	Service Learning [7]	
PHLS 2110	Foundations of Health Education [6, 7]	
PHLS 2120	Essentials of Public Health [6]	
Total Credits		**60-64**

1 MATH 1350G Introduction to Statistics is required for the Associate of Public Health degree but students may first need to take any prerequisites needed to enter MATH 1350G Introduction to Statistics.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

[3] "G" courses may be counted as "Related Requirements" and General Education" requirements, but students must have a total of 60 credits to complete the degree.

[4] A grade of *C-* or better is required in all courses listed under Technical Requirements. The CHSS and PHLS courses listed here may be applied toward the bachelor's degree program in Public Health at NMSU.

[5] PHLS 1110G Personal Health & Wellness is a Technical Requirement for the Associate of Public Health AND an Area IV General Education Requirement. It may be counted for both, but students must complete a total of 60 credits to earn the degree.

[6] Courses align with those offered at New Mexico State University Las Cruces (main) Campus.

[7] PHLS 2110 Foundations of Health Education is a prerequisite for CHSS 2510 Service Learning.

(60-64 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Public Health courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
Area I: Communications – English Composition Level 1		4
ENGL 1110G	Composition I	
Area I: Communications – Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area II: Mathematics		3
MATH 1350G	Introduction to Statistics	
PHLS 1110G	Personal Health & Wellness	3
General Education Elective - See the General Education section of the catalog for a full list of courses.		3-4
	Credits	**16-17**
Semester 2		
Area I: Communications – English Composition Level 2		3
ENGL 2210G or ENGL 2221G	Professional and Technical Communication or Writing in the Humanities and Social Science	
Area III: Laboratory Sciences - Choose one from the following:		4
ASTR 1115G or ASTR 1120G	Introduction to Astronomy Lecture & Laboratory or The Planets Lecture & Laboratory	
BIOL 1120G & BIOL 1120L	Human Biology and Human Biology Laboratory	
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CSCI 1115G	Modern Computing in Practice	
GEOG 1110G	Physical Geography	
GEOL 1110G	Physical Geology	
PHYS 1115G or PHYS 1230G/1230L	Survey of Physics with Lab or Algebra-Based Physics I	
Area IV: Social/Behavioral Sciences - choose one of the following:		3
ANTH 1115G	Introduction to Anthropology	
ANTH 1140G	Introduction to Cultural Anthropology	
ANTH 1160G	World Archaeology	
CEPY 1120G	Human Growth and Behavior	
CJUS 1110G	Introduction to Criminal Justice	
ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
GEOG 1120G	World Regional Geography	
GEOG 1130G	Human Geography	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
JOUR 105G	Media and Society	
LING 2110G	Introduction to the Study of Language and Linguistics	
POLS 1110G	Introduction to Political Science	
POLS 1120G	American National Government	
POLS 1130G	Issues in American Politics	
POLS 2120G	International Relations	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
SOWK 2110G	Introduction to Human Services & Social Work	
CHSS 1110	Intro to Health & Community Services	3
PHLS 2110	Foundations of Health Education	3
	Credits	**16**
Semester 3		
Area III: Laboratory Sciences or Area IV - Social/Behavioral Sciences - Select one course from either Area III or Area IV in the NMSU/DACC Catalog. A list of recommended Area III and Area IV courses can be found in Semester 2.		3-4
Area V: Humanities - Choose one from the following:		3
ENGL 2520G	Film as Literature	
ENGL 2650G	World Literature I	
HIST 1110G	United States History I	
HIST 1120G	United States History II	
HIST 1130G	World History I	
HIST 1140G	World History II	
HIST 1150G	Western Civilization I	
HIST 1160G	Western Civilization II	

PHIL 1115G	Introduction to Philosophy	
PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 1140G	Philosophy and World Religions	
PHIL 2110G	Introduction to Ethics	
PHIL 2230G	Philosophical Thought	
Creative and Fine Arts -Choose one from the following:		3
ARTH 1115G	Orientation in Art	
ARTS 1145G	Visual Concepts	
ENGL 2310G	Introduction to Creative Writing	
MUSC 1110G	Music Appreciation: Jazz	
MUSC 1130G	Music Appreciation: Western Music	
THEA 1110G	Introduction to Theatre	
PHLS 2120	Essentials of Public Health	3
	Credits	**12-13**
Semester 4		
CHSS 2510	Service Learning	4
Related Requirements - Choose 3 or 4 courses from the following to equal to 12 credits not exceeding 14 credits		12-14
Other related requirements may be approved by the department.		
HLSC 1510	Medical Terminology	
HLSC 1540	Legal and Ethical Issues in Health Care	
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
BIOL 2210	Human Anatomy and Physiology I	
BIOL 2225	Human Anatomy and Physiology II	
CEPY 1120G	Human Growth and Behavior	
CEPY 2110	Learning in the Classroom	
DHYG 2244	Dental Public Health Education	
ENGL 2210G	Professional and Technical Communication	
FCST 1130	Interpersonal Skills in Intimate Relationships	
FYEX 1110	First-year Seminar	
JOUR 105G	Media and Society	
MATH 1350G	Introduction to Statistics	
NUTR 2110	Human Nutrition	
SOCI 2310G	Contemporary Social Problems	
SOWK 2110G	Introduction to Human Services & Social Work	
SPAN 1110 or SPAN 1220	Spanish I or Spanish for Heritage Learners II	
	Credits	**16-18**
	Total Credits	**60-64**

Community Health Worker - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(16 credits)

Note: The Community Health Worker Certificate may be obtained entirely online.

NOTE: Students must earn a final grade of C- or better in all required Public Health courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 16 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
NOTE: All of the acquired coursework is accepted for full credit towards Associate of Public Health at DACC.		
CHSS 1110	Intro to Health & Community Services [1]	3
CHSS 2510	Service Learning [1]	4
PHLS 2110	Foundations of Health Education [1]	3
PHLS 1110G	Personal Health & Wellness [1]	3
COMM 1115G	Introduction to Communication [1]	3
Total Credits		**16**

[1] All courses are available online or on-campus

(16 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required Public Health courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 16 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications – Oral Communications		3
COMM 1115G or COMM 1130G	Introduction to Communication or Public Speaking	
Area IV: Social/Behavioral Sciences		3
PHLS 1110G	Personal Health & Wellness	
CHSS 1110	Intro to Health & Community Services	3
	Credits	**9**
Semester 2		
CHSS 2510	Service Learning	4
PHLS 2110	Foundations of Health Education	3
	Credits	**7**
	Total Credits	**16**

Radiologic Technology

Associate of Applied Science Degree: Radiologic Technology

Certificate of Completion: Computed Tomography

Radiologic Technologists are an important part of the medical team. They produce medical images (radiographs), carry out diagnostic procedures, determine safe radiation exposure limits, and collect technical data necessary to assess client (patient) status. Job prospects in the Las Cruces/El Paso area are occasionally limited, but nationwide there is

faster-than-average job growth with many opportunities for persons seeking entry-level positions.

Students in the Radiologic Technology program receive training both in the classroom and in clinical settings, where they work alongside nurses, physicians, and other health-care professionals. In the classroom, students learn about the anatomy and function of the human body, radiographic physics and equipment, and radiographic procedures. Students acquire skills in radiation protection for the patient and for the health professional. Laboratory activities teach the proper positioning of an injured or ill patient. Clinical work offers students training in diagnostic radiology and introduces the student to various other imaging modalities. The clinical work is offered in Las Cruces, T or C, Alamogordo, Artesia, Carlsbad, Deming, Ruidoso, Silver City, and El Paso.

Graduates of the program are eligible to take (and must pass) the American Registry of Radiologic Technologists (ARRT) national certification exam in order to obtain employment in this field. It should be noted that felony or misdemeanor convictions may make a student ineligible to take the ARRT exam. Many states also require a license to practice as a radiographer in that state. Continuing education is required with both the ARRT and state licenses to retain current certification status. Recertification is required every ten (10) years in order to maintain ARRT national certification.

The DACC Radiologic Technology program is fully accredited by the Joint Review Committee on Education in Radiologic Technology.

Special Admissions Criteria

Radiologic Technology is a limited-entry program. Prior to applying to the program, students will have taken all program Core and Related Requirements. The following items are among the criteria considered in the selection of program applicants:

- Minimum overall college GPA depends on TEAS assessment (3.0 with > 60% of TEAS or 3.3 with < 60% on TEAS)
- TEAS assessment test
- GPA in Core and Related Requirements courses
- County of residence
- Completion of advanced science or math courses
- Second or third application with a 3.4 GPA
- Students must pass background check, FBI fingerprint and drug screen
- Successful completion of interview process

A complete list is included in the application packet, available at the Health and Public Services Office in room DAHL-190 (575) 527-7630.

Required Skills and Abilities

Students should be able to demonstrate good oral expression (speech clarity), written comprehension, near vision, critical thinking skills, and physical stamina (e.g., the ability to stand for long periods of time, manipulate radiographic equipment, and move/lift patients).

DACC Radiologic Technology Mission

The mission of the DACC Radiologic Technology Program is to provide the student with the academic knowledge and clinical skills necessary to attain eligibility for certification and meaningful employment in the diagnostic imaging profession.

NOTE: Students in the Radiologic Technology program are required to complete and pass a security background check, FBI fingerprinting, and drug screening in order to participate in clinical education classes. Past criminal violations may prevent a student from completing the degree and gaining employment in the field.

Certificate Program in Computed Tomography

Computed Tomography (CT) is a branch of radiology that employs specialized radiography equipment to produce sectional images of the human anatomy. The CT technologist performs various diagnostic procedures under the supervision of a licensed radiologist or in most cases, a licensed technologist. In order to produce quality images, the CT technologist must be able to work effectively with patients and health professionals, operate sophisticated computer equipment, and observe radiation protection measures. Job prospects in the Las Cruces/El Paso area are occasionally limited, but nationwide there is faster-than-average job growth with many opportunities for persons seeking entry-level positions.

Graduates of the program are eligible to take the American Registry of Radiologic Technologists (ARRT) National Computed Tomography Certification Exam. It should be noted that felony or misdemeanor convictions may make a student ineligible to take the ARRT exam. Many states also require a license to practice as a radiographer in that state. Continuing education is required with both the ARRT and state licenses to retain current certification status.

Special Admission Requirements

In order for students to be admitted to the CT program, they must be certified by the American Registry of Radiologic Technologists (ARRT) in Radiologic Technology, Radiation Therapy, or Nuclear Medicine. Nuclear medicine technologists may also be certified by the ARRT or by the Nuclear Medicine Technologist Certification Board (NMTCB). The program is offered online in order to allow students from all over New Mexico and other parts of the country to enroll. Each cohort of students admits up to 12+ students per new class offering. The student must have a minimum overall college GPA of 3.0.

NOTE: Students in the Computed Tomography program are required to complete and pass a security background check, FBI fingerprinting, and drug screening in order to participate in clinical education classes. Past criminal violations may prevent a student from completing the degree and gaining employment in the field.

Required Skills and Abilities

The student will acquire and develop the education and skills necessary to perform as an entry-level computed tomography technologist.

The student will develop learning habits that will demonstrate a commitment to professional and personal growth by participating in professional activities and continuing education.

The student will understand and apply methods for effective problem-solving, critical thinking, and communication skills.

Important Facts About This Certificate Program

For information concerning the total cost, financing, time to completion, and job placement rates associated with this program, visit the following web page: https://dacc.nmsu.edu/academics/programs/radiologic-

technology/index.html (https://dacc.nmsu.edu/academics/programs/radiologic-technology/)

Associate of Applied Science: Radiologic Technology (p. 414)

Computed Tomography - Certificate of Completion (p. 415)

RADT 1115. Fundamentals of Radiographic Imaging
2 Credits (2)
This course provides students with an in-depth knowledge of radiographic exposure techniques and the factors affecting radiographic image quality. It covers digital imaging with related accessories and emphasizes radiographic critique for diagnostic quality control. Additionally, the course reinforces radiologic fundamentals, introducing instrumentation and technology used in digital imaging. Topics include capturing, processing, displaying, and managing digital images, as well as exposure techniques and exposure indicators. Laboratory activities provided to reinforce radiographic concepts.
Learning Outcomes
1. Explain the principles of radiation production, image formation, and digital imaging systems.
2. Demonstrate proper techniques for exposure selection, scatter control, and radiation protection.
3. Compare radiographic digital imaging systems, assessing their advantages and limitations.
4. Evaluate radiographic images for technical accuracy and apply necessary adjustments.
5. Apply quality control measures and automatic exposure control to ensure optimal imaging outcomes.

RADT 1130L. Introduction to Radiographic Imaging Applied Clinic Skills
1 Credit (3P)
Applied clinical skills Laboratory to provide the student with an in-depth knowledge of radiographic exposure technique and the factors affecting radiographic image quality.
Corequisite: RADT 1115.
Learning Outcomes
1. Demonstrate techniques for radiographic scatter control and grid utilization.
2. Apply exposure selection principles.
3. Analyze and utilize automatic exposure control in imaging.
4. Assess radiographic images for technical accuracy and make necessary adjustments.
5. Apply radiation protection methods for patients and personnel.
6. Utilize radiographic equipment and apply quality control measures.

RADT 1140. Radiographic Positioning I
2 Credits (2)
This course covers the fundamental principles and techniques of diagnostic radiography, including radiographic procedures, patient positioning, terminology, and the mechanics of image production. Students will learn and apply these concepts to the upper and lower extremities, chest, abdomen, and pelvis/hip. The course emphasizes radiographic anatomy, particularly osteology and arthrology, as it relates to routine radiographic procedures.
Learning Outcomes
1. Master radiographic terminology related to positioning, projection, anatomy, medical abbreviations, positioning aids, accessory equipment, and lead markers, explaining their function and application.
2. Evaluate patient care considerations.
3. Explain the basic principles of radiation protection.
4. Describe the basic principles of image acquisition, display, and standards, including common errors, appearance characteristics, procedural factors, and corrective actions.
5. Evaluate orders, requests, and diagnostic reports.

RADT 1140L. Radiographic Positioning I Laboratory
1 Credit (3P)
Applied clinical skills Laboratory in radiographic procedures and positioning concepts, techniques, terminology, and mechanics related to upper and lower extremities, chest, abdomen and pelvis/hip.
Corequisite: RADT 1140.
Learning Outcomes
1. Apply knowledge of radiographic procedures, including routine and special views, to clinical simulations for the chest, abdomen, and upper and lower extremities.
2. Demonstrating understanding of positioning considerations.
3. Analyze radiographic images.
4. Apply the basic principles of radiation protection.
5. Apply basic principles of image acquisition, display, and standards, considering common errors, appearance characteristics, procedural factors, and corrective actions.

RADT 1150. Radiographic Positioning II
2 Credits (2)
Continuation of Radiographic Positioning I including a study of the osteology and arthrology of the thorax, vertebral column, skull, facial bones, and sinuses. Discussion and demonstration of the related standard and special radiographic projections resents the fundamentals of radiographic anatomy, positioning, and terminology used in routine fluoroscopic procedures of the gastrointestinal and genitourinary tract with discussion and demonstration of the related radiographic projections.
Prerequisite: RADT 1140.
Learning Outcomes
1. Identify preparation and positioning aides for Radiological Procedures.
2. Identify evaluation criteria to determine acceptable radiographs.
3. Identify anatomy and physiology for Radiological Procedures.
4. Show use of patient care and radiation protection practices in Radiological Procedures.

RADT 1150L. Radiographic Positioning II Laboratory
1 Credit (3P)
Continuation of Radiographic Positioning I. Applied Clinical Skills Laboratory: Includes vertebral column, skull, facial bones, sinuses, gastrointestinal, urinary, and fluroscopic procedures.
Corequisite: RADT 1150.
Learning Outcomes
1. Model knowledge of radiographic procedures, including routine floroscopic procedures.
2. Evaluate positioning considerations.
3. Demonstrate Radiological Procedures and apply proper patient position and CR placement to obtain proper evaluation criteria.

RADT 1154. Radiographic Anatomy and Physiology
3 Credits (3)
Basic A&P for radiographic application. Includes a systems approach to body structures and organs as they relate to anatomical projections, radiographic identification, and various imaging modalities.

Prerequisite: C- or above in the following courses AHS 153 or AHS 140 or BIOL 2210 or BIOL 1130, or consent of instructor.

Learning Outcomes

1. Identify and Laboratoryel the anatomy associated with diagnostic X-ray images.
2. Critique x-ray images for the presence or absence of anatomy in deciding whether the x-ray is appropriately positioned and diagnostic for radiologist assessment.
3. Locate anatomical systems based on background knowledge of typical anatomical locations and identify normal course of system function for appropriate positioning, patient instructions, and x-ray imaging.
4. Apply knowledge in a testing environment mimicking what is expected for the ARRT Registry.

RADT 1175. Introduction to Radiologic Technology and Patient Care
3 Credits (3)

This course provides a foundational overview of the radiology profession, encompassing basic patient care skills, professional standards, and ethical/legal principles. Students will learn essential skills such as patient transportation, vital sign assessment, and effective communication, while also being introduced to specific radiographic patient care techniques including history taking, immobilization, managing medical emergencies, and the administration of contrast media and radiopharmaceuticals. Additionally, the course will cover core concepts of radiation protection, and basic and specialized procedures, all within the framework of professional ethics and terminology.

Learning Outcomes

1. Demonstrate a working knowledge of medical terminology, procedures, and the roles of various healthcare professionals, including those specializing in medical imaging and radiologic sciences.
2. Critically analyze medical reports, orders, and requests, applying evidence-based practices to inform patient care decisions.
3. Evaluate patient health status using vital signs, Laboratory tests, pain assessments, and patient records, and respond appropriately to medical emergencies and traumatic injuries.
4. Implement infection control protocols, utilizing appropriate procedures, equipment, and knowledge of infectious pathogens.
5. Explain drug classifications, administration routes, safety practices, and the use of contrast agents in radiography.
6. Apply ethical principles and legal considerations to healthcare scenarios, including informed consent and navigating ethically complex situations.
7. Exhibit professional behavior in healthcare settings, demonstrating effective communication, cultural sensitivity, and an understanding of the psychological aspects of patient care.

RADT 1190. CT Equipment and Methodology
3 Credits (3)

Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, and quality assurance and radiation protection.

Learning Outcomes

1. Demonstrate acquisition of comprehensive technical knowledge by obtaining a seventy-five percent or greater on all quizzes and exam assessments (this is in alignment with the scoring expectations for the national registry exam).
2. Manipulate and choose the appropriate scan parameters and technical factors on CT equipment while applying the technical science supporting the decision.
3. Demonstrate appropriate use of post-processing options and provide diagnostic quality images.
4. Abide by radiation safety and dosimetry standards for patient care by demonstrating ALARA standards.
5. Select CT scan manipulations for optimal demonstration of anatomic region, according to protocol (delayed imaging, multiplanar reconstructions, filters) and with safe use of iodinated contrast mediums.
6. Recognize and reduce factors that may inhibit diagnostic image quality.

RADT 1191. Computed Tomography (CT) Imaging and Equipment
4 Credits (4)

This course serves as an introduction to computed tomography (CT) for current radiologic technology students. Course will include information on clinical equipment and application of x-rays in CT, CT image formation, evaluation, and archiving, patient radiation safety and dose, and patient interactions and management for imaging.

Learning Outcomes

1. Demonstrate acquisition of comprehensive technical knowledge by obtaining a seventy-five percent or greater on all quizzes and exam assessments (this is in alignment with the scoring expectations for the national registry exam).
2. Identify critical components of CT system equipment and what their purposes are in creating a CT image.
3. Identify CT parameters which allow for safely administering radiation dose; particularly to pediatric patients.
4. List and define the steps required to acquire a CT image, including the theory behind x-ray interaction/absorption/ attenuation, detector capabilities, appropriate reconstruction options, and computer equipment.
5. Identify image display functions and radiology informatic options.
6. Identify the major technical components of image display in CT and common artifacts, including how to reduce artifacts.

RADT 1520. Radiation Biology and Protection
2 Credits (2)

This course explores the biological effects of ionizing radiation on human cells and tissues, including genetic, somatic, short-term, and long-term effects. It covers radiation measurements, policies, and protection measures for technologists, patients, and others, emphasizing minimizing exposure and basic protection methods. The course also reviews current regulations and recommendations by the NRCP and ICRP.

Prerequisite: C- or above in RADT 1115.

Learning Outcomes

1. Radiobiology: Explain fundamental principles, molecular/cellular aspects, early/late radiation effects, and related regulations/ terminology.
2. Radiation Protection: Describe health physics, protection design, and patient/personnel dose management, including methods to limit radiation exposure.
3. Human Biology Ionization: Discuss relevant aspects of human biology and the consequences of ionization in human cells.
4. Cellular Response to Radiation: Examine factors affecting cell radiosensitivity, direct/indirect effects of radiation, dose-response relationships, and the significance of LD50/30 and LD50/60 radiation.

RADT 1811. Radiographic Positioning I Clinical Experience
1 Credit (4P)
Introduction to the clinical environment. Students will complete administrative duties, perform basic diagnostic radiography exams and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.
Corequisite: RADT 1140.
Learning Outcomes
1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.

RADT 1812. Radiographic Positioning II Clinical Experience
1 Credit (4P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.
Corequisite: RADT 1150.
Learning Outcomes
1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Model effective communication skills.

RADT 1997. Radiologic Technology Independent Study
1-6 Credits (1-6)
Varies. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

RADT 2250. Radiographic Image Critique
2 Credits (2)
This course reviews radiographs, evaluating anatomy and technical quality, including positioning and technique. Students learn to make adjustments and reinforce concepts through classroom activities.
Prerequisite: RADT 2811.
Learning Outcomes
1. Optimal Projections Labeling: State key components of optimal projections, properly display body structures, and accurately Laboratoryel projections using markers and annotations.
2. Comprehensive Imaging Knowledge: For all major body regions (chest, abdomen, extremities, pelvis, shoulder girdle, bony thorax, spine, skull): identify anatomy, state technical data, identify positioning errors, describe considerations for special conditions (air-fluid levels, motion, pathology), and discuss adaptive techniques.
3. Digital Imaging: Demonstrate familiarity with digital image acquisition, errors, and display.
4. Image Analysis: Perform image analysis, including appearance standards, characteristics, procedural factors, and corrective actions.

RADT 2404. Radiographic Special Modalities
3 Credits (3)
Introduction and discussion of various special procedures and modalities including but not limited to: interventional radiography, computed tomography, magnetic resonance imaging, nuclear medicine, radiation therapy, ultrasound.
Prerequisite: RADT 1115.
Learning Outcomes
1. Attain basic knowledge of the various imaging modalities and differentiate between images produced by those modalities.
2. Explain general equipment requirements.
3. Identify various contrast agents used by different modalities and define potential contraindications.
4. Explain the use of artificial intelligence for the various modalities.

RADT 2408. Radiographic Pathology
3 Credits (3)
This course explores the pathology of major body systems and corresponding radiographic imaging techniques. Students learn about disease processes (etiology, signs/symptoms, diagnosis, and treatment) and identify pathological signs on various images, emphasizing radiography. Fundamental anatomy and physiology are integrated, focusing on anatomical projections, radiographic identification, and imaging modalities (including CT and MRI).
Prerequisite: RADT 1154.
Learning Outcomes
1. Describe and identify anatomical structures on diagrams and radiographs.
2. Classify and explain pathological conditions affecting major body systems.
3. Identify pathologies, assess radiographic appearance, and evaluate imaging accuracy.
4. Define key terms, use medical abbreviations, and understand diagnostic reports.
5. Position patients correctly, assess images, and apply technical adjustments.
6. Identify radiation types, effects, and imaging modalities for diagnosis and treatment.
7. Critique images, locate pathology, and demonstrate readiness for certification exams.

RADT 2410. Radiographic Physics and Equipment
3 Credits (3)
This course offers a comprehensive exploration of the physical principles of diagnostic radiography, covering radiologic physics, imaging theory, and quality assurance. Students will examine atomic structure, electromagnetism, X-ray production and interaction, exposure factors, scatter control, and image characteristics. The curriculum also includes digital fluoroscopy, X-ray circuitry, and an introduction to advanced imaging modalities such as mammography, CT, and MRI.
Prerequisite/Corequisite: C- or above in RADT 1115.
Learning Outcomes
1. Explain the structure of atoms and types of radiation.
2. Describe X-ray production and factors affecting image quality.
3. Explain photon interactions with matter.
4. Identify key components of the X-ray circuit and X-ray tube.
5. Apply physics and math principles to radiographic procedures and equipment.
6. Analyze radiographic images for accuracy and quality.

RADT 2811. Clinical Experience I
4 Credits (4P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.
Prerequisite: RADT 2410.

Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.

RADT 2812. Clinical Experience II
6 Credits (6P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiograph exams, and provide patient care under direct/indirect supervision of a qualified registered radiologic technologist as assigned. Evening/weekend, CT, and OR rotations will be offered where available.
Prerequisite: RADT 2811.
Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.
5. Demonstrate the ability to use independent judgement.
6. Analyze radiographic images for technical and positioning accuracy to make modifications as needed.
7. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 2813. Clinical Experience III
3 Credits (3P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Evening/weekend, CT and OR rotations will be offered where available.
Prerequisite: C- or above in RADT 2812.
Learning Outcomes

1. Students will demonstrate the ability to safely produce diagnostic radiographic images.
2. Be able to position patients and identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.
5. Demonstrate the ability to use independent judgement.
6. Analyze radiographic images for technical and positioning accuracy to make modifications as needed.
7. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.
8. Identify opportunities for professional growth within medical imaging sciences.

RADT 2814. Special Modalities Clinical Experience IV
3 Credits (3P)
Clinical Experience: Special rotations in advanced imaging modalities to include but are not limited to nuclear medicine, sonography, mammography, MRI, CT, interventional radiology, and cardiac catheterization Laboratory.
Corequisite: C- or above in RADT 2404.
Learning Outcomes

1. Identify, compare, and evaluate various specialized modalities in medical imaging, including but not limited to Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound, Nuclear Medicine, and Interventional Radiology.
2. Demonstrate principles, applications, and patient care considerations associated with each modality, as well as the role of advanced imaging in diagnosis and treatment within the healthcare setting.
3. Demonstrate effective communication skills.
4. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.
5. Identify various opportunities for professional growth within medical imaging sciences.
6. Develop and refine professional job-seeking skills, including crafting an effective resume and cover letter, preparing for interviews, and demonstrating workplace professionalism.

RADT 2817. Cross Sectional Anatomy for Medical Imaging
3 Credits (3)
Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging.
Learning Outcomes

1. Identify and Laboratoryel the anatomy associated with the topical outline in diagnostic CT images.
2. Critique CT images for the presence or absence of anatomy and pathology in deciding whether the image is appropriately positioned and diagnostic for radiologist assessment.
3. Locate anatomical systems and possible pathology based on background knowledge of typical anatomical locations and identify normal course of system function for appropriate positioning, patient instructions, and CT imaging.

RADT 2818. Clinical Experience I (Computed Tomography)
2 Credits (2P)
A basic, introductory health-related, work-based learning experience that enables students to apply specialized occupational theory, skills, and concepts. The clinic professional provides direct supervision.
Learning Outcomes

1. Complete at least 55 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication at a beginner level.
3. Identify necessary Laboratory values for contrast-enhanced CT exams at a beginner level.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast.

RADT 2819. Clinical Experience II (Computed Tomography)
2 Credits (2P)
An intermediate health-related work-based learning experience that enables students to apply specialized occupational theory, skills, and concepts. The clinic professional provides direct supervision.

Learning Outcomes

1. Complete at least 100 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication.
3. Identify necessary Laboratory values for contrast-enhanced CT exams.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast safety.

RADT 2820. Clinical Experience III (Computed Tomography)
2 Credits (2P)
Advanced health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinic professional. Upon completion, students will be able to assume most of the duties of an experienced imaging professional in Computed Tomography.
Prerequisite: RADT 2819.
Learning Outcomes

1. Complete at least 125 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication.
3. Identify necessary Laboratory values for contrast-enhanced CT exams.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast safety.

RADT 2999. Radiologic Technology Capstone
3 Credits (3)
Varies.
Prerequisite: RADT 2812.
Learning Outcomes

1. Varies.

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Radiologic Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(66 credits)

NOTE: To graduate, Radiologic Technology majors must earn a *C-* or better in all RADT courses; however, the students most likely to be competitive in the admissions process will have earned a *B* or better in their prerequisites. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 66 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from of the following four content areas for a total of 14 credits [1,2]		
This degree requires courses from Areas I, II, III, IV and a general education elective; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		4
ENGL 1110G	Composition I [3, 7]	
Area II: Mathematics		3
MATH 1220G	College Algebra (or Higher) [3, 4]	
Area III: Laboratory Sciences		4
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G	Introduction to Psychology [3]	
or SOCI 1110G	Introduction to Sociology	
or SOCI 2310G	Contemporary Social Problems	
General Education Elective		3
PHIL 2110G	Introduction to Ethics	
or COMM 1115G	Introduction to Communication	
or COMM 1130G	Public Speaking	
Major Requirements		
RADT 1175	Introduction to Radiologic Technology and Patient Care	3
RADT 1140	Radiographic Positioning I	2
RADT 1140L	Radiographic Positioning I Laboratory	1
RADT 1811	Radiographic Positioning I Clinical Experience	1
RADT 1115	Fundamentals of Radiographic Imaging	2
RADT 1130L	Introduction to Radiographic Imaging Applied Clinic Skills	1
RADT 1154	Radiographic Anatomy and Physiology	3
RADT 1150	Radiographic Positioning II	2
RADT 1150L	Radiographic Positioning II Laboratory	1
RADT 1812	Radiographic Positioning II Clinical Experience	1
RADT 2410	Radiographic Physics and Equipment	3
RADT 2408	Radiographic Pathology	3
RADT 1520	Radiation Biology and Protection	2
RADT 2811	Clinical Experience I	4
RADT 2812	Clinical Experience II	6
RADT 2250	Radiographic Image Critique	2
RADT 2813	Clinical Experience III	3
RADT 2999	Radiologic Technology Capstone	3
RADT 2404	Radiographic Special Modalities	3
RADT 2814	Special Modalities Clinical Experience IV	3
RADT 1997	Radiologic Technology Independent Study (Optional not required) [6]	
Total Credits		**66**

[1] Each course selected must be from a different area and students cannot take multiple courses in the same area.
[2] See the General Education (p. 56) section of the catalog for a full list of courses.
[3] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.
[4] MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G first.
[5] All RADT classes are restricted to students who have completed the Core and Related Requirements and have been accepted into the Radiologic Technology Program.
[6] RADT 1997 Radiologic Technology Independent Study (optional 1-6 credits, not required, used for special topics on a case-by-case basis).
[7] ENGL 1110G Composition I can also be taken in the 5th semester in the last year of program.

(66 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: To graduate, Radiologic Technology majors must earn a *C-* or better in all RADT courses; however, the students most likely to be competitive in the admissions process will have earned a *B* or better in their prerequisites. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 66 credits. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications – English Composition Level 1		4
ENGL 1110G	Composition I [3,8]	
Area II: Mathematics		3
MATH 1220G	College Algebra (or Higher) [3,4]	
Area III: Laboratory Sciences		4
BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
Area IV Social/Behavior Science		3
PSYC 1110G or SOCI 1110G or SOCI 2310G	Introduction to Psychology or Introduction to Sociology or Contemporary Social Problems	
	Credits	**14**
Semester 2		
General Education Elective		3
PHIL 2110G or COMM 1115G or COMM 1130G	Introduction to Ethics or Introduction to Communication or Public Speaking	
Core Requirement		
	Credits	**3**
Semester 3		
RADT 1175	Introduction to Radiologic Technology and Patient Care	3
RADT 1140	Radiographic Positioning I	2
RADT 1140L	Radiographic Positioning I Laboratory	1
RADT 1811	Radiographic Positioning I Clinical Experience	1
RADT 1115	Fundamentals of Radiographic Imaging	2
RADT 1130L	Introduction to Radiographic Imaging Applied Clinic Skills	1
RADT 1154	Radiographic Anatomy and Physiology	3
	Credits	**13**
Semester 4		
RADT 1150	Radiographic Positioning II	2
RADT 1150L	Radiographic Positioning II Laboratory	1
RADT 1812	Radiographic Positioning II Clinical Experience	1
RADT 2410	Radiographic Physics and Equipment	3
RADT 2408	Radiographic Pathology	3
RADT 1520	Radiation Biology and Protection	2
	Credits	**12**
Semester 5		
RADT 2811	Clinical Experience I	4
	Credits	**4**
Semester 6		
RADT 2812	Clinical Experience II	6
RADT 2250	Radiographic Image Critique	2
	Credits	**8**
Semester 7		
RADT 2813	Clinical Experience III	3
RADT 2404	Radiographic Special Modalities	3
RADT 2814	Special Modalities Clinical Experience IV	3
RADT 2999	Radiologic Technology Capstone	3
	Credits	**12**
	Total Credits	**66**

Computed Tomography - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(17 credits)

NOTE: Computed Tomography majors must obtain a C- or better in all required courses to graduate and achieve a cumulative grade-point average of at least 3.0.

Students must complete all University certificate requirements to total at least 17 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
BIOL 2210	Human Anatomy and Physiology I	4
or BIOL 1130G	Introductory Anatomy & Physiology (non-majors)	
or SPMD 2210 & 2210L	Anatomy and Physiology I and Anatomy and Physiology Laboratory	

RADT 1175	Introduction to Radiologic Technology and Patient Care	3
Technical Requirements		
RADT 2818 & RADT 2819 & RADT 2820	Clinical Experience I (Computed Tomography) and Clinical Experience II (Computed Tomography) and Clinical Experience III (Computed Tomography)	6
or RADT 2813 & RADT 2814	Clinical Experience III and Special Modalities Clinical Experience IV	
RADT 1191	Computed Tomography (CT) Imaging and Equipment	4
Total Credits		**17**

[1] Students enrolled in RADT 1191 Computed Tomography (CT) Imaging and Equipment must have passed RADT 1115 Fundamentals of Radiographic Imaging, RADT 1154 Radiographic Anatomy and Physiology, & RADT 2410 Radiographic Physics and Equipment with a B or better, as well as passed comprehensive final exams with 74% or higher.
For students taking the associate degree simultaneously. This pathway for the certificate will include RADT 2813 Clinical Experience III (instead of RADT 2818 Clinical Experience I (Computed Tomography)) and RADT 2814 Special Modalities Clinical Experience IV (instead of RADT 2819 Clinical Experience II (Computed Tomography))

[2] RADT 2820 Clinical Experience III (Computed Tomography) is not required if student took RADT 2813 Clinical Experience III and RADT 2814 Special Modalities Clinical Experience IV pathway

(17credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required courses and achieve a cumulative grade-point average of at least 3.0.

Students must complete all University certificate requirements to total at least 17 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
BIOL 2210 or BIOL 1130G or SPMD 2210 ***and*** SPMD 2210L	Human Anatomy and Physiology I or Introductory Anatomy & Physiology (non-majors) or Anatomy and Physiology I ***and*** Anatomy and Physiology Laboratory	4
RADT 1175	Introduction to Radiologic Technology and Patient Care	3
	Credits	**7**
Semester 2		
RADT 1191	Computed Tomography (CT) Imaging and Equipment	4
RADT 2818 or RADT 2813	Clinical Experience I (Computed Tomography) or Clinical Experience III	2-3
	Credits	**6-7**
Semester 3		
RADT 2819 or RADT 2814	Clinical Experience II (Computed Tomography) [1] or Special Modalities Clinical Experience IV	2-3
	Credits	**2-3**
Semester 4		
RADT 2820	Clinical Experience III (Computed Tomography) (not required if students took RADT 2813 and RADT 2814 pathway.)	2
	Credits	**2**
	Total Credits	**17-19**

[1] Students taking RADT 1190 CT Equipment and Methodology must also take RADT 2817 Cross Sectional Anatomy for Medical Imaging.

[2] Students who are enrolled in the radiology program have the option of taking RADT 1191 Computed Tomography (CT) Imaging and Equipment in fall of their 4th semester. Students who take RADT 1191 Computed Tomography (CT) Imaging and Equipment do not have to take RADT 1190 CT Equipment and Methodology and RADT 2817 Cross Sectional Anatomy for Medical Imaging toward the certificate in computed tomography.

Respiratory Therapy

Associate of Applied Science Degree

Respiratory Therapy is an allied health specialty encompassing the diagnosis, treatment, management and prevention of problems affecting the respiratory and cardiovascular system.

Respiratory Therapy practitioners work side-by-side with physicians, and other healthcare professionals in the hospital setting. They set up oxygen, perform pulmonary function testing, set up and maintain ventilators, administer respiratory drugs, and evaluate patient health status.

Respiratory therapy is a rapidly growing, people-oriented profession. The demand for practitioners is increasing in New Mexico and throughout the United States. While most graduates continue to find employment in hospitals, opportunities are opening up with medical equipment suppliers and agencies providing home health care to pulmonary patients.

The Respiratory Therapy program at Doña Ana Community College is a full-time program that leads to an associate of applied science degree. Through classroom instruction and laboratory practice, students develop the knowledge needed to care for patients. They acquire additional hands-on experience in the clinical setting at surrounding hospitals.

The curriculum and clinical hour content is based on the National Standard Curriculum from the American Association of Respiratory Therapy (AARC) and the national accrediting body, the Commission on Accreditation for Respiratory Care.

Commission on Accreditation for Respiratory Care (CoARC)

264 Precision Blvd Telford, TN 37690 USA

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The Respiratory Therapy Program is also accredited by the Commission on Accreditation for Respiratory Care. The program is designed to prepare students to have mastered competency in assessing, diagnosing, and treating cardiopulmonary patients. After completing the program, graduates are eligible to sit for their national licensure certification and registry examinations.

Required Skills and Abilities

Students should be able to demonstrate good oral expression (speech clarity) and written comprehension, critical thinking skills, the ability to hear through a stethoscope or augmented listening device, and physical stamina (e.g., the ability to stand for long periods, manipulate respiratory therapy equipment, and move/lift patients and equipment up to 50 pounds, unassisted).

Program Admissions Criteria

Respiratory Therapy is a limited-entry program. The following items are among the criteria are used in the selection of successful program applicants:

- Cumulative GPA of 3.0 or better
- Science GPA of 2.7 or better
- Completion of the following courses:

Prefix	Title	Credits
ENGL 1110G	Composition I [1]	4
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	4
HLSC 1510	Medical Terminology	3
MATH 1220G	College Algebra	3
BIOL 2310 & 2310L	Microbiology and Microbiology Lab [1]	4
BIOL 2210	Human Anatomy and Physiology I for the Health Sciences [1]	4
BIOL 2225	Human Anatomy and Physiology II [1]	4
PSYC 1110G or SOCI 1110G	Introduction to Psychology Introduction to Sociology	3

A complete list is included in the application packet, available at the Respiratory Therapy program office in room DAHL-191; Phone: (575) 527-7607.

[1] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

Requirements to Participate in Clinical Practice

Clinical coursework is required for completion of this program. Upon admittance and throughout the program, students will be required to meet the requirements of each clinical site in order to complete the required coursework. Requirements include but are not limited to the following:

1. Background check and fingerprinting through the designated college affiliate (adverse findings may disqualify a student from continuing in the program)
2. Current CPR certification
3. Current TB test
4. Record of current tuberculin, rubella, tetanus, varicella, and Hepatitis B immunizations and titers.
5. Drug screening

NOTE: There are two established cut scores for the Therapist Multiple-Choice Examination. If a candidate achieves the lower cut score, (s)he will earn the CRT credential. If a candidate achieves the higher cut score, (s)he will earn the CRT credential ***and*** become eligible for the Clinical Simulation Examination (provided those eligibility requirements are met and the candidate is eligible to earn the RRT credential). The CRT and/or RRT credentials are used as the basis for the licensure.

Course Fees

In addition to tuition, a fee of $120 is charged for each of the following courses:

Prefix	Title	Credits
RESP 1150L	Respiratory Therapy I Laboratory	2
RESP 1250L	Respiratory Therapy II Laboratory	2
RESP 2150L	Neonatal and Pediatric Respiratory Laboratory	2
RESP 2230L	Respiratory Therapy V Laboratory	2

Respiratory Therapy - Associate of Applied Science (p. 420)

RESP 1140. Respiratory Therapy Pharmacology
3 Credits (3)
Principles of pharmacology, drug dose calculations, and drug receptor theory as it relates to patients with cardiopulmonary disease. Includes specific emphasis on drugs used by respiratory care practitioners as well as discussion of other drugs used in the treatment of patients under their care.
Learning Outcomes

1. Have an introductory level of knowledge of the basic general principles of pharmacology that relate to all medications, drug actions, routes of administration etc.
2. Accurately calculate typical drug-dose calculations.
3. Demonstrate an in-depth knowledge of the mode of action, desired clinical effect and common and serious adverse effects of the medications commonly used in respiratory care.
4. Relate pharmacologic therapy to common pulmonary pathologies.
5. Effectively evaluate and educate patients regarding self-management of asthma and smoking cessation techniques.
6. Understand the underlying neurophysiology involved with each class of drugs studied in this course.

RESP 1150. Respiratory Therapy I
3 Credits (3)
Introduces respiratory therapy as a health sciences profession. Topics include cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy.
Learning Outcomes

1. Accurately perform a complete cardiopulmonary assessment of any non-critically ill patient.
2. Apply knowledge of the basic anatomy and physiology of the cardiopulmonary system, especially as it relates to the transportation of oxygen in the human body.
3. Correctly set up equipment and assess effectiveness of bland aerosol equipment.

4. Relate how microbiology impacts respiratory therapy to include using the correct technique for the isolation of patients and utilizing standard precautions in the clinical setting.
5. Evaluate the procedures for cleaning and sterilization of respiratory therapy equipment.
6. Apply basic respiratory treatment to include chest physiotherapy, airway maintenance, and basic medication administration.

RESP 1150L. Respiratory Therapy I Laboratory
2 Credits (2)
Students practice cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy using state of the art equipment in the learning Laboratory under simulated patient situations.
Learning Outcomes
1. Accurately perform a complete cardiopulmonary assessment of any non-critically ill patient.
2. Apply knowledge of the basic anatomy and physiology of the cardiopulmonary system, especially as it relates to the transportation of oxygen in the human body.
3. Correctly set up equipment and assess effectiveness of bland aerosol equipment.
4. Relate how microbiology impacts respiratory therapy to include using the correct technique for the isolation of patients and utilizing standard precautions in the clinical setting.
5. Evaluate the procedures for cleaning and sterilization of respiratory therapy equipment.
6. Apply basic respiratory treatment to include chest physiotherapy, airway maintenance, and basic medication administration.

RESP 1250. Respiratory Therapy II
4 Credits (4)
Advanced respiratory care techniques. Emphasis on airway management, aerosol treatment, chest physiotherapy, pharmacology, posture pressure breathing, and pulmonary rehabilitation.
Prerequisite: C or Better in RESP 1150 & RESP 1150 L.
Corequisite: RESP 1250 L.
Learning Outcomes
1. Demonstrate a comprehensive understanding of the anatomy and physiology of the arterial system.
2. Apply and explain the basic principles of pharmacology therapy as it relates to the cardiopulmonary system.
3. Analyze and differentiate the basic pulmonary physiology associated with restrictive and obstructive disease processes, analyze test results to identify abnormal findings.
4. Interpret and apply advanced airway management techniques including endotracheal intubation, tracheostomy, laryngeal mask airway, and supraglottic airway.
5. Describe and interpret radiographic images to assess respiratory and cardiopulmonary conditions.
6. Identify the anatomy, physiology and the electrical conduction of the heart.
7. Differentiate between invasive and non-invasive mechanical ventilation techniques, explaining their indications and contraindications.
8. Demonstrate knowledge of emergency life support related to respiratory therapy.

RESP 1250L. Respiratory Therapy II Laboratory
2 Credits (6P)
Students practice airway management, pulmonary function testing, arterial puncture and blood gas analysis and administering home care therapy procedures using state of the art equipment in the learning Laboratory under simulated patient situations. May be repeated up to 2 credits.
Prerequisite: C or Better in the following Courses: RESP 1150, RESP 1150L and RESP 1140.
Learning Outcomes
1. Demonstrate the correct setup, operation, and maintenance of various respiratory therapy equipment; to include oxygen delivery systems, medication delivery devices CPAP/BiPAP machines and ventilators.
2. Complete respiratory assessments including vital signs: arterial blood gas ECG, pulmonary function test and ECG interpretations.
3. Properly assess and ensure airway patency.
4. Respond and react to airway emergencies and initiate proper treatment as indicated.

RESP 1330. Respiratory Therapy II Clinical
3 Credits (9P)
Supervised practice and application in a hospital setting. May be repeated up to 3 credits.
Prerequisite: C or Better in the following courses: RESP 1150 & RESP 1150 L.
Learning Outcomes
1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 2110. Respiratory Therapy Cardiopulmonary
2 Credits (2)
This course delves into the study of commonly encountered respiratory disorders in adult patients. It encompasses an in-depth examination of the etiology, pathology, pathogenesis, clinical manifestations, and treatment of a variety of common adult pulmonary diseases.
Prerequisite: C or better in the following courses: RESP 2230 RESP 2230L.
Learning Outcomes
1. Identify and describe common adult respiratory disorders, explaining their etiology, pathology, and clinical manifestations, they will be able to formulate appropriate treatment plans for patients with pulmonary diseases, evaluating diagnostic data and applying evidence-based practices.
2. Recognize preventative strategies for respiratory diseases and demonstrate an understanding of COPD, asthma, and pulmonary infections.
3. Apply patient safety and infection control principles while demonstrating effective communication and interprofessional collaboration.

RESP 2120. Respiratory Therapy III
2 Credits (2)
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.
Prerequisite: C or better in the following courses: RESP 1250, RESP 1250L, and RESP 1330.
Corequisite: RESP 2120L.
Learning Outcomes
1. Classify foundational concepts and core knowledge of mechanical ventilation.
2. Monitor mechanical ventilation and assessment of patients receiving mechanical ventilation and in the intensive care units.
3. Evaluate when and how to discontinue a patient from ventilation and long-term ventilation.
4. Successfully initiate ventilation.

RESP 2120L. Respiratory Therapy III Laboratory
2 Credits (2)
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.
Prerequisite: C or better in the following courses: RESP 1250, RESP 1250L, and RESP 1330.
Learning Outcomes
1. Apply didactic skills to hands-on, scenario based learning.
2. Compare and contrast the components and settings of mechanical ventilation, IPPB, BiPAP, airway care parameters, components, and settings.
3. Analyze blood gases and advanced pharmacology.
4. Practice airway care and extubation techniques.
5. Explain ACLS protocols and their relevance in emergency situations and interpret hemodynamic monitoring data to assess patient status and guide treatment decisions.

RESP 2150. Neonatal and Pediatric Respiratory Theory
3 Credits (3)
Presents cardiopulmonary assessment and diagnosis in advanced neonatal and pediatric critical care including correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiopulmonary function. Presents concepts of rehabilitative practice for patients with chronic cardiopulmonary diseases. Introduces strategies for successful completion of national board exams. Presents mechanical ventilation procedures related to critical care medicine for children and infants using state of the art equipment and computer simulation in the learning Laboratory.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L, RESP 2110 and RESP 2330.
Corequisite: RESP 2150L.
Learning Outcomes
1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Identify and perform a complete cardiopulmonary assessment of a critically ill neonatal patient.
3. Summarize review-content and complete mock CRT and RRT examinations.
4. Compare and contrast the components of pediatric and neonatal ventilators.
5. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2150L. Neonatal and Pediatric Respiratory Laboratory
2 Credits (6P)
Presents mechanical ventilation procedures related to critical care medicine for neonatal and pediatric, children and infants using state of the art equipment and computer simulation in the learning Laboratory. Students will focus on cardiopulmonary assessment and diagnosis with correlation of cardiopulmonary anatomy, physiology and pathophysiology and evaluation of cardiopulmonary function.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L, RESP 2110 and RESP 2330.
Corequisite: RESP 2150.
Learning Outcomes
1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Identify and perform a complete cardiopulmonary assessment of a critically ill neonatal patient.
3. Summarize review-content and complete mock CRT and RRT examinations.
4. Compare and contrast the components of pediatric and neonatal ventilators.
5. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2230. Respiratory Therapy V
3 Credits (3)
Emphasis on special modalities.
Prerequisite: C or Better in RESP 2120, 2120L & 2330.
Learning Outcomes
1. Demonstrate and perform cardiopulmonary diagnostic procedures.
2. Determine appropriate interventions in a critical medical situation.
3. Demonstrate how to setup and maintain a mechanical ventilator.
4. Formulate appropriate cardiopulmonary treatment plans.

RESP 2230L. Respiratory Therapy V Laboratory
2 Credits (2)
Advanced practice and procedures of respiratory care. Requires a C or better to remain in program.
Prerequisite: C or better in the Following: RESP 2120L & RESP 2120, RESP 2330.
Learning Outcomes
1. Demonstrate and perform cardiopulmonary diagnostic procedures.
2. Formulate appropriate cardiopulmonary treatment plans.
3. Determine appropriate interventions in a critical medical situation.
4. Demonstrate how to setup and maintain a mechanical ventilator.

RESP 2242. Pediatric Advanced Life Support (PALS)
1 Credit (1)
Etiology, diagnosis, clinical manifestations, and management of cardiopulmonary disorders related to respiratory care.
Prerequisite: C or Better in RESP 2230 & RESP 2230L.
Corequisite: RESP 2230.
Learning Outcomes
1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.

2. Summarize review-content and complete mock CRT and RRT examinations.
3. Compare and contrast the components of pediatric and neonatal ventilators.
4. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2243. Respiratory Therapy Neonatal Resuscitation
1 Credit (1)
Advanced practice of the neonatal resuscitation and certification. Students must be admitted into program to enroll in this course.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L.
Learning Outcomes
1. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
2. Recognize emergency situations and respond appropriately.
3. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
4. Demonstrate and perform cardiopulmonary diagnostic procedures.

RESP 2330. Respiratory Therapy IV Clinical
3 Credits (9P)
Emphasis on mechanical ventilators.
Prerequisite: C or better in the following courses: RESP 1250, RESP 1250L, and RESP 1330.
Learning Outcomes
1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 2332. Respiratory Therapy V Clinical
3 Credits (3)
Emphasis on special modalities.
Prerequisite: C or better in the following courses: RESP 2120 and RESP 2120L.
Learning Outcomes
1. Demonstrate and perform cardiopulmonary diagnostics procedures during mechanical ventilation.
2. Demonstrate appropriate patient/physician interactions needed in the clinical setting.
3. Demonstrate how to set up, maintain, and wean a patient from a mechanical ventilator.
4. Compose a patient assessment on a patient receiving mechanical ventilation.
5. Formulate appropriate cardiopulmonary treatment plans for mechanical ventilation.
6. Determine appropriate interventions in a critical medical situation.
7. Document ventilator parameters, alarm settings, and patent assessment.

RESP 2334. Respiratory Therapy VI Clinical
3 Credits (9P)
Advanced Clinical experience on special modalities.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L, RESP 2110 and RESP 2330.
Learning Outcomes
1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

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Respiratory Therapy - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(79-80 credits)

NOTE: Respiratory Therapy majors must earn a C or better in all Respiratory Therapy and related courses and achieve a cumulative grade-point average of at least 2.0. in order to remain in the program. In addition to the requirements listed here, certain Special Topics and Independent Study courses may be recommended by the advisor. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 79 credits. Developmental coursework will not count towards the

degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Areas I, II, III, and IV; students do not need to take additional courses to complete the General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
MATH 1220G	College Algebra (or Higher) [3, 4]	
Area III: Laboratory Sciences		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [3]	
or CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
or CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Area IV: Social/Behavioral Sciences		
PSYC 1110G	Introduction to Psychology [3]	
or SOCI 1110G	Introduction to Sociology	
General Education Elective [2]		*3-4*
Core Requirements		
HLSC 1510	Medical Terminology	3
BIOL 2310 & 2310L	Microbiology and Microbiology Lab [3]	4
BIOL 2210	Human Anatomy and Physiology I	4
or SPMD 2210	Anatomy and Physiology I	
BIOL 2225	Human Anatomy and Physiology II	4
or SPMD 2225	Anatomy and Physiology II	
Major Requirements		
Technical Requirements [5]		
BIOL 2505	Pathophysiology [3]	3
or HLSC 1530	Pathophysiology for Health Sciences	
RESP 1150	Respiratory Therapy I	3
RESP 1150L	Respiratory Therapy I Laboratory	2
RESP 1140	Respiratory Therapy Pharmacology	3
RESP 1250	Respiratory Therapy II	4
RESP 1250L	Respiratory Therapy II Laboratory	2
RESP 1330	Respiratory Therapy II Clinical	3
RESP 2120	Respiratory Therapy III	2
RESP 2120L	Respiratory Therapy III Laboratory	2
RESP 2330	Respiratory Therapy IV Clinical	3
RESP 2230	Respiratory Therapy V	3
RESP 2230L	Respiratory Therapy V Laboratory	2
RESP 2110	Respiratory Therapy Cardiopulmonary	2
RESP 2332	Respiratory Therapy V Clinical	3
RESP 2150	Neonatal and Pediatric Respiratory Theory	3
RESP 2150L	Neonatal and Pediatric Respiratory Laboratory	2
RESP 2334	Respiratory Therapy VI Clinical	3
RESP 2242	Pediatric Advanced Life Support (PALS)	1
RESP 2243	Respiratory Therapy Neonatal Resuscitation	1
Total Credits		**79-80**

1 Each course selected must be from a different area and students cannot take multiple courses in the same area.

2 See the General Education (p. 56) section of the catalog for a full list of courses.

3 Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4 MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G first.

5 All RESP classes are restricted to students who have been accepted into the Respiratory Therapy program.

(79-80 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Respiratory Therapy majors must earn a C or better in all Respiratory Therapy and related courses and achieve a cumulative grade-point average of at least 2.0. in order to remain in the program. In addition to the requirements listed here, certain Special Topics and Independent Study courses may be recommended by the advisor. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 79 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
Area I: Communications – English Composition Level 1		4
ENGL 1110G	Composition I	
Area III: Laboratory Sciences		4
CHEM 1120G or CHEM 1215G or CHEM 1225G	Introduction to Chemistry Lecture and Laboratory (non majors) or General Chemistry I Lecture and Laboratory for STEM Majors or General Chemistry II Lecture and Laboratory for STEM Majors	
Area IV: Social/Behavioral Sciences		3
PSYC 1110G or SOCI 1110G	Introduction to Psychology or Introduction to Sociology	
BIOL 2210 or SPMD 2210	Human Anatomy and Physiology I or Anatomy and Physiology I	4
	Credits	**15**
Semester 2		
Area II: Mathematics		3
HLSC 1510	Medical Terminology	3
MATH 1220G	College Algebra (or Higher)	
General Education Elective - Choose one course from the NM General Education courses listed in the NMSU/DACC Catalog.		3-4
BIOL 2225 or SPMD 2225	Human Anatomy and Physiology II or Anatomy and Physiology II	4
	Credits	**13-14**

Semester 3		
BIOL 2310 & 2310L	Microbiology and Microbiology Lab	4
BIOL 2505 or HLSC 1530	Pathophysiology or Pathophysiology for Health Sciences	3
RESP 1140	Respiratory Therapy Pharmacology	3
RESP 1150	Respiratory Therapy I	3
RESP 1150L	Respiratory Therapy I Laboratory	2
	Credits	**15**
Semester 4		
RESP 1250	Respiratory Therapy II	4
RESP 1250L	Respiratory Therapy II Laboratory	2
RESP 1330	Respiratory Therapy II Clinical	3
	Credits	**9**
Semester 5		
RESP 2120	Respiratory Therapy III	2
RESP 2120L	Respiratory Therapy III Laboratory	2
RESP 2330	Respiratory Therapy IV Clinical	3
	Credits	**7**
Semester 6		
RESP 2230	Respiratory Therapy V	3
RESP 2230L	Respiratory Therapy V Laboratory	2
RESP 2332	Respiratory Therapy V Clinical	3
RESP 2110	Respiratory Therapy Cardiopulmonary	2
	Credits	**10**
Semester 7		
RESP 2150	Neonatal and Pediatric Respiratory Theory	3
RESP 2150L	Neonatal and Pediatric Respiratory Laboratory	2
RESP 2334	Respiratory Therapy VI Clinical	3
RESP 2242	Pediatric Advanced Life Support (PALS)	1
RESP 2243	Respiratory Therapy Neonatal Resuscitation	1
	Credits	**10**
	Total Credits	**79-80**

Water Technology

EPA State Environmental Training Program

Associate of Water Technology Degree

Certificate of Completion

The Water Technology program is an award-winning, up-to-date technical training opportunity that will open doors to a career anywhere in the United States. Graduates of this program have found work in New Mexico, Colorado, Texas, Arizona, California, Vermont, New Hampshire, Iraq, and Puerto Rico. More than 400 graduates have begun careers in the water field, working in such diverse areas as the semiconductor industry, the food processing industry, aerospace industry, electrical power industry, city water and wastewater departments, municipal or contract analytical laboratories, water reuse or recycling plants, metal plating companies, engineering consulting firms, and state planning offices.

While jobs are widely available, training programs like this one are rare. As the treatment of water becomes more technical, municipalities and industries rely on training programs to fill their needs. Students in this program learn how to clean water to make it safe for drinking and how to purify water to a high quality for use in computer chip manufacturing, food processing, or steam generation. They will also learn how to treat wastewater so it can be safely returned to the environment or reclaimed for beneficial use. Instruction also includes maintaining equipment such as pumps, motors, valves, and chemical feeders; laboratory testing and analysis; water and wastewater chemistry and microbiology; applied math; and some basics of supervising and managing a water utility, including budgets, preventive maintenance schemes, and billing. Various course assignments requiring laboratory data sheets, simple process control spreadsheets, and term papers enable students to sharpen their computer and writing skills. General studies in basic algebra, speech, and technical writing round out the curriculum.

Whether taking classes or working on a job site, students enrolled in this program will be required to perform the same job duties and be able to meet the same physical requirements that they will as graduates in the field. Depending where they find employment, graduates may be required to

- work in inclement weather,
- lift up to 50 pounds from the ground,
- work safely around hazardous chemicals using appropriate safety equipment such as a self-contained breathing apparatus,
- work safely in confined spaces,
- ascend and descend stairs and ladders to reach equipment,
- work safely around heavy equipment,
- work safely and effectively on uneven surfaces, and
- stand for long periods of time on concrete floors.

Some positions in the field require certification and the licensing agency may not provide special testing accommodations.

Opportunities for students to gain new knowledge and skills in operations, maintenance, and laboratory areas are provided through classroom training, hands-on laboratories, field trips, guest lectures, and training on the program's own water and wastewater plants.

Before graduating, students will spend a minimum of 180 hours at an internship site with a municipality or industry. Students have found co-ops at water and wastewater plants and laboratories in Albuquerque, El Paso, Las Cruces, Socorro, Hobbs, Silver City, Mesilla, and Glorieta, and with industries such as Intel and Kurita America.

Financial aid beyond loans, grants, work-study monies, and DACC scholarships include nine private scholarships specifically for Water Technology students:

1. Max Summerlot Memorial Scholarship, given to a water technology student in his or her second year in the program;
2. Cynthia Hiers-Robinson Current-Use Scholarship;
3. Pruett Family Water Technology Scholarship;
4. Col. Raymond Madson Memorial Scholarship
5. two scholarships presented by the New Mexico Water and Wastewater Association;
6. one scholarships presented by the Southwest Section of the New Mexico Water and Wastewater Association; and
7. two scholarships presented by the Central Section of the New Mexico Water and Wastewater Association.

NOTE: Students must achieve a cumulative grade-point average of 2.0 with a final grade of *C*- or better in ENGL 1110G Composition I and a final grade of C- or better in all required WATR courses. The remaining

courses are applicable toward the bachelor of applied studies degree offered by the NMSU College of Extended Learning. At least 36 hours of the technical requirements are applicable toward the bachelor's degree in agricultural and extension education offered by the College of Agricultural, Consumer and Environmental Sciences at New Mexico State University.

Water Technology - Associate of Water Technology (p. 426)

Water Technology - Certificate of Completion (p. 427)

WATR 120. Introduction to Water Systems
3 Credits (3)
Introduction to and theory of groundwater sources, production, treatment, and distribution.
Learning Outcomes
1. Effectively present technical information through oral communication.
2. Effectively work as a team.
3. Identify appropriate process changes for different water processes.

WATR 130. Wastewater Collection and Basic Treatment Systems
3 Credits (3)
Introduction to wastewater characteristics, collection, and basic treatment operations.
Learning Outcomes
1. Effectively present technical information through oral and written communication.
2. Identify appropriate process changes for different water processes.

WATR 140. Applied Water and Wastewater Math I
3 Credits (3)
Introduction to basic water and wastewater mathematics, flows through distribution networks and collection systems, and fundamentals of flow measurement.
Prerequisite: CCDM 114 N with a C- or better, or equivalent.
Learning Outcomes
1. Apply problem solving techniques to solve math problems and career related technical problems.
2. Apply estimation techniques to solve problems and check answers for reasonableness.
3. Analyze and solve problems using basic technical tools and techniques.
4. Demonstrate the ability to work as a member of a team to solve problems and complete projects.
5. Display the positive attitude and good work habits necessary for successful employment.

WATR 160. Systems Maintenance
4 Credits (2+4P)
Basic tools, equipment, maintenance schedules, chlorinator trouble-shooting, and chlorine safety. Hands-on training with valves, pumps, meters and chlorination equipment. May be repeated up to 4 credits.
Learning Outcomes
1. Effectively work as part of a team.
2. Identify cause(s) of mechanical/equipment/system failure.
3. Identify corrective actions for mechanical/equipment/system failure.

WATR 175. Programmable Logic Controllers
2 Credits (2)
This course will introduce students to electrical safety, theory, and the function, operations, programming and troubleshooting of the PLC controlling common electrical components utilized in control circuits associated with the water and wastewater industry.
Learning Outcomes
1. Identify corrective actions for equipment failure.
2. Utilize knowledge to develop a treatment facility schematic/design.
3. Identify the sampling points for data collection.
4. Perform operational duties safely.

WATR 180. Water Chemistry
3 Credits (3)
Basic chemistry with applications to water and wastewater analysis.
Prerequisite: CCDM 114 N grade of C- or better, or consent of instructor.
Learning Outcomes
1. Apply critical thinking (includes communicating effectively, applying numerical information appropriately, problem solving effectively and demonstrating appropriate technical skills).
2. Identify information/data required to complete calculations.
3. Use mathematics and problem-solving techniques to analyze and find answers to work- related technical problems.

WATR 182. Water Chemistry Analysis
1 Credit (3P)
Beginning water and wastewater laboratory analysis including gravimetric, volumetric, and quality control techniques.
Prerequisite: Grade of C- or better in CCDM 114 N or equivalent, or consent of instructor.
Learning Outcomes
1. Students will be able to use written communication to effectively present technical information.
2. Students will be able to conduct appropriate lab analysis.

WATR 190. Water and Wastewater Microbiology
3 Credits (3)
Overview of microorganisms associated with water and wastewater. Growth and reproduction, energy production, and methods of counting.
Prerequisite: Grade of C- or better in WATR 130 and WATR 180, or consent of instructor.
Learning Outcomes
1. Effectively present technical information through oral and written communication.
2. Effectively work as part of a team.
3. Evaluate treatment processes utilizing collected or given data.
4. Identify appropriate process control changes for different treatment processes based on process evaluation.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Integrate multiple, related concepts to determine appropriate operational response.

WATR 192. Water and Wastewater Microbiological Analysis
1 Credit (3P)
Introduction to water and wastewater treatment operational tests such as BODs, solids testing, activated sludge control tests, use of microscope, and bacteriological techniques.
Prerequisite: Grade of C- or better in WATR 130 and WATR 182, or consent of instructor.
Learning Outcomes
1. Identify information/data required to complete calculations and accurately perform them.

2. Identify correct operational parameters for treatment processes.
3. Identify sampling points for data collection from treatment processes.
4. Demonstrate correct/accurate laboratory technique.
5. Perform appropriate lab analyses with acceptable accuracy.
6. Perform operational/laboratory duties safely.

WATR 200. Internship
3-5 Credits
On-the-job training/work experience with municipalities or industries, working in water or wastewater treatment plants, high purity water plants, industrial waste plants, distribution systems, or wastewater collection systems. May be repeated up to 5 credits.
Learning Outcomes
1. Be able to successfully perform on the job duties of a Water or Waste Water technician.
2. Be able to evaluate treatment processes utilizing collected or given data.
3. Be able to successfully work as part of a water or waste water operations team.
4. Demonstrate knowledge of applicable regulations.

WATR 220. Water Treatment Systems
3 Credits (3)
Theory of water systems operation including surface water treatment, fluoridation, sodium zeolite softening, corrosion control, iron removal, various filtration methods, and overview of SDWA.
Prerequisite: Grade of C- or better in WATR 180 and WATR 182, or consent of instructor.
Learning Outcomes
1. Effectively present technical information through written and oral communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Identify information/data required to complete calculations and accurately perform them.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Demonstrate knowledge of applicable regulations and their application.
8. Integrate multiple, related concepts to determine appropriate operational response.

WATR 222. Water Systems Operation
1 Credit (3P)
Operations of various water treatment systems including surface water treatment, sodium zeolite softeners, and various filtration methods.
Prerequisite: C- or better in WATR 220, or consent of instructor.
Learning Outcomes
1. Effectively present technical information through written and oral communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Identify information/data required to complete calculations and accurately perform them.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Demonstrate knowledge of applicable regulations and their application.
8. Integrate multiple, related concepts to determine appropriate operational response.

WATR 230. Advanced Wastewater Treatment
4 Credits (4)
Calculations and operations involved in wastewater and water reclamation plants.
Prerequisite: Grade of C- or better in WATR 140, WATR 190, and WATR 192, or consent of instructor.
Learning Outcomes
1. Students will be able to use written communication to effectively present technical information.
2. Students will be able to conduct appropriate lab analysis.

WATR 232. Wastewater Systems Operations
1 Credit (3P)
Operation of pretreatment, primary, and biological treatment units.
Prerequisite: Grace of C- or better in WATR 230, or consent of instructor.
Learning Outcomes
1. Effectively present technical information through written and oral communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Evaluate invalid labs analysis to determine corrective actions.
5. Identify information/data required to complete calculations and accurately perform them.
6. Identify correct operational parameters for treatment processes.
7. Identify sampling points for data collection from treatment processes.
8. Demonstrate correct/accurate laboratory technique.
9. Perform appropriate lab analysis with acceptable accuracy. 1
10. Perform appropriate process control changes for various treatment processes. 1
11. Perform operational/laboratory duties safely. 1
12. Demonstrate knowledge of applicable regulations and their application. 1
13. Integrate multiple, related concepts to determine appropriate operational response.

WATR 240. Advanced Water and Wastewater Math II
3 Credits (2+2P)
Advanced water and wastewater mathematics. Flow measurement. Systems head and pump curves. May be repeated up to 3 credits.
Prerequisite: Grade of C- or better in WATR 140.
Learning Outcomes
1. Identify information/data required to complete calculations and accurately perform them.
2. Use written communication to effectively present technical information.

WATR 250. Municipal Systems Management
4 Credits (4)
Management of water utility systems including laws, finance, records, and safety.

Prerequisite: Grade of C- or better in WATR 120 and WATR 130.
Learning Outcomes

1. Effectively work as a team leader.
2. Evaluate responsibilities of utility management.
3. Identify appropriate planning, organization, and recordkeeping.
4. Evaluate appropriate practices for interviewing, hiring, supervising, and disciplining employees.
5. Evaluate and identify the development of policies and procedures for dealing with harassment, grievances, and violence in the workplace.
6. Implement effective oral and written communication, including formal and informal public relations.
7. Identify and implement assessing the financial strength and stability of a water/wastewater utility, budgeting and fund capital improvements.

WATR 270. Special Topics
1-4 Credits
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

WATR 275. Certification Review
3 Credits (3)
Review of water and wastewater plant operations and laws in preparation for state certification exams. Restricted to Community Colleges campuses only.
Prerequisite: WATR 120, WATR 130, WATR 140, WATR 160.
Learning Outcomes

1. Identify appropriate process changes for different wastewater processes.
2. Identify appropriate process changes for different water processes.
3. Identify corrective actions for equipment failure.
4. Identify analytical data required to complete process control calculations.
5. Accurately complete water process control calculations.
6. Accurately complete wastewater process control calculations.
7. Evaluate operational problems.
8. Identify the sampling points for data collection.

WATR 285. High Purity Water Treatment Systems
3 Credits (3)
Principles of high purity water production including microfiltration, ultra-filtration, reverse osmosis, and deionization.
Prerequisite: Grade of C- or better in WATR 220.
Learning Outcomes

1. Effectively present technical information through oral and written communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes bason on process evaluation.
4. Identify information/data required to complete calculations and accurately perform them.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Integrate multiple, related concepts to determine appropriate operational response.

WATR 287. Advanced Water Chemistry Analysis
3 Credits (6P)
Sampling techniques, analysis, and evaluation of potable water contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods.
Prerequisite/Corequisite: WATR 285. Restricted to Community Colleges campuses only.
Learning Outcomes

1. Evaluate invalid labs analysis to determine corrective actions.
2. Identify information/data required to complete calculations.
3. Accurately perform calculations.
4. Demonstrate correct/accurate laboratory technique.
5. Demonstrate correct/accurate laboratory technique.
6. Perform operational/laboratory duties safely.

WATR 290. Advanced Wastewater Microbiology and Chemistry
3 Credits (3)
Covers NPDES permits and DMR calculations and reporting; 503 sludge regs, including pathogen and vector attraction reduction and pollutants; wetlands, composting, and wastewater treatment ponds microbiology; activated sludge bulking and foaming microbiology and treatment; and use of selector to remove nutrients and prevent the growth of filamentous bacteria.
Prerequisite: Grade of C- or better in WATR 190 and WATR 192.
Learning Outcomes

1. Effectively present technical information through oral and written communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Identify cause(s) of mechanical/equipment/system failure and identify the corrective actions to take.
5. Identify information/data required to complete calculations and accurately perform them.
6. Identify correct operational parameters for treatment processes.
7. Identify sampling points for data collection from treatment processes.
8. Demonstrate knowledge of applicable regulations and their application.
9. Integrate multiple, related concepts to determine appropriate operational response.

WATR 292. Advanced Wastewater Analysis
3 Credits (6P)
Covers sampling techniques, analysis, and evaluation of wastewater contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods.
Prerequisite: Grade of C- or better in WATR 190 and WATR 192.
Learning Outcomes

1. Perform titrations and document the necessary quality control.
2. Perform microbiological analysis and document the necessary quality control.
3. Perform spectrophotometric analysis and document the necessary quality control.
4. Perform BOD/COD analysis and document the necessary quality control.
5. Complete performance evaluation samples satisfactorily.
6. Effectively present technical information through oral and written communication.
7. Identify information/data required to complete calculations and accurately perform calculations.

8. Demonstrate knowledge of applicable regulations and their application.

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Water Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(67-68 credits)

NOTE: For students who plan to continue at NMSU in pursuit of a BS in Environmental Science: It is recommended that MATH 1220G or MATH 1250G be taken to fulfill the Area II General Education requirement. It is also recommended that CHEM 1215G be taken in place of WATR 180 Water Chemistry and that CHEM 1225G be taken to fulfill the Area III General Education requirement. This will provide the most useful transfer credits when continuing at NMSU. Please see an Advisor for any question you have.

Students must earn a final grade of C- or better in all required WATR courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 67 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Area I; students must select three courses from the remaining areas to complete General Education requirements.		
Area I: Communication		
ENGL 1110G	Composition I [3]	
Area II: Mathematics		
Area III: Laboratory Sciences [2,3]		
Area IV: Social/Behavioral Sciences [2,3]		
Area V: Humanities [2,3]		
Area VI: Creative and Fine Arts [2,3]		
General Education Elective		
COMM 1115G	Introduction to Communication [3]	3
or COMM 1130G	Public Speaking	
Major Requirements		
Technical Requirements		
WATR 120	Introduction to Water Systems	3
WATR 130	Wastewater Collection and Basic Treatment Systems	3
WATR 140	Applied Water and Wastewater Math I	3
WATR 160	Systems Maintenance	4
WATR 175	Programmable Logic Controllers	2
WATR 182	Water Chemistry Analysis	1
WATR 190	Water and Wastewater Microbiology	3
WATR 192	Water and Wastewater Microbiological Analysis	1
WATR 200	Internship	3
WATR 220	Water Treatment Systems	3
WATR 222	Water Systems Operation	1
WATR 230	Advanced Wastewater Treatment	4
WATR 232	Wastewater Systems Operations	1
WATR 240	Advanced Water and Wastewater Math II	3
WATR 250	Municipal Systems Management	4
WATR 275	Certification Review	3
Choose one from the following:		3
WATR 180	Water Chemistry	
CHEM 1111	Foundations of Chemistry [3]	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [3]	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors (or any higher level CHEM course of 3 or more credits) [3]	
Select one from the following:		6
WATR 285 & WATR 287	High Purity Water Treatment Systems and Advanced Water Chemistry Analysis	
WATR 290 & WATR 292	Advanced Wastewater Microbiology and Chemistry and Advanced Wastewater Analysis	
Total Credits		**67-68**

1. Each course selected must be from a different area and students cannot take multiple courses in the same area.
2. See the General Education (p. 56) section of the catalog for a full list of courses.
3. Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(67-68 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to

create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must receive a final grade of C- or better in all required WATR courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 67 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
WATR 120	Introduction to Water Systems	3
WATR 130	Wastewater Collection and Basic Treatment Systems	3
WATR 140	Applied Water and Wastewater Math I	3
WATR 160	Systems Maintenance	4
WATR 180	Water Chemistry	3
CHEM 1111	Foundations of Chemistry	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors (or any higher level CHEM course of 3 or more credits)	
WATR 182	Water Chemistry Analysis	1
	Credits	**17**
Semester 2		
Area I: Communications – English Composition Level 1		4
ENGL 1110G	Composition I	
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.		3-4
Area III: Laboratory Sciences		
Area IV: Social/Behavioral Sciences		
Area V: Humanities		
Area VI: Creative and Fine Arts		
WATR 175	Programmable Logic Controllers	2
WATR 190	Water and Wastewater Microbiology	3
WATR 192	Water and Wastewater Microbiological Analysis	1
WATR 220	Water Treatment Systems	3
WATR 222	Water Systems Operation	1
	Credits	**17-18**
Semester 3		
WATR 200	Internship (3-5 credits)	3
	Credits	**3**
Semester 4		
General Education Elective – Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
WATR 230	Advanced Wastewater Treatment	4
WATR 232	Wastewater Systems Operations	1
WATR 240	Advanced Water and Wastewater Math II	3
Choose one from the following:		6
WATR 285 & WATR 287	High Purity Water Treatment Systems and Advanced Water Chemistry Analysis	
WATR 290 & WATR 292	Advanced Wastewater Microbiology and Chemistry and Advanced Wastewater Analysis	
	Credits	**17**
Semester 5		
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.		3
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.		3
WATR 250	Municipal Systems Management	4
WATR 275	Certification Review	3
	Credits	**13**
	Total Credits	**67-68**

Water Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog (28 credits)

Graduates of the one-year program have the capability to work in a municipal water or wastewater treatment plant.

NOTE: Students must earn a final grade of C- or better in all required WATR courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 28 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
ENGL 1110G	Composition I [1]	4
Technical Requirements		
WATR 120	Introduction to Water Systems	3
WATR 130	Wastewater Collection and Basic Treatment Systems	3
WATR 140	Applied Water and Wastewater Math I	3
WATR 160	Systems Maintenance	4
WATR 182	Water Chemistry Analysis	1
WATR 190	Water and Wastewater Microbiology	3
WATR 192	Water and Wastewater Microbiological Analysis	1
WATR 200	Internship	3
Choose one from the following:		3
WATR 180	Water Chemistry	
CHEM 1111	Foundations of Chemistry [1]	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors) [1]	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors (or any higher level CHEM course of 3 or more credits) [1]	
Total Credits		**28**

[1] Course(s) are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(28 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Graduates of the one-year program have the capability to work in a municipal water or wastewater treatment plant.

NOTE: Students must earn a final grade of C- or better in all required WATR courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University certificate requirements, which include: General Education requirements and elective credits to total at least 28 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
WATR 120	Introduction to Water Systems	3
WATR 130	Wastewater Collection and Basic Treatment Systems	3
WATR 140	Applied Water and Wastewater Math I	3
WATR 160	Systems Maintenance	4
	Credits	**13**
Semester 2		
Area I: Communications – English Composition Level 1		4
ENGL 1110G	Composition I	
WATR 180	Water Chemistry	3
CHEM 1111	Foundations of Chemistry	
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors (or any higher level CHEM course of 3 or more credits)	
WATR 182	Water Chemistry Analysis	1
WATR 190	Water and Wastewater Microbiology	3
WATR 192	Water and Wastewater Microbiological Analysis	1
WATR 200	Internship (3-5)	3
	Credits	**15**
	Total Credits	**28**

Welding Technology

AWS S.E.N.S.E. Advanced Welder

Associate of Applied Science Degree
Certificate of Completion

Welders are in greater demand today than at any time during the past 30 years, and the job outlook is expected to remain excellent throughout the foreseeable future. They are needed in energy exploration and production and are required in virtually every field or industry that uses parts made of metal.

Simply stated, welders are people who join metals such as steel, stainless steel, aluminum, titanium, brass, bronze, copper, and nickel. Welding processes vary depending on the application. Extremely delicate and precise items, such as aerospace components and jewelry, may be welded using electron beams, lasers, and plasma, while huge structures for buildings and bridges are typically welded using submerged arc and flux core. Welding may take place in almost any setting: in a laboratory, out-of-doors, or even underwater, as in the case of offshore, oil-and-gas platform construction.

According to the US Department of Labor, job prospects for welders are excellent, with comparable projected job growth in New Mexico. Increases in welder wages have kept pace with or exceeded those of other occupations since 2002.

The DACC Welding Technology program is nationally accredited by the American Welding Society (AWS), and is taught by nationally qualified instructors. DACC welding instructors have extensive welding experience (nuclear, pressure vessels, aerospace, etc.), numeous welding certifications (SMAW, GTAW, GMAW, FCAW, SAW), and extensive experience teaching welding technology. Several DACC welding instructors are AWS Certified Welding Educators (CWE). several of which are also AWS Certified Welding Inspectors (CWI).

The DACC Welding Technology program performs hundreds of welder performance qualification tests every year. DACC welding instructors hold AWS national endorsements for multiple welding/fabrication codes.

The program is competency and performance based, consisting of lectures and hands-on laboratory exercises. Students learn to weld steels, stainless steels, and aluminum alloy plate and pipe with five welding processes. They also learn basic fabrication skills, oxy-fuel cutting, plasma cutting, and air-carbon arc cutting. The DACC Welding Technology Program is one of a handful of programs, nationwide, that has an orbital TIG unit that allows students to join tubing as small as one-quarter inch in diameter. Students are also exposed to heat treating of steel and its effects with a heat-treating oven.

Students are eligible to join SkillsUSA, an organization for high school and post-secondary students that promotes leadership and sponsors skills and leadership competitions at the state and national levels. In addition, students may become members of the American Welding Society (AWS) and participate in the activities of the new AWS El Paso Section.

All students who complete the certificate or associate degree will graduate as certified welders in one or more welding processes on steel, stainless steel, and/or aluminum. (It is important to note that, although some local welding jobs may not currently require certification, nearly all welding jobs nationwide do require it.) DACC welding instructors are well known nationally and have many job contacts in the United States.

Since the technical requirements for the certificate are the same as those for the associate degree, a student may complete the certificate program first and then later apply all the credits earned in the certificate program toward the associate degree. This associate degree then may be applied in its entirety toward the bachelor of applied studies degree offered by NMSU. Alternatively, those planning to teach at the secondary level

may apply up to 36 credits earned in the Welding Technology associate degree program toward a bachelor of science degree in Agricultural and Extension Education.

To enter the Welding Technology program, a high school diploma or GED is required, along with good overall health, eyesight, and hand-eye coordination. Students must purchase tools and personal safety equipment, usually costing approximately $900.

Whether taking classes or working on a job site, students enrolled in this program will be required to perform the same job duties and meet the same physical requirements that they will as a graduate in the field. These requirements include the ability to achieve performance qualifications using a variety or processes while welding materials in different positions. Depending where they find employment, graduates may be required to work in extreme temperatures, to lift and safely move 50 pounds, to have good eye-hand coordination, to work safely around compressed gasses and electrical equipment, to ascend and descend ladders, to work safely in confined spaces and awkward welding positions, and to tolerate a noisy working environment.

NOTE: Students must receive a final grade of C- or better in all required WELD courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Welding Technology - Associate of Applied Science (p. 431)

Welding Technology - Certificate of Completion (p. 432)

WELD 1110. Introduction to Welding Fundamentals
3 Credits (2+2P)
This course focuses on the fundamental techniques employed in the welding field. It is a laboratory approach to understanding and building skills in welding related areas including shop safety, hand and portable power tool usage, and welding.
Learning Outcomes
1. Demonstrate knowledge of basic welding processes.
2. Demonstrate shop safety including the proper use of welding hand and machine tools.
3. Practice and demonstrate SMAW with various electrodes in all positions.

WELD 1120. Print Reading for Welders
3 Credits (3)
Provides students with the knowledge to read and interpret prints and welding symbols and transfer this knowledge to the workplace with layout tools and measuring instruments.
Learning Outcomes
1. Identify, read and follow AWS welding symbols.
2. Demonstrate the ability to interpret orthographic and isometric drawings.
3. Demonstrate the ability to read/interpret pipe welding drawing and schematics.
4. Demonstrate proficiency in the mathematics utilized in welding and fabrication.

WELD 1130. SMAW (Shielded Metal Arc Welding) I
6 Credits (3+6P)
This course will cover introductory theory and practical applications of structural plate welding, welding safety, handheld torch cutting operations and equipment set up. The development of student skills using the Shielded Metal Arc Welding process in all positions will be stressed. The standards of this course are set by the American Welding Society and utilized in both classroom study and laboratory work.
Learning Outcomes
1. Perform welds on various joints in all positions.
2. Perform welds on various joints in all positions.
3. Demonstrate proficiency in identification of electrode classification and proper storage.
4. Identify SMAW power sources and their characteristics.
5. Maintain, use, and safely operate SMAW equipment.

WELD 1140. GMAW-Gas Metal Arc Welding I
3 Credits (2+2P)
Introduces Gas Metal Arc Welding (GMAW) short circuit welding safety, machine set up and shutdown procedures. Topics include personal protective equipment (PPE), GMAW uses, advantages and disadvantages, constant voltage (CV) power source, polarity, electrode types, shielding gasses, and weld discontinuities and defects identification and corrective practices. Lab exercises will include various joints in all positions.
Learning Outcomes
1. Demonstrate the ability to safely operate the Gas Metal Arc Welding equipment.
2. Demonstrate Gas Metal Arc Welding theory and application.
3. Demonstrate the ability to perform Gas Metal Arc Welding on various joints in all positions.
4. Demonstrate the ability to fabricate assigned projects while applying proper tolerance to finished projects.

WELD 1155. GTAW-Gas Tungsten Arc Welding I
3 Credits (2+2P)
A basic course designed to provide the student with the ability to setup, maintain and operate Gas Tungsten Arc Welding (GTAW) equipment safely. Develop skills to weld structural joints to bend tests standards utilizing various metals. Weld quality will be measured in accordance with American Welding Society standards.
Learning Outcomes
1. Demonstrate the ability set up GTAW equipment for use, inspect equipment prior to use, perform minor maintenance, and identify potential hazards.
2. Demonstrate the ability to perform GTAW on various base metals in all positions.
3. Demonstrate the understanding of basic metallurgical differences in various base and filler metals.
4. Demonstrate an understanding of welding currents and power sources.

WELD 1171. Layout and Fabrication
3 Credits (1+4P)
This class is an introduction to general layout and fabrication techniques as related to structural welding. Emphasis will be on construction of small projects to tolerances using prints. A variety of welding processes will be used in all positions.
Prerequisites: WELD 1130, WELD 1120, WELD 1140, and OETS 104 or OETS 118.
Learning Outcomes
1. Demonstrate the ability to fabricate projects.
2. Use shop drawing and/or prints to create projects and develop the bill of materials for the project.
3. Demonstrate ability to properly follow WPS (Welding Procedure Specification) during fabrication.

WELD 1191. Welded Art
3 Credits (1+4P)
Students explore the possibilities of welded art.
Prerequisite: WELD 1110.
Learning Outcomes
1. Demonstrate knowledge of the different forms of welded art.

WELD 1210. Flux Cored Arc Welding
3 Credits (2+2P)
Principles of flux cored arc welding (FCAW) terminology, safety procedures, and equipment set-up. Students will practice welding structural joints in all positions using the FCAW process.
Learning Outcomes
1. Demonstrate the set up of FCAW equipment.
2. Demonstrate safe operations of FCAW equipment.
3. Demonstrate minor repairs/maintenance of equipment.
4. Perform FCAW welds to minimum required specifications.

WELD 1220. Pipe Welding I
3 Credits (2+2P)
Stresses the theory and practical application of pipe welding in the 1-G and 2-G positions. This course will develop skills in the fit-up and technique of welding pipe, using electrodes and various Welding process.
Prerequisite(s): WELD 1130, WELD 1140, and WELD 1155, or consent of instructor.
Learning Outcomes
1. Demonstrate an understanding of 1-G and 2-G pipe welding using a variety of pipe sizes.
2. Demonstrate the ability to produce destructive test samples to AWS and/or API standards.
3. Demonstrate the ability to prepare, fit and tack pipe to specifications, getting pipe ready to weld.
4. Demonstrate knowledge of appropriate pipe fitting terminology and calculations.

WELD 1310. Metallurgy
3 Credits (3)
This course includes a study of ferrous and nonferrous metals from ore to the finished products. Emphasis is placed on metal alloys, heat-treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Technical terms used in the various phases of metallurgy, from early history to present.
Prerequisites: WELD 1130 or consent of instructor.
Learning Outcomes
1. Describe metals and alloys commonly used in industry.
2. Describe mechanical properties of metals including stresses and failures.
3. Describe the metalworking processes of casting, forming, and machining.
4. Describe the two basic processes, and state the four major purposes of heat treatment.

WELD 2130. SMAW (Shielded Metal Arc Welding) II
6 Credits (3+6P)
Reviews and builds upon SMAW-1 skills. Students will learn joint design and AWS standards for welder qualification testing. Continuation of WELD 1130. May be repeated up to 6 credits.
Prerequisite: WELD 1130.
Learning Outcomes
1. Meet AWS acceptance criteria for weld quality and destructive tests (bend test).

WELD 2155. GTAW-Gas Tungsten Arc Welding II
3 Credits (2+2P)
A continuation of GTAW I. This course is designed to provide the student with the ability to setup, maintain and operate Gas Tungsten Arc Welding (GTAW) equipment safely. Develop skills to weld structural joints to bend tests standards utilizing various metals. Weld quality will be measured in accordance with American Welding Society standards.
Prerequisite: WELD 1155 or consent of instructor.
Learning Outcomes
1. Demonstrate the ability to perform increasingly complex welds.
2. Demonstrate the ability set up GTAW equipment for use, inspect equipment prior to use, perform minor maintenance, and identify potential hazards.
3. Demonstrate the ability to perform GTAW on various base metals in all positions.
4. Demonstrate the understanding of basic metallurgical differences in various base and filler metals.
5. Demonstrate an understanding of welding currents and power sources.

WELD 2220. Pipe Welding II
3 Credits (2+2P)
Stresses the theory and practical application of 5-G and 6-G pipe welding. This course will develop skills in the technique of pipe welding, using various Welding processes.
Prerequisite: WELD 2120.
Learning Outcomes
1. Demonstrate an understanding of 5-G and 6-G pipe welding using a variety of pipe sizes.
2. Demonstrate the ability to produce destructive test samples to AWS and/or API standards.
3. Demonstrate the ability to prepare, fit and tack pipe to specifications, getting pipe ready to weld.
4. Demonstrate knowledge of appropriate pipe fitting terminology and calculations.

WELD 2290. Welder Qualifications
6 Credits (3+6P)
Laboratory and classroom instruction on AWS and ASME Welder Performance Qualification Tests. All position plate and pipe techniques and tests for SMAW, GMAW, GTAW, FCAW, and SAW. Nondestructive and destructive examination methods, and basics of welding codes. Restricted to Welding majors.
Prerequisites: OETS 104 or OETS 118; and WELD 1130, WELD 1120, WELD 1310, WELD 1140, WELD 1155, WELD 1210 and WELD 2155 or consent of instructor.
Learning Outcomes
1. Pass the AWS and ASME Welder Performance Qualification Tests in all processes and all positions.
2. Recognize the role of welding inspection and testing in industry.
3. Identify essential information for welding procedure and performance qualification.
4. Identify essential welding and inspection information from Welding Procedure Specifications (WPS's).
5. Identify essential welding and inspection information from AWS D1 1, Structural Welding Code – Steel.

6. Identify essential welding and inspection information from ASME, Boiler and Pressure Vessel Code - Section IX.
7. Describe the basic principles of non-destructive testing methods.

WELD 2995. Cooperative Education in Welding
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

WELD 2996. Topics in Welding
1-6 Credits
Individual studies in areas of welding technology. May be repeated up to 12 credits.
Learning Outcomes
1. Varies.

WELD 2997. Independent Study
1-4 Credits
Individual Studies related to Welding.
Learning Outcomes
1. Varies.

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Website: https://dacc.nmsu.edu/academics/programs/welding-technology/index.html (https://dacc.nmsu.edu/academics/programs/welding-technology/)

Welding Technology - Associate of Applied Science

Doña Ana Community College 2026-2027 Catalog

(60-62 credits)

NOTE: Students must receive a final grade of C- or better in all required WELD courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Select one course from four of the following six content areas for a total of 12-14 credits [1, 2]		*12-14*
This degree requires courses from Area I; students must select three courses from the remaining areas to complete General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I [3]	
Area III: Laboratory Sciences [2,3]		
Area IV: Social/Behavioral Sciences [2,3]		
Area V: Humanities [2,3]		
Area VI: Creative and Fine Arts [2,3]		
General Education Elective		
COMM 1115G	Introduction to Communication [3]	3
Or other approved New Mexico General Education Area I course listed in Oral Communication in the current DACC/NMSU Catalog		
Core Requirements		
Choose one of the following:		3
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus (or higher 3 or 4 credit Math course) [3]	
Approved Technical Elective (AUTO, WELD, HVAC, MAT, CNST, DRFT, BMGT, BUSA, BCIS 1110, ELT)		2-3
Major Requirements		
Technical Requirements		
WELD 1130	SMAW (Shielded Metal Arc Welding) I	6
WELD 1120	Print Reading for Welders	3
WELD 1310	Metallurgy	3
WELD 1220	Pipe Welding I	3
WELD 1140	GMAW-Gas Metal Arc Welding I	3
WELD 1155	GTAW-Gas Tungsten Arc Welding I	3
WELD 1171	Layout and Fabrication	3
WELD 1210	Flux Cored Arc Welding	3
WELD 2220	Pipe Welding II	3
WELD 2155	GTAW-Gas Tungsten Arc Welding II	3
WELD 2290	Welder Qualifications	6
Total Credits		**60-62**

[1] Each course selected must be from a different area and students cannot take multiple courses in the same area.
[2] See the General Education (p. 56) section of the catalog for a full list of courses.
[3] Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

(60-62 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must receive a final grade of C- or better in all required WELD courses/Technical Requirements and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		Credits
OETS 118	Mathematics for Technicians	3
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 to 4 credit Math course))	
WELD 1130	SMAW (Shielded Metal Arc Welding) I	6
WELD 1140	GMAW-Gas Metal Arc Welding I	3
WELD 1210	Flux Cored Arc Welding	3
	Credits	**15**
Semester 2		
Area I: Communications – English Composition Level 1		4
ENGL 1110G	Composition I	
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.n Areas III, IV, V, and VI.		3-4
WELD 1120	Print Reading for Welders	3
WELD 1155	GTAW-Gas Tungsten Arc Welding I	3
WELD 2155	GTAW-Gas Tungsten Arc Welding II	3
	Credits	**16-17**
Semester 3		
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.n Areas III, IV, V, and VI.		3
WELD 1310	Metallurgy	3
WELD 1220	Pipe Welding I	3
WELD 2220	Pipe Welding II	3
WELD 1171	Layout and Fabrication	3
	Credits	**15**
Semester 4		
General Education Elective – Area I: Communications - Oral Communications		3
COMM 1115G	Introduction to Communication	
Select one course from different NM General Education Areas III, IV, V, and VI. A total of 3 courses from different areas are required.n Areas III, IV, V, and VI.		3
WELD 2290	Welder Qualifications	6
Approved Technical Elective		2-3
	Credits	**14-15**
	Total Credits	**60-62**

Welding Technology - Certificate of Completion

Doña Ana Community College 2026-2027 Catalog

(46-47 credits)

NOTE: Students must earn a final grade of C- or better in all required WELD *courses/Technical Requirements* and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 46 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
Related Requirements		
OETS 103	Technical Career Skills	4
or ENGL 1110G	Composition I	
Choose one from the following:		3-4
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
Technical Requirements		
WELD 1130	SMAW (Shielded Metal Arc Welding) I	6
WELD 1120	Print Reading for Welders	3
WELD 1310	Metallurgy	3
WELD 1220	Pipe Welding I	3
WELD 1140	GMAW-Gas Metal Arc Welding I	3
WELD 1155	GTAW-Gas Tungsten Arc Welding I	3
WELD 2220	Pipe Welding II	3
WELD 1210	Flux Cored Arc Welding	3
WELD 2155	GTAW-Gas Tungsten Arc Welding II	3
WELD 1171	Layout and Fabrication	3
WELD 2290	Welder Qualifications	6
Total Credits		**46-47**

(46-47 credits)

A Suggested Plan of Study

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to

create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

NOTE: Students must earn a final grade of C- or better in all required WELD *courses/Technical Requirements* and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 46 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Semester 1		**Credits**
ENGL 1110G or OETS 103	Composition I or Technical Career Skills	4
WELD 1130	SMAW (Shielded Metal Arc Welding) I	6
WELD 1140	GMAW-Gas Metal Arc Welding I	3
WELD 1210	Flux Cored Arc Welding	3
	Credits	**16**
Semester 2		
Choose one from the following:		3-4
OETS 104	Basic Mathematics for Technicians	
OETS 118	Mathematics for Technicians	
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus ((or higher 3 or 4 credit MATH course))	
WELD 1120	Print Reading for Welders	3
WELD 1155	GTAW-Gas Tungsten Arc Welding I	3
WELD 2155	GTAW-Gas Tungsten Arc Welding II	3
	Credits	**12-13**
Semester 3		
WELD 1310	Metallurgy	3
WELD 1220	Pipe Welding I	3
WELD 2220	Pipe Welding II	3
WELD 1171	Layout and Fabrication	3
	Credits	**12**
Semester 4		
WELD 2290	Welder Qualifications	6
	Credits	**6**
	Total Credits	**46-47**

Noncredit Programs

Doña Ana Community College's Division of Workforce & Community Engagement (WCE) offers programs focused on improving the economic mobility and well-being of our community members in and around Doña Ana County by providing access to training, credentials, language skills, digital skills, entrepreneurial skills, and, ultimately, improved employment opportunities. The Division is comprised of five integrated units that serve community members in several locations throughout Doña Ana County: Hatch, Las Cruces, Sunland Park, Chaparral, and Anthony. DACC SBDC staff also serve clients in Sierra County.

- **The Adult Education Program** offers classes to improve English language skills, learn basic reading, math, and language skills, and/or get a high school diploma equivalency. Integrated Training programs are also offered.
- **The Small Business Development Center** (SBDC) offers specialized, confidential, quality counseling and guidance for business owners, prospective owners, and managers.
- **The CDL Programs** provide commercial driver's license (CDL) training and skills exams, forklift certification, and logistics training.
- **Workforce Training** offers short, non-credit training opportunities and professional skill development in career pathway certification programs.
- **Community and Career Education** provides training in career development and exploration, community interest activities, and lifelong learning.

More information about these programs can be accessed from the menu to the left.

Adult Education

Adult Education is learning the knowledge, skills, and attitudes for adults to transition to postsecondary education and/or find family-sustaining jobs. The Adult Education program at Doña Ana Community College provides opportunities for members of the Doña Ana community to improve their quality of life through the acquisition and improvement of English; critical reading, writing, and numeracy; and 21st Century workplace readiness skills at no charge to the individual.

Adult Education instructional programs include English as a Second Language (ESL), and academic skills in Math, Reading, and Writing. This comprehensive program includes instruction in many different areas including civic engagement, computer literacy, financial literacy, health literacy, and workplace readiness/literacy. Student support services include skill assessments, an Introduction to Adult Education course, advising and referral services, individual and small group tutoring, and assistance with college transition.

Free, Noncredit Instructional Programs

High School Equivalency (HSE). Those 16 years of age or older who want to improve or gain academic skills may attend classes that teach math, reading, and writing. These classes focus on Language Arts and Math, with supplemental instruction provided in Social Studies, and Science. Classes prepare adult learners to sit for a high school equivalency test such as the General Educational Development GED® test or the High School Equivalency Test HiSET®. Don't like tests? Adults can also earn a high school equivalency credential by demonstrating high school-level skills by completing a portfolio of life and academic tasks. The National External Diploma Program is an independent study program supervised by instructors within our program.

Adults who have an HSE or high school diploma may attend classes for career and workplace development or brush up on basic skills in order to keep or get a better job. Additionally, the Adult Education program provides Spanish-speaking adults classes to sit for the Spanish GED® exam. Students who are under 18 may attend this program with an official withdrawal notice from the public schools.

ESL—English as a Second Language (ESL). This program helps improve English language skills for non-native English speakers. Adult learners acquire academic English skills (reading, writing, and grammar), build their vocabulary, and increase conversation fluency and listening comprehension. English Language Learners who are ready to exit the program and transition to college are assisted with the process to help them experience success.

Integrated Education Training programs (IET). These programs build pathways to sustainable, in-demand careers regionally, within Doña Ana County, state-wide, and nationally. Our approach provides education and literacy services concurrently and contextually with workforce preparation activities and training. Adult learners can prepare for specific occupations or occupational clusters while improving their basic skills, English language skills, and/or earning their high school equivalency diploma.

Enrolling in Classes

Each fall and spring, Adult Education offers classes in the ESL and HSE programs in English and Spanish, and IET programming. Courses are provided in-person, remotely through zoom, and/or through independent study. Classes meet at Doña Ana Community College and at several other locations throughout Doña Ana County. Class times and locations vary each semester. Additionally, we offer short interim classes in between terms. Coursework may include digital literacy, conversational English, intensive math and writing.

New or inactive ESL adult learners must attend the required Introduction to Adult Education class; HSE students must attend the Pathways to an HSE course. These courses meet over several days and includes discussions of program requirements, an introduction to our online software, goal setting, workplace literacy, and a review of program expectations. Our HSE Pathways class includes taking four GED Ready tests (practice tests) to determine readiness to sit for the GED® and/or HiSET® exams. Adult learners are assessed to determine their Educational Functioning Level and determine which class best meets their individual goals and needs.

Adult learners should pre-register four to five weeks prior to the beginning of each semester. After pretesting is completed, adult learners are advised regarding their assessment results. Together, the adult learner, an enrollment coach, and an instructor, create a plan to address the adult learners' specific goals, learning needs, and educational strengths for continued enrollment and successful completion.

Support Services for Adult Learner Success

The Adult Education (AE) program supports learners in a variety of ways.

Tutoring Services
Adult learners may receive tutoring at no cost. These services may take place at a DACC adult learning center or online. Trained tutors provide personal assistance and small-group instruction in reading, writing, mathematics, grammar, ESL, and other academic skills. AE staff understand that learning takes time and make an extra effort to meet individual learner needs.

Adult Education offers adult learners many opportunities to discover their learning styles and create effective strategies to help learners truly learn the material covered in their classes. The learning centers throughout the county have resources, information, and staff that can help improve time management, listening, note-taking, and test-taking skills. Adult learners are encouraged to explore their own learning preferences and find a study style that enhances their strengths.

College Transition Advising
College Transition Advising, offered through AE, assists adults in preparing for a successful experience in college. Advising is available for adults at each of the learning centers and guides learners in making a successful transition from AE to college. Adult learners will become familiar with the admissions process, financial aid and scholarship opportunities, and career pathway options at DACC and NMSU.

Computer Literacy

Computer literacy is central to the modern workforce. Adult learners are able to participate in various computer literacy programs including one-on-one tutoring, and workshops. These classes are offered at the Workforce Center. Computer literacy is also incorporated into the comprehensive adult education classroom program.

For More Information

For more information about any of the Adult Education programs offered through Doña Ana Community College, please call: (575) 527-7540 or toll-free: 1 (800) 903-7503.

You can also go to this website: https://dacc.nmsu.edu/academics/departments/adult-education/index.html (https://dacc.nmsu.edu/academics/departments/adult-education/)

Locations

Las Cruces - Quintana Adult Learning Center

Doña Ana Community College, room DALR-160
3400 South Espina St.
Las Cruces, NM 88003
Hours: Mon.–Fri., 8 a.m. – 5 p.m.

Mesquite Adult Learning Center
Located in the DACC Workforce Center
2345 Nevada Ave.
Las Cruces, NM 88001
Hours: Mon.-Fri., 8 a.m. – 5 p.m.

Anthony Area
Gadsden Adult Learning Center Located in the DACC Gadsden Center
1700 E. O'Hara Rd.
Anthony, NM 88021
Hours: Mon.–Fri., 8 a.m. – 5 p.m.

Chaparral
Chaparral Adult Learning Center
755 Prescott Anthony Dr.
Chaparral, NM 88081
Hours: Mon.–Fri., 8 a.m. – 5 p.m.

Sunland Park
Sunland Park Adult Learning Center Located in the DACC Sunland Park Center
3365 McNutt Road & Santo Domingo Road Sunland Park, NM 88063
Hours: Mon.–Fri., 8 a.m. – 5 p.m.

Career & Community Education

Community and Career Education staff conduct outreach activities, community events, room services, and career development activities for community members and students. Services include career exploration and planning, job skills training, internships, and other work-based learning opportunities, assistance with job searching and application documents, and connection to social services. Other enrichment activities are also offered, including the Academy for Learning in Retirement and Pottery classes.

Academy For Learning in Retirement

The Academy for Learning in Retirement (ALR) is a volunteer-run organization whose purpose is to provide meaningful presentations on diverse topics of interest to members of the community. ALR is affiliated with, but not funded by, New Mexico State University (NMSU) through Doña Ana Community College. The programs are presented by NMSU faculty and other experts who are deeply knowledgeable in their fields. The program is offered in the spring and fall semesters and consists of monthly lecture series on current issues and topics. Tuition may be purchased by semester or a lecture series may be purchased monthly. Each semester the topics are eclectic, and may broadly include the sciences, arts, humanities, history, national and international affairs, economics, and other topics. Please contact alr.nmsu@nmsu.edu or visit the website (https://dacc.nmsu.edu/academics/programs/academy-for-learning-in-retirement/) (https://dacc.nmsu.edu/academics/programs/academy-learning-in-retirement/)for more information.

Career Exploration Services

The mission of career services at DACC is to assist students in reaching their personal and professional career goals. Services include career exploration and planning, job skills training, internships, and other work-based learning opportunities, assistance with job searching and application documents, and connection to social services. These resources are available at no charge to credit and non-credit students. For more information about Career Services, please contact 575-527-7776 or email CareerReadiness@dacc.nmsu.edu

Career & Life Skills Academy

The Career & Life Skills Academy is a one-year program for adults with intellectual and developmental disabilities, autism, and other neurodiverse conditions at any stage of life. This program engages participants in career exploration and self-discovery, work and professional skills development, technical skills development, and healthy, independent living. Please call 575-527-7776 for more information.

Pottery Classes

Community education pottery classes are offered at various times throughout the year. Please visit our website (https://dacc.asapconnected.com/#CourseID=181414) for more information and to register.

CDL Programs

The CDL Programs include the DACC Truck Driving Academy, commercial driver's license (CDL) training and skills exams, forklift certification, hazmat, and logistics training.

CDL Skills Exams

We administer the skills exam for the Class A and Class B commercial licenses. Drivers must provide their own properly insured and licensed vehicle for the exam, and they must have a current regular driver's license (D), current commercial learner's permit, and current medical card. The exams can usually be scheduled for about a week from the time you register. The exam costs $200 and can be paid by cash, money order, or credit card. Please visit our website (https://dacc.asapconnected.com/#CourseGroupID=48047) or call the office at 575-527-7776 for updates and additional information.

Truck Driving Academy

DACC Truck Driving Academy prepares participants to drive commercial trucks, semi-tractor trailers, and other vehicles. Students prepare for the written exam and the driving skills portion of the CDL. Students can also train for HazMat endorsements, doubles/triples, and tankers. The program assists students with employment skills, including financial skills, job search, and job placement. The CDL program is 240 hours, between 5 to 7 weeks. A maximum of 10 students per course. Please visit our website (https://dacc.asapconnected.com/#CourseGroupID=40191) or call the office at 575-527-7776 for updates and additional information about truck driving training.

Small Business Development Center

The **Small Business Development Center (SBDC)** at NMSU Doña Ana Community College can help you achieve your dreams! We offer no-cost, confidential, quality counseling and guidance for business owners, prospective owners, and managers. Whether you have been in business for some time or are starting or purchasing a business, the SBDC can help you address many issues.

Our team of experienced, professional business consultants can help you:

- Develop a business plan to start a new business or make an established business more efficient
- Develop a marketing plan
- Learn effective record-keeping, management, accounting, processes, and inventory control.
- Create alternatives for solving business marketing issues
- Find financial resources and prepare business loan packages
- Improve your business and management skills through seminars and workshops
- Explore business ownership opportunities
- Develop an exit or succession plan

Specialized Consulting

Specialized one-on-one, confidential consulting can help you develop an individualized plan for your business and create alternatives for solving marketing problems, including record keeping, accounting, and inventory control.

Business Education

The SBDC staff offers individualized workshops on various topics such as business management, marketing, record keeping, cyber security, disaster assistance, and business planning. These workshops can help you avoid serious and costly mistakes.

The SBDC offers business consulting on various subjects, including business start-ups, effective marketing strategies, writing a business plan, business financials, and other areas of concern you may have identified. In addition, special arrangements can be made for an SBDC consultant to visit your business site to discuss strategies.

Center for Resource Information

Use our professional business publications, industry reports, demographic reports, and financial tools to gain a competitive advantage.

The SBDC at NMSU-DACC serves the residents of Doña Ana and Sierra counties.

For an appointment to discuss your needs, **call (575) 527-7676** or visit us at https://www.nmsbdc.org/locations/las-cruces (https://www.nmsbdc.org/locations/las-cruces/)/.

Hablamos Español

DACC Workforce Center
2345 E. Nevada Ave., Suite 101
Las Cruces, NM 88001
Phone: (575) 527-7676
sbdcinfo@nmsu.edu

DACC Sunland Park Center
3365 McNutt Rd.
Sunland Park, NM 88063
Phone: (575) 528-7085

Workforce Training

DACC Workforce Training offers opportunities for short, non-degree training programs, online and classroom-based professional skill development, lifelong learning, and career exploration and development to the community of Las Cruces and Doña Ana County. Community organizations, governmental offices, and local businesses and industries use the training services to provide customized education opportunities for their employees.

Workforce Center
2345 E. Nevada Ave.
Las Cruces, NM
Phone: (575) 527-7776
Email: ctp@nmsu.edu

DACC Career Pathway Certification Programs

The DACC Career Pathways Certification Programs are short educational programs designed to assist individuals build their skills and earn a workforce credential within 16 weeks or less.

These programs provide

- a clear pathway to high-demand jobs
- completion of technical training programs (IRCs and micro-credentials),
- academic support in language development, tutoring, computer literacy, or other basic skills, as needed
- career navigation and development of valued professional skills, using a learner-centered and trauma-informed approach,
- paid work-based learning opportunities, and
- access to additional wrap-around services, as needed.

Career Pathway Certification Programs offer training in the following industry sectors:

- Advanced Manufacturing
- Healthcare
- Transportation, Supply Chain, and Warehousing
- Information Technology
- Business/Entrepreneurism

Career & Life Skills Academy

The Career & Life Skills Academy is a one-year program for adults with intellectual and developmental disabilities, autism, and other neurodiverse conditions at any stage of life. This program focuses on workforce skills and development for people in transition. CLSA is an inclusive program, using principles of trauma-informed practices and universal design to create a space for all learners to grow and benefit, despite barriers to post-secondary training such as intellectual and developmental disabilities (IDD), neurodiversity, or brain injury. Please call 575-527-7776 for more information or email ctp@nmsu.edu.

Personal & Career Discovery Course

In this short course, participants develop a personalized plan to long-term employment – the Blueprint for Employment. Throughout the participatory activities, assessments, discussions, and reflection, participants will develop a Personal Profile, which gives them insight into their strengths, values, and experiences that shape their skills and qualifications, provides content for resumes, interviews, and elevator pitches. They will also develop an Employment Profile, which narrows down employment options into a relevant set of criteria to clarify job searches and identifying skills and training needed.

Life Skills Mini-Course Series & Work Readiness Workshops

Topics in the series and workshops include Leadership, Community Engagement, Financial Literacy, Health Literacy, Self-Advocacy, Communication, Collaboration, Creativity, Problem Solving, Teamwork, and Equity and Inclusion.

Customized Training Program (CTP)

Our goal is to work with businesses, government, and non-profit agencies in Doña Ana County and southern New Mexico to provide professional and technical training for the workforce. We work with employers to provide custom training programs that consider the unique needs of their workforce and the workforce of Doña Ana County. We identify specific training needs and goals and develop custom training to address those needs. We follow up with assessments to evaluate the effectiveness of the training. Custom training can assist local employers in increasing employee satisfaction, reducing turnover, improving efficiency, and reducing costs. Please call 575-527-7776 to discuss training for your employees or for more information.

Professional and Workforce Development Courses

Employees who continuously strive to enhance their skills and abilities are more likely to earn promotions and better opportunities. We offers several certificates and courses where professionals can gain new skills or develop the ones they have. We offers non-degree training programs in the health, business, computer, trades, and manufacturing

sectors. These training programs prepare participants for national industry certifications and licenses. Online training courses are offered in partnership with Ed2go and courses can be found at ed2go.com/dacc (https://www.ed2go.com/dacc/) or call for more information.

Course Descriptions

NOTE: Not all courses listed are offered at Doña Ana Community College.

A

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F

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G

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H

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- HMRT-HUMAN RIGHTS (p. 600)
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I

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J

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L

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M

- M E-MECHANICAL ENGINEERING (p. 621)
- MAST-MEDICAL ASSISTANT (p. 621)
- MAT-AUTOMATION & MANUFACTURING (p. 623)
- MATH-MATHEMATICS (p. 624)
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N

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O

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P

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- PHYS-PHYSICS (p. 657)
- PL-S-PARALEGAL SERVICES (p. 662)
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R

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- RGSC-RANGE SCIENCE (p. 675)

S

- SIGN-SIGN LANGUAGE (p. 675)
- SMET-SCIENCE/MATH/ENG/TECH (p. 676)
- SOCI-SOCIOLOGY (p. 676)
- SOIL-SOIL (p. 677)
- SOWK-SOCIAL WORK (p. 677)
- SPAN-SPANISH (p. 677)
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T

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W

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New Mexico State University is currently undergoing a renumbering initiative to align with a State regulatory change. While this process is occurring courses will appear in two ways, a four-digit number or a three-digit number.

Course Numbering:

Four-digit Course

ASTR 1120G The Planets Lecture & Laboratory (4 credits (3+3P))

- **Course Prefix-** the four letter code that represents the subject of the course and where the course can be located in the Courses A-Z list below.
- **Course number-** (1120) indicates the course is a freshman course.
- **Course Title-** will appear after the prefix and number
- **Suffix-** will appear at the end of the number
  - *Suffix (G)*- indicates a New Mexico statewide General Education course.
  - *Suffix (V)*- indicates a Viewing a Wider World course.
  - *Suffix (H)*- indicates an Honors courses outside of the Honors prefix.
  - *Suffix (L)*- indicates a Laboratory course.
  - *Suffix (M)*- indicates a Multicultural course.

- **Credits -** The unit of university credit is the semester hour. In the example the course can be taken and will be charged for 4 credits. The numbers that appear in the parenthesis indicate the number of credits for lecture hours (3) and the number of credits for practicum/ laboratory hours (3).

Three-digit Course

AERT 105 Aerospace Engineering PLTW (4 credits (2+4P))

- **Course Prefix-** the four letter code that represents the subject of the course and where the course can be located in the Courses A-Z list below.
- **Course number-** (105) indicates the course is a freshman course.
- **Course Title-** will appear after the prefix and number
- **Suffix-** will appear at the end of the number
  - *Suffix (G)-* indicates a New Mexico statewide General Education course.
  - *Suffix (V)-* indicates a Viewing a Wider World course.
  - *Suffix (H)-* indicates a Honors courses outside of the Honors prefix.
  - *Suffix (L)-* indicates a Laboratory course.
  - *Suffix (M)-* indicates a Multicultural course.
  - *Suffix (N) -* indicates when the course credits are not applicable to the baccalaureate and specified associate degrees and is only added to developmental coursework.
- **Credits -** The unit of university credit is the semester hour. In the example the course can be taken and will be charged for 4 credits. The numbers that appear in the parenthesis indicate the number of credits for lecture hours (2) and the number of credits for practicum/ laboratory hours (4).

Designation

- 100-299/1000-2999 – Lower Division (Las Cruces and Community College Campuses)
- 300-499/3000-4999 – Upper Division (Las Cruces Campus)
  - 450-499/4500-4999 – Senior and graduate courses (Las Cruces Campus)
- 500-799/5000-7999 – Graduate courses (Las Cruces Campus)

All undergraduate students must demonstrate Basic Academic Skills in both English and mathematics before enrolling in any upper-division course (numbered 300/3000 or higher). These requirements ensure that each student in the upper-division courses has the ability to succeed without compromising the learning experience of other students.

Course Descriptions:

The course description will follow the prefix, number and credit hours. The description will explain what the course entails and will display any restrictions that the course may have that will be enforced during the registration process.

ASTR 1115G. Introduction Astro (lec+lab)
4 Credits (3+2P)
This course surveys observations, theories, and methods of modern astronomy. The course is predominantly for non-science majors, aiming to provide a conceptual understanding of the universe and the basic physics that governs it. Due to the broad coverage of this course, the specific topics and concepts treated may vary. Commonly presented subjects include the general movements of the sky and history of astronomy, followed by an introduction to basic physics concepts like Newton's and Kepler's laws of motion. The course may also provide modern details and facts about celestial bodies in our solar system, as well as differentiation between them – Terrestrial and Jovian planets, exoplanets, the practical meaning of "dwarf planets", asteroids, comets, and Kuiper Belt and Trans-Neptunian Objects. Beyond this we may study stars and galaxies, star clusters, nebulae, black holes, and clusters of galaxies. Finally, we may study cosmology--the structure and history of the universe. The lab component of this course includes hands-on exercises that work to reinforce concepts covered in the lecture, and may include additional components that introduce students to the night sky.

ACCT-ACCOUNTING (ACCT)

ACCT 1115. Accounting Principles I
3 Credits (2+2P)
This is an introductory course in the theory and practice of accounting that covers the purpose of accounting, the accounting process, and the various types of ownership structure. Also covered are types of business, career opportunities in accounting, analyzing financial transactions, adjusting entries, accounting worksheets, financial statements, and the closing process. Computerized exercise problems are used to assist student understanding and proficiency. This course is only offered for fall enrollment.

ACCT 1120. Accounting Principles II
3 Credits (2+2P)
This course is a continuation of theory and practice of accounting study began in ACCT 1115. Specialized accounting procedures for a service business and its environment, entrepreneurship, and small businesses are emphasized. Topics covered include the modified cash basis and combination journal, accounting for cash, payroll accounting, employee earnings and deductions, payroll accounting, employer taxes, and reports. Restricted to Community Colleges campuses only.
Prerequisite: ACCT 1115 or ACCT 2110.

ACCT 1150. QuickBooks
3 Credits (2+2P)
An introductory course to QuickBooks Pro accounting software, including setting up a new company and chart of accounts; recording transactions for service and merchandising businesses with customers, vendors and employees; bank reconciliations; payroll; end-of-period procedures; financial reporting; managing lists; and running reports and forms and customizing them. Restricted to Community Colleges campuses only.
Prerequisite: Working knowledge of computers and accounting or consent of instructor.
Learning Outcomes

1. Understand differences and similarities between a manual accounting system and QuickBooks Online.
2. Identify and execute the four levels of operation within QuickBooks: New Company Setup, Lists, Activities, and Reports.
3. Record sales/collections, purchase/payments, inventory, adjusting entries.
4. Set up payroll, record payroll transactions, print paychecks, and view various payroll related reports.
5. Produce a variety of reports and financial statements.
6. Analyze reports to identify and correct errors.

ACCT 1410. Personal Tax Preparation
3 Credits (3)
Introduces basic federal and state tax codes for preparing individual income tax returns. Emphasis on use of tax software. Students will be

required to pass a certification exam and assist in preparing individual tax returns for low income and elderly taxpayers.

Learning Outcomes

1. Explain basic personal income tax filing status requirements.
2. Use appropriate tax software to prepare simple income tax returns for individuals.
3. Answer basic tax questions.
4. Demonstrate personal and professional interview skills in an environment that demands confidentiality issues at all levels.

ACCT 200. A Survey of Accounting
3 Credits (3)

Emphasis on financial statement interpretation and development of accounting information for management. For engineering, computer science, and other non business majors. Community Colleges only.
Prerequisite: one C S course or consent of instructor.

ACCT 2110. Principles of Accounting I
3 Credits (3)

An introduction to financial accounting concepts emphasizing the analysis of business transactions in accordance with generally accepted accounting principles (GAAP), the effect of these transactions on the financial statements, financial analysis, and the interrelationships of the financial statements.

Learning Outcomes

1. Analyze business transactions, their effects on the financial statements and the interrelationships of the financial statements involving the following:Cash transactions; Receivables and Net Realizable Value; Operational Assets and Depreciation; Inventory; Current Liabilities; Long-term Liabilities
2. Define, identify and demonstrate the impact of adjusting entries on financial statements.
3. Explain and demonstrate the differences between cash and accrual basis accounting.
4. Define and identify generally accepted accounting principles.

ACCT 2120. Principles of Accounting II
3 Credits (3)

An introduction to the use of accounting information in the management decision making processes of planning, implementing, and controlling business activities. In addition, the course will discuss the accumulation and classification of costs as well as demonstrate the difference between costing systems.
Prerequisite(s): ACCT 2110.

Learning Outcomes

1. Identify the differences between financial and managerial accounting.
2. Illustrate the accumulation of costs in cost accounting systems.
3. Describe the basic elements of the budgeting process, its objectives and budget preparation.
4. Define and classify cost behavior.
5. Perform cost-volume-profit analysis for decision-making.
6. Perform differential (incremental) analysis for business decision making.
7. Explain the cause of the variance and its effect on the income statement.
8. Explain and demonstrate the difference between traditional costing and activity-based costing.

ACCT 2170. Payroll Accounting
3 Credits (2+2P)

Covers payroll accounting procedures and controls, tax and employment laws, and tax reports that form the core of payroll responsibilities. Restricted to Community Colleges campuses only.
Prerequisite: ACCT 2110 or ACCT 1115.

Learning Outcomes

1. Identify payroll terminology and concepts, required payroll records, and various laws and regulations affecting payroll operations.
2. Calculate gross wages and deductions.
3. Record, journalize and post payroll transactions in accordance with GAAP using the appropriate accounting records (payroll registers, employee earnings records, journals, and ledgers).
4. Prepare and accurately complete payroll tax reports for timely filing.

ACCT 2220. Computerized Accounting
3 Credits (3)

This course requires the prior knowledge from Survey of Accounting or Principles of Accounting I (Financial). It employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.
Prerequisite: ACCT 2110 or ACCT 1120.

Learning Outcomes

1. Set up a computerized accounting system and chart of accounts for a business enterprise.
2. Record sales/collections, purchase/payments, inventory, payroll, and adjusting entries using accounting software.
3. Identify the manual transactions underlying the computerized accounting systems.
4. Produce a variety of reports and financial statements using accounting software.
5. Analyze reports to identify and correct errors.

ACCT 2520. Introduction to Auditing
3 Credits (3)

Surveys auditing concepts and processes used by management and assurance professionals that include audit standards, reports, professional ethics, legal liability, evidence accumulation, audit planning, internal controls, transaction cycles, other engagements and operational auditing. Restricted to Community Colleges campuses only.
Prerequisite: ACCT 1115 or ACCT 2110.

Learning Outcomes

1. Describe the attest function.
2. Identify the professional and regulatory standards that impact the auditing profession.
3. Use audit planning techniques to assess risks, calculate materiality and prepare audit programs.
4. Evaluate factual situations to identify internal control deficiencies, significant deficiencies, and material weaknesses.
5. Identify types of evidence and practice documenting the results of performing audit tests.
6. Use various audit sampling to determine whether sufficient evidence has been obtained.
7. Identify audit procedures performed in the completion of an audit.
8. Select the appropriate audit report for various factual situations.
9. Demonstrate knowledge of other attestation and assurance services performed by CPAs as well as other types of services, which independent auditors may or may not perform.

ACES-AGRI, CONSUMER & ENV SCIE (ACES)

ACES 1120. Freshman Orientation
1 Credit (1)
Orientation to University life, including the understanding and utilization of resources that promote University success. Designed to promote success in achieving a career objective and perseverance for degree completion. Promotes a recognition of changes required in moving from high school to the University. Eight weeks in length, required for all freshmen in the College of Agricultural, Consumer and Environmental Science.
Learning Outcomes
1. Orient students to NMSU and to the College of Agricultural, Consumer and Environmental Sciences.
2. Develop an understanding of the personal skill set needed for academic success.
3. Develop awareness of the academic and personal resources available to NMSU students.
4. Help students create a peer network that will support their academic and personal success.
5. Strengthen skills in oral and written communications

ACES 1130. Agricultural Industry Certifications
3 Credits (3)
Provides academic course credit for the successful completion of agricultural industry certifications. The successful completion of one approved agricultural industry certification yields three hours of course credit. The completion of two agricultural industry certifications can yield a maximum course credit of six hours. Any third-party costs associated with completing the agricultural industry certification(s) will be the responsibility of the student. May be repeated up to 6 credits.
Learning Outcomes
1. Students will demonstrate a comprehensive understanding of the key concepts, tools, and techniques specific to the agricultural certification, including both theoretical knowledge and practical applications relevant to the industry.
2. Students will achieve proficiency in technical skills related to modern agricultural practices within their chosen certification area, such as precision agriculture, sustainable farming techniques, and the use of advanced agricultural machinery and technology.
3. Students will develop and apply problem-solving and critical-thinking skills to address real-world challenges in the agricultural sector, utilizing data-driven approaches and industry best practices.
4. Students will demonstrate an understanding of professional and ethical standards within the agricultural industry, including sustainable practices, environmental stewardship, and adherence to safety and regulatory requirements.

ACES 1210. Financial Fitness for College Students
1 Credit (1)
An introduction to personal financial practices in post high school and/or college lives. Emphasis is placed on budgeting, savings, investment, college debt, student loans, credit cards, scams and consumer protection.
Learning Outcomes
1. Discuss the importance of personal financial management during college years.
2. Discuss the essentials of following: a.paying yourself first and budgeting, b.differentiating between needs and wants, c.the significance of building and having good credit, d.managing debt, e.understanding and minimizing student loan debt, f.investing, g.life success principles, e.g., goal setting, time management, stress management.
3. Choose online financial tools to help them succeed financially.

ACES 1220. Academic Excellence
1-3 Credits (1-3)
Academic curriculum of excellence that includes the development of collaborative learning and student success environment, learning diverse learning styles and multiple intelligences, and developing multi-contextual academic communication styles. Restricted to: Open to all ACES majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Demonstrate an understanding of the relationship between time management and academic success.
2. Express a familiarity with college culture.
3. Communicate a comprehension of study skills and test taking strategies.
4. Apply material learned to other aspects to enhance academic excellence.
5. Develop an academic and career life plan that will highlight goals, taking into account life circumstance
6. Become competent in appropriate professional/academic communication

AEEC-AGRICULTURAL ECON/ECON

AEEC 1110. Introduction to Agricultural Economics and Business
3 Credits (3)
This course is an orientation to agricultural economics and business through the discovery process for the consumer in the food, fiber, and natural resource sectors of the global economy. The course discusses the application of micro-and macro-economic principles as they relate to agricultural economics and business. May be repeated up to 3 credits.
Learning Outcomes
1. Gain a broad understanding of the role of the consumer in the market-place for agricultural commodities, producers, agencies and the global market structure.
2. Apply introductory economic principles to applied global situations.
3. Employ economic concepts in the application of production level decision making.
4. Employ economic principles to the basic and global agricultural community.
5. Understand relationships that exist between producers and consumers.

AEEC 1120. Careers in Food and Agribusiness
1 Credit (1)
This course provides an orientation to careers in agricultural economics and agricultural business. Students will learn about the agricultural supply chain in New Mexico, the United States, and the world. Students will be introduced to faculty and staff within the department, learn about career opportunities available to AEAB graduates, and develop a greater appreciation of current agricultural issues. Freshman status or consent of instructor required. May be repeated up to 1 credit.
Learning Outcomes
1. Become familiar with career opportunities in agricultural economics and agricultural business
2. Understand knowledge and skills desired by employers

3. Become acquainted with faculty and staff in the Department of Agricultural Economics and Agricultural Economics and resources available to students within the Department
4. Refine written and verbal communication skills

AEEC 2110. Principles of Food and Agribusiness Management
3 Credits (3)
This course introduces business management theory and application of theory related to businesses within the food and fiber supply chain. Topics include management and financial principles, market planning, and organization theory. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate, refine and expand written and oral communication skills
2. Develop an understanding of basic financial statements, their use and analysis
3. Understand the roles management and management styles play in modern agribusiness
4. Learn about the history of agribusiness domestically and internationally
5. Integrate the role of technology into modern agribusiness management

AEEC 2120. Introduction to Food and Agribusiness Accounting
3 Credits (3)
This course outlines the purpose and methods of keeping and analyzing farm and ranch records. Course topics include financial statements, efficiency measures, analysis of the business, and tax computations.
Learning Outcomes
1. Understand the terminology and principles used in modern farm and ranch financial management statements.
2. Evaluate capital investments, analyze farm business performance, and develop tools for financial planning and analysis
3. Evaluate farm and ranch cash flows

AEEC 2130G. Survey of Food and Agricultural Issues
3 Credits (3)
Survey of food and agricultural issues, including: geography of food production and consumption; human-agricultural-natural resource relations; agriculture in the United States and abroad; modern agribusiness; food safety; food, agriculture, and natural resources policy; ethical questions; role and impact of technology. Crosslisted with: FSTE 2130G.
Learning Outcomes
1. Understand of global agriculture including production techniques used in various geographical regions, consumption trends, and political and social constraints.
2. Synthesis information about agricultural issues and make informed arguments
3. Articulately discuss modern issues in agriculture
4. Write coherent arguments relative to personal beliefs regarding agricultural issues

AEEC 2140. Technology and Communication for Business Management
3 Credits (2+2P)
This course helps students improve their skills related to data analysis, information management, and communication. Drawing examples from a variety of management, business, technological and research situations, students discover the versatility and functionality of modern computer software. The course emphasizes a 'hands-on' approach. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate an understanding of the terminology used to describe common techniques and concepts in business information systems.
2. Demonstrate a mastery of spreadsheet design and use.

AEEC 2996. Special Topics
1-4 Credits
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree. Consent of instructor required.
Learning Outcomes
1. Varies

AERO-AEROSPACE STUDIES (AERO)

AERO 121. Heritage and Values
2 Credits (1.25+2P)
"Heritage and Values of the United States Air Force," is a survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, missions, and organization of the Air Force. Includes Leadership Lab practicum. May be repeated up to 2 credits. Restricted to Las Cruces campus only.

AERO 122. Heritage and Values II
2 Credits (1.25+2P)
"Heritage and Values of the United States Air Force," is a survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, and organization of the Air Force. Includes Leadership Lab practicum. May be repeated up to 2 credits. Restricted to Las Cruces campus only.

AERO 221. Team and Leadership Fundamentals
2 Credits (1.25+2P)
"Teams and Leadership Fundamentals," focuses on laying the foundation for teams and leadership. The topics include skills that allow cadets to improve their leadership on a personal level and within a team. The courses will prepare cadets for their field training experience where they will be able to put the concepts learned into practice. The purpose is to instill a leadership mindset and to motivate sophomore students to transition from AFROTC cadet to AFROTC officer candidate. Includes Leadership Lab practicum. May be repeated up to 2 credits. Restricted to Las Cruces campus only.

AERO 222. Team and Leadership Fundamentals II
2 Credits (1.25+2P)
"Team and Leadership Fundamentals," focuses on laying the foundation for teams and leadership. The topics include skills that will allow cadets to improve their leadership on a personal level and within a team. The courses will prepare cadets for their field training experience where they will be able to put the concepts learned into practice. The purpose is to instill a leadership mindset and to motivate sophomore students to transition from AFROTC cadet to AFROTC officer candidate. Includes Leadership Lab practicum. May be repeated up to 2 credits. Restricted to Las Cruces campus only.

AERO 223. Air Force Leadership Development
1 Credit (2P)
This course prepares cadets to excel in field training. Cadets are prepared in all facets of field training, including: leadership competency evaluations, the Cadet's Guide to Field Training, individual drill evaluations, attention to detail, dining hall procedures, maintenance of living areas, and the group problem solving process. Restricted to: Main campus only.

AERT-AEROSPACE TECHNOLOGY (AERT)

AERT 105. Aerospace Engineering PLTW
4 Credits (2+4P)
Introduce the student to Aerospace Engineering (AE) concepts and history. Studied topics include History of Flight, Aerodynamics, Rocket Science, Orbital Physics, Systems Engineering and Life Support/ Environmental Systems. Restricted to: Community Colleges only.

AERT 111. Basic Electricity and Electronics
3 Credits (2+2P)
Fundamentals of electricity and electronics, basic circuit devices, meters, transistors, integrated fiber optics, and industrial application topics. Minimum math proficiency of CCDM 103 or CCDM 104 required or math placement into CCDM 114 or higher. Restricted to: Community Colleges only. Crosslisted with: ELT 105

AERT 121. Introduction to the Aerospace Workplace
4 Credits (2+4P)
The course covers space history, regulations, controls, aerospace industry terminology and acronyms as well as hands-on activities related to tools, procedures, and standard practices. Restricted to: Community Colleges only. May be repeated up to 4 credits.
Learning Outcomes
1. Identify problems and advantages of living and working in space.
2. Describe what career opportunities exist for future aerospace technicians.
3. Using industrial equipment, demonstrate various fabrication techniques relative to the aerospace industry.
4. Construct electrical control circuits using various techniques.
5. Identify notable people and their accomplishments in the aerospace industry.

AERT 122. Aerospace Safety and Quality
3 Credits (2+2P)
Covers identification of hazards, personal protective equipment, safe practices, and protection of personnel, property, and equipment in the aerospace environment. Basic principles of quality assurance engineering and quality control relating to work processes will be discussed. Restricted to: Community Colleges only.

AERT 145. Introduction to Drone-UAS Technology
3 Credits (3)
Introduction to drone or Unmanned Aircraft System (UAS) technology and its applications in architecture, engineering, construction, film, media, and other related industries. Best practices, training, permissions, licensing, and documentation requirements will be explored. Obtaining, working with, and managing data obtained by drones will be emphasized. Emerging technologies and future applications will be introduced. Restricted to Dona Ana Campus only.
Learning Outcomes
1. Describe applications of drone technology by industry.
2. Recognize types of drone data.
3. Provide examples of how drone data can be used in project visualization.
4. Identify standard drone features.
5. Utilize related applications, software, and hardware successfully.
6. Demonstrate professional practices.
7. Describe training, permissions, licensing, and documentation requirements.
8. Identify best practices of UAV use.
9. Process and produce imagery and videos from drone data. 1
10. Perform basic data processing. 1
11. Manage point cloud data. 1
12. Create 3D meshes from drone data. 1
13. Explore emerging technologies and future applications.

AERT 195. Introduction to Drone - UAS Equipment Operation and Maintenance
4 Credits (4)
Introduction to drone or Unmanned Aircraft System (UAS) equipment operation and maintenance. Flying and maneuvering drones will be practiced. Pre-flight, in-flight, and post-flight procedures will be emphasized. Drone maintenance will be introduced. Restricted to Dona Ana campus only.
Prerequisite: A grade of C- or better in AERT 145.
Learning Outcomes
1. Describe related safety practices and procedures.
2. Discuss related communications requirements.
3. Demonstrate launch preparation steps.
4. Create a basic flight plan.
5. Demonstrate proper preflight, inflight, and post-flight procedures.
6. Describe standard flight operations.
7. Perform basic drone flight and maneuvers.
8. Identify elements of maintenance and inspection programs.
9. Describe related FAA requirements. 1
10. Demonstrate proper equipment and battery maintenance. 1
11. Describe proper parts and material control.

AERT 211. Electromechanical Devices
4 Credits (2+4P)
Theory and application of electromechanical devices and digital control circuits. Includes AD and DA converters, pneumatics, hydraulics, programmable logic controllers, DC, AC and stepper motors, and servomechanisms. Crosslisted with: MAT 240. May be repeated up to 4 credits.
Prerequisite: ELT 160.
Learning Outcomes
1. Apply the appropriate techniques to connect a multimeter correctly to a circuit or component for measuring voltage, current, microfarads, and resistance.
2. Demonstrate the process of troubleshooting basic electrical circuits.
3. Apply the theories and concepts learned to solve practical problems related to electromechanical devices and digital control circuits.
4. Evaluate the advantages and disadvantages of different control methods, such as pneumatic, hydraulic, or electronic control, for specific scenarios.
5. Classify and compare different types of electromechanical devices and digital control circuits, such as pneumatics, hydraulics, DC/AC motors, and stepper motors.

AERT 212. Materials and Processes (Basic Metallurgy)
3 Credits (2+2P)
Basic Metallurgy of aluminum alloys, magnesium, titanium, copper, stainless steel, surgical steel, superalloys, noble and rare earth will be discussed. Metallurgical Processes of casting, forging, hardening, tempering, annealing and anodizing along with corrosion control will be emphasized. May be repeated up to 3 credits.

Learning Outcomes

1. Explain the Theoretical Theory for hardness testing.
2. Select the proper type of steel for a given application.
3. Describe the failures and deformation of metal.
4. Apply the theoretical principles to interpret hardness testing results.
5. Summarize the various quenching methods of ferrous metals.
6. Put into practice corrosion control applications.
7. Explain the principles of heat treating materials.
8. Explain the difference between ferrous and nonferrous metals.

AERT 213. Aerospace Fluid Systems
3 Credits (2+2P)
This course includes a familiarization of fluid system components, characteristics, and applications. Cryogenic and hypergolic materials and high pressure systems are also covered. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes

1. Recall the basic knowledge and terminology related to hypergol and cryogenic systems in aerospace programs.
2. Identify the potential hazards associated with hypergol and cryogenic systems and the necessary safety measures, including first aid and personal protective equipment.
3. Apply the foundational knowledge to identify and describe the different hardware components used in hypergol and cryogenic systems.
4. Analyze the interactions and interdependencies between hypergol and cryogenic systems and their impact on aerospace programs.
5. Memorize the key concepts and principles of hypergol and cryogenic subsystem design.
6. Comprehend the properties and characteristics of hypergol and cryogenic materials and soft goods.
7. Utilize the entry-level awareness to assess and address the challenges related to hypergol and cryogenic buildup, including operations and ground interactions.
8. Evaluate the potential risks and hazards associated with hypergol and cryogenic systems and propose appropriate mitigation strategies.

AERT 214. Aerospace Systems
3 Credits (2+2P)
This course provides an introduction to expendable and reusable spacecraft systems including hydraulic, pneumatic, electrical, propulsion, mechanical, HVAC, and ECLSS (Environmental Control and Life Support System). How systems interact with computer and data acquisition systems is also covered. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes

1. Recall the key contents and information covered in the Space Mission and Design Analyses text.
2. Research the role and importance of mission operations and ground interactions in the context of space missions.
3. Employ the knowledge gained from the Space Mission and Design Analyses text to analyze and evaluate spacecraft and subsystem designs.
4. Analyze the complexities and considerations involved in constellation design and the development of multi-satellite systems.
5. Evaluate strategies and techniques for reducing mission costs and designing low-cost missions.
6. Utilize the entry-level awareness to assess and propose solutions for mission operations and ground interactions.
7. Relate the significance of requirements definition, logistics, and system implementation in space systems.

AERT 221. Inspection Requirements and Planning Metrology
3 Credits (2+2P)
Course teaches the benefits of inspection, quality control, material conditions. Also covers measurements, including temperature, ultrasonic, vibration and more. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes

1. Understand the purpose and function of quality management in aerospace companies.
2. Perform visual and precision inspections from engineering drawings.
3. Acquire practical understanding of Geometric Dimensions and Tolerances, along with proficiency in using specialized measuring equipment.
4. Develop the capability to conduct inspections for FOD, corrosion, and other relevant conditions.

AERT 222. Electromechanical Systems
3 Credits (2+2P)
Principles and applications of preventive and corrective maintenance procedures on industrial production machines using systems technical and maintenance manuals to develop troubleshooting procedures using systems block and schematic diagrams. Crosslisted with: MAT 245. May be repeated up to 3 credits.
Prerequisite: ELT 160.
Prerequisite/Corequisite: A grade of C- or better in AERT 221 or MAT 240.
Learning Outcomes

1. Recall the key concepts and information presented in the Space Mission and Design Analyses book.
2. Describe the principles and theories behind mission operations and ground interactions.
3. Apply the knowledge gained from the Space Mission and Design Analyses book to analyze and evaluate spacecraft and subsystem designs.
4. Analyze the complexities and considerations involved in constellation design and the development of multi-satellite systems.
5. Memorize the foundational knowledge related to spacecraft and subsystem design.
6. Comprehend the significance of requirements definition, logistics, and the implementation of space systems.
7. Apply the knowledge gained from the Space Mission and Design Analyses book to analyze and evaluate spacecraft and subsystem designs.
8. Evaluate strategies and techniques for reducing mission costs and designing low-cost missions.
9. Comprehend the significance of requirements definition, logistics, and the implementation of space systems.

AERT 224. Aerospace Tests and Measurements
3 Credits (2+2P)
This course covers electrical and mechanical testing procedures (primarily non-destructive testing), equipment, measurements, and instrumentation involved in aerospace systems. Verification of tool and equipment calibration is also covered. Restricted to Community Colleges Only. May be repeated up to 3 credits.
Prerequisite/Corequisite: AERT 221.

Learning Outcomes

1. Identify common material defects and their causes.
2. Understand the theory of various forms of material inspections and perform basic operation on multimeters, and oscilloscopes.
3. Identify common aerospace materials.
4. Apply professional productive work habits.

AERT 225. Cooperative Experience
1-3 Credits (1-3)
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Consent of instructor required. Graded: S/U. Restricted to: Community Colleges only.

AERT 245. Remote Pilot Certificate Test Preparation
3 Credits (3)
Preparation course for the FAA Unmanned Aircraft General – Small (UAG) aeronautical knowledge exam. Overview of applicable regulations, restrictions, procedures, and operations will be provided. Process for obtaining an FAA Tracking Number (FTN), registering for the FAA Unmanned Aircraft General – Small (UAG) aeronautical knowledge exam, and certificate registration requirements will be explored. Restricted to Dona Ana campus only.
Prerequisite: AERT 195.
Learning Outcomes

1. Demonstrate increased knowledge related to topics covered in the FAA UAG exam.
2. Demonstrate increased skills related to topics covered in the FAA UAG exam.
3. Demonstrate increased abilities related to topics covered in the FAA UAG exam.
4. Describe processes related to obtaining a FAA Unmanned Aircraft General – Small (UAG) aeronautical certificate.
5. Practice certification test-taking skills.

AERT 255. Special Topics
1-4 Credits (1-4)
Specific topics to be announced in the Schedule of Classes. Restricted to: Community Colleges only.

AERT 290. Independent Study
1-3 Credits (1-3)
Individual studies in areas directly related to aerospace. Consent of instructor required. Restricted to: Community Colleges only.

AFST-AFRICANA STUDIES

AFST 1110G. Introduction to Africana Studies
3 Credits (3)
An interdisciplinary course that introduce students to the histories, cultures, and experiences of global people of African descent. NMSU Specific Description This course presents a survey of the experiences of Blacks across the African Diaspora with particular attention given to the experience of Blacks in the United States. This course will examine the experiences of Black people across various disciplines and fields of academic inquiry. African people, and their descendants across the diaspora, have contributed to the political, cultural, economic, and social landscape of the world. This course will assist you in understanding the Black/Africana experience in the U.S. and around the world.
Learning Outcomes

1. Students will carry out critical analysis and engagement with complex, interdependent global systems and legacies (natural, physical, social, cultural, economic, and political) and their implications for people's lives and the earth's sustainability.
2. Students will explore issues/objects/works through collection and analysis of evidence that result in informed conclusions/judgments, understanding and analysis of critical literacy and ethics pertaining to the dynamics of diversity, equity, inclusion and social change.
3. Students will examine habits of mind characterized by the comprehensive exploration of issues, ideas,artifacts and events related to diversity, equity and inclusion before accepting or formulating an opinion or conclusion.
4. Students will demonstrate the capacity to combine or synthesize existing ideas, images, or expertise in original ways.
5. Students will prepare, purposeful presentations designed to increase knowledge, foster understanding, or promote change in listener's values, beliefs, or behaviors pertaining to the dynamics of diversity, equity, inclusion and social change.
6. Students will develop and express ideas in writing and learning in many genres and styles using different writing technologies, mixing texts, data and images that relate to the dynamics of diversity, equity, inclusion and social change.
7. Students will show the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situation.
8. Students will demonstrate the ability to know a need for information or visual literacy and understanding of the dynamics of historic and contemporary inequality and how they shape individual and community power, biases, structural arrangements and social justice bias.
9. Students will enact behaviors and efforts and interact with others on the team to enhance the quality and quantity of contributions made to team discussions. 1
10. Students will design, evaluate and implement strategies to answer open-ended questions in multiple ways. 1
11. Students will work to make a difference in the civic life of communities and develop the combination of knowledge, skills and values and motivation to make a difference. 1
12. Students will develop their cognitive, affective and behavioral skills and characteristics to support effective and appropriate interaction in a variety of cultures. 1
13. Students will develop their ethical self-identity as they practice ethical decision making skills while learning how to describe and analyze positions on ethical issues. 1
14. Students will engage in self-reflection regarding one's own history and position in contemporary U.S. society as well as in a global context. 1
15. Student learners will connect perspectives and integrate relevant experience and academic knowledge from multiple disciplines.

AFST 2110G. African American History
3 Credits (3)
This course surveys the long and turbulent journey of African-Americans, the rich culture they have cultivated, and their persistent struggle for freedom from the perspective, interests, aspirations, possibilities and envisioned destinies of African descended peoples. From African antiquity to the 21stth century, students will study: 1) The African background; 2) The Holocaust of Enslavement; 3) Black Resistance and Abolition; 4) Reconstruction; 5) The Jim Crow Era; 6) Civil Rights and Black Power, and; 7) The Post-Industrial/Post Civil Rights Era. (unique)

Learning Outcomes

1. Demonstrate a full ability to analyze and interpret how enslavement and oppression shape the racial, gendered, social, economic, and political realities of African descended people in the U.S.
2. Recognize and respond to ethical challenges/social justice issues that affect African American people.
3. Acquire a critical understanding of the human condition.

AFST 2140G. Black Women in the African Diaspora
3 Credits (3)

This survey course reviews the contributions of Black women to the Black Diasporic Story. NMSU Specific Description This course critically surveys Black women's history and experiences across the African Diaspora. Particular attention is given to Black women's experiences in North America. Some of the topics covered include: Black women and the building of nation-states; Black women in the U.S. slave system; Black women in race and gender movements in the U.S. and Latin America; systemic and institutionalized violence against Black women; Black motherhood; Black Latinas and the politics of identity; representations of Black women in popular culture; radical activism and Black lesbian identity, as well as the emergence and growth of Black feminist theory and selected other topics. In addition, students will engage in an autobiographical project on a Black woman they select to study.

Learning Outcomes

1. Students will gain theoretical knowledge of the field of Black feminist thought.
2. Students will explore the relationship between Black feminist theory and the larger more general body of work on feminism.
3. Students will study the historical, political and social experiences of Black women in the Americas.
4. Students will understand the intersecting relationship between race, gender, class and sexuality.
5. Students will critically analyze the representations of Black women in popular culture.

AFST 4110. Race, Culture, and Education
3 Credits (3)

This course deconstructs the history of education through the lens of culture and race. Using a intersectionality framework, the creation of public education, and the impact of historical shifts within the law concerning education will be examined. Special emphasis is placed on the role of ethnicity in the development of the United States and its education system. Includes an overview of multicultural/ multilingual curricula with a special focus on culturally / linguistically responsive instruction and assessment practices. This course provides a critical examination of race and culture using multicultural theoretical frameworks to analyze the conditions of education today.

Learning Outcomes

1. Analyze and interpret the historical, philosophical, economic, and sociocultural elements of education as it relates to race and culture.
2. Evaluate and interpret the ways in which education policies influence and are influenced by equity issues.
3. Describe multicultural education initiatives and assumptions about teaching, learning, and knowing.
4. Understand how cultural groups and students' cultural identities affect language learning and education overall.
5. Explain and provide examples of anti-bias teaching strategies and education practices.

AFST 4110V. Race, Culture, and Education
3 Credits (3)

This course examines education through the lens of Africana Studies, highlighting African diasporic knowledge traditions, cultural practices, and social justice movements. Students explore how race, power, and culture shape educational systems, with a focus on how Black communities have challenged and reimagined the schooling system. Drawing on Africana Studies, the course engages pedagogical approaches informed by Africana systems of thought/ways of knowing to affirm identity, develop critical consciousness, and promote liberatory educational practices.

Learning Outcomes

1. Analyze the historical development of educational systems in the United State and the African diaspora through Africana Studies frameworks.
2. Evaluate how race, culture, and power intersect to shape educational institutions, practices, and policies.
3. Apply Africana systems of thought/ways of knowing in educational critique and design.
4. Examine the role of African diasporic epistemologies in shaping liberatory educational thought and practice.
5. Develop strategies for building affirming, justice-centered educational spaces that reflect Black cultural and intellectual traditions.
6. Engage in critical reflection on individual educational experiences and positionalities within larger social and historical contexts.

AGRO-AGRONOMY (AGRO)

AGRO 1110G. Introduction to Plant Science (Lecture & Lab)
4 Credits (3+2P)

This is an introductory course for understanding plant science. Basic biological, chemical, and physical principles of various plants are covered. The focus of this course is on plants/crops used in agriculture production of food and fiber as well as pasture and range plants. Plant taxonomy and soil properties will also be discussed. Same as HORT 1115G.

Learning Outcomes

1. Describe the basic structure of plants including growth and function.
2. Define photosynthesis, respiration, and translocation
3. Utilize plant taxonomy techniques to identify various plants.
4. Classify soils based on their chemical and physical properties.
5. Explain how different soil properties affect plant growth and sustainability.

AGRO 2160. Plant Propagation
3 Credits (2+2P)

Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques. Crosslisted with HORT 2160.

Learning Outcomes

1. Practical methods of propagating plants by seed, cuttings, layering, grafting, division, and tissue culture through experiential, "hands-on" laboratories.
2. Relevant physiological principles involved in propagating horticultural plants through lecture discussions and readings.

AGRO 2996. Special Topics
1-4 Credits (1-4)

Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree. May be repeated up to 9 credits. Consent of Instructor required.

Learning Outcomes

1. Varies

AIML-ARTIFICIAL INTELLIGENCE MACHINE LEARNING

AIML 1310. Introduction to Artificial Intelligence
3 Credits (3)
Cover basic concepts and applications of artificial intelligence (AI), including AI project cycles. Focus on issues surrounding AI including ethics, bias, culture, regulations, and professional expectations.

Learning Outcomes

1. Describe issues relating to ethics, bias, design, training, and social impact of AI systems.
2. Summarize basic function and structure of AI systems.
3. Describe issues relating to ethics, bias, design, training, and social impact of AI systems.
4. Identify and describe the stages and significance of the AI project cycle.
5. Create AI models, utilizing training and testing with datasets.

AIML 1320. Fundamentals of Artificial Intelligence
4 Credits (4)
Compares and applies machine learning solutions for computer vision, natural language processing, and data analytics.
Prerequisite: CIST 2251.

Learning Outcomes

1. Apply an AI solution given a test data set and desired outcome.
2. Evaluate AI data sets.
3. Explain AI training and evaluation processes.
4. Plan the construction of a new AI solution given a problem to solve.

AIML 2310. Deep Learning
4 Credits (4)
Deep learning mimics the human brain enabling systems to make predictions with incredible accuracy. Students in this course identify the main deep learning algorithms and applications.
Prerequisite: AIML 1320.

Learning Outcomes

1. Identify deep learning algorithms.
2. Choose deep learning algorithms for specific applications.
3. Review and recommend applications that use deep learning.

AIML 2320. Natural Language Processing
3 Credits (3)
Natural language processing machines understand and respond to text or voice with text or speech of their own. Students in the course identify the main natural language processing algorithms and applications.

Learning Outcomes

1. Identify natural language processing algorithms.
2. Choose natural language algorithms for specific applications.
3. Review and recommend applications that use natural language processing.

ANSC-ANIMAL SCIENCE (ANSC)

ANSC 1110. Animal Science Careers
1 Credit (1)
Introduction to scientific disciplines and career options in animal-agriculture career skill development, including resume preparation, networking, importance of internships, and leadership experiences in animal agriculture.

Learning Outcomes

1. Increasing the understanding of career opportunities in animal agriculture.
2. Gain a broad experience in the development of creative thinking about the career choices available in animal agriculture.
3. Apply the increased knowledge of career development in the career path and internship directions for each student.
4. Gain leadership experience that will be impactful for the student in their pursuit of a career in animal agriculture.

ANSC 1120. Introduction to Animal Science
3 Credits (3)
Survey of the livestock industry throughout the world. Basic management practices will be covered, including livestock selection, nutrition, reproduction, anatomy and marketing to the consumer. This course will also discuss animal behavior and welfare.

Learning Outcomes

1. Understand the role of farm animals in a global setting.
2. Describe the role of nutrition, breeding, behavior, welfare, and physiology of livestock in the world.
3. Explain the structure and organization of livestock industries.
4. Discuss concepts and terminology of the livestock industries as they relate to the global perspective.
5. Classify the overall management, care, marketing of animals, represented in the various livestock industries.

ANSC 1120H. Introduction to Animal Science Honors
3 Credits (3)
This course is designed to provide an introduction to nutrients and their function in livestock animals. Basic feed identification, evaluation, and diet formulation will be discussed. The anatomy of the digestive tract of animals and their ability to utilize feedstuffs is presented. Classification, digestion, absorption, transport and metabolism of major nutrients required by animals are studied. Additional course work will be required. Restricted to Las Cruces campus only.
Prerequisite(s): Eligibility for membership in honors college.

Learning Outcomes

1. Identify conventional and non-conventional feedstuffs that are fed to livestock animals.
2. Describe various methods for feed processing and storage.
3. Assess the nutritional value of a ration or feed ingredients.
4. Interpret the NRC (Nutrient Requirement Council) guidelines for feeding livestock.
5. List the basic digestive anatomy for all classes of livestock.
6. Describe nutritional deficiencies and digestive disorders common to livestock animals

ANSC 1120L. Introduction to Animal Science Lab
1 Credit (2P)
Students will observe and participate in activities related to farm animal management and will include areas of livestock selection, nutrition,

reproductive physiology, animal ID and animal health. This lab is required for animal science majors.
Prerequisite(s)/Corequisite(s): ANSC 1120.
Learning Outcomes
1. To provide the students with an understanding of the principles, concepts and terminology of today's livestock industry

ANSC 1125. Equestrian Team Competition
1 Credit (1)
Basic principles of equestrian team competition, including care and management of the riding horse, equitation equipment, and development of riding skills. Emphasis will be placed competition within the Intercollegiate Horse Show Association. Consent of Instructor required. May be repeated up to 8 credits.
Learning Outcomes
1. Have a general knowledge of horses and basic horsemanship/ equitation position.
2. Explain and demonstrate basic techniques of balance, control, and safety skills while being in contact and mounted on a horse.
3. Explain and demonstrate proper handling and safety around horses and the proper care of the stable and tack.
4. Be able to ride unassisted at the walk, jog, and lope in either English or Western tack.
5. Apply general knowledge of horsemanship and equitation to competitive equine events in a safe manner including equitation on the flat, equitation over fences, horsemanship, ranch riding and reining.

ANSC 1130. Western Equitation I
2 Credits (4P)
Basic principles of Western riding, including care and management of the riding horse, equitation equipment, and development of riding skills.
Learning Outcomes
1. Articulate basic horsemanship position and how it is used to communicate with the horse.
2. Implement proper handling and basic techniques of balance, control, and safety while working with or riding a horse.
3. Execute a basic horsemanship pattern at a walk, jog, and lope.
4. Integrate general knowledge of horsemanship to competitive equine events in a safe manner.

ANSC 1140. Introduction to Dairy Science
3 Credits (3)
Introduction to the basic aspects of dairy science and how to apply key concepts to the practical feeding and management of dairy cattle and production of dairy products. Students should also obtain an appreciation for the size and diversity of the dairy industry.
Prerequisite(s)/Corequisite(s): ANSC 1120. Restricted to Las Cruces campus only.
Learning Outcomes
1. Learn key concepts in dairy production and management
2. Be familiar with terms used in production of milk and milk products

ANSC 1160. Introductory Horse Science
3 Credits (2+2P)
The light horse industry; breeds; introduction to feeding, breeding, marketing and management; handling and selecting horses for breeding and performance.
Learning Outcomes
1. Describe and identify breeds of horses, their characteristics and their uses.
2. Demonstrate knowledge of basic physiology of horses by recalling parts of the horse, including bones, muscle, tendons and ligaments. Also, by ageing horses via teeth, body condition scoring and taking vital signs.
3. Demonstrate safe and proper handling of horses.
4. Demonstrate comprehension of basic nutrition and feedstuffs by formulating/correcting diets in clinical and non-clinical situations.
5. Recall aspects of basic reproduction by calculating a stallion book and recalling appropriate procedures for breeding.
6. Create informative articles that seek to educate the lay horse person about a topic covered in class.

ANSC 1170. Introduction to Animal Metabolism
3 Credits (3)
Principles underlying the mechanisms of animal metabolism as they relate to production, maintenance, and health of animals.
Prerequisite: CHEM 1215G.
Learning Outcomes
1. This course provides an introduction to the study of the physiology of life.
2. The first part of the course covers acids and bases and the chemical nature of organic compounds.
3. The second part of the course relates to the chemistry of biomolecules (nutrients) and summarizes the chemical reactions of life (metabolism).

ANSC 1180. Companion Animal in Society
3 Credits (3)
Examination of the historical, current, and potential future roles of companion animals in human society. Topics include animal domestication, breeds, exotic companion animals, the companion animal industry, and competitions and sports involving companion animals. Emphasis is on canine and feline species. May be repeated up to 3 credits. Restricted to Las Cruces campus only.
Learning Outcomes
1. Discuss the theories regarding why, how, and when companion animals became domesticated.
2. Describe how selective breeding has optimized certain physiological and behavioral traits of companion animals in order to fulfill the needs of individual people and society.
3. Explain the concept of human-companion animal interaction (HAI) and the influence this bond has on human behavior, health, society, and government policy/laws.
4. Understand the breadth and economic impact of the rapidly expanding companion animal industry and the recent expenditure trends of pet owners.
5. Discuss the past and present uses of companion animals and theorize regarding the future uses of companion animals in society
6. Be effective in searching for, and critically evaluating, scientific based resources.

ANSC 2120. Equine Management
3 Credits (3)
Introduction and application of the business skills necessary to effectively manage the equine operation. Students will learn how to use strategic thinking and sound business management practices to succeed in the demanding equine industry.
Prerequisite: ANSC 1160.

Learning Outcomes

1. Develop a working knowledge of the business principles needed to operate a successful entrepreneurial enterprise.
2. Increase the awareness of the need for business principles in the aggregate function of an equine operation.
3. Gain a greater perspective of accounting, economic and financial principles in an equine business operation.

ANSC 2130. Western Equitation II
2 Credits (4P)
Intermediate principles of Western riding, including reading horse behavior, limbering-up exercises, and developing riding skills. Introduction to rollbacks, turnarounds and stops.
Prerequisite: consent of instructor.
Learning Outcomes

1. Increasing the understanding of the student relative to equitation practices
2. Increase the students' ability to apply principles of Western Equitation to applied settings across a broad spectrum of outlets
3. Prepare the student to engage equine in a professional manner

ANSC 2140. Introduction to Companion Animal Science
3 Credits (3)
Introduction to the care of common companion animal species. Species specific housing and nutrition are covered in the context of maximizing animal health and well-being and reducing disease. May be repeated up to 3 credits.
Learning Outcomes

1. Accurately use scientific terminology common to the companion animal discipline.
2. Compare and contrast the physiological similarities and differences between the various companion animal species studied in class.
3. Create dietary plans based on the nutritional needs of different companion animal species to optimize animal health and lifespan.
4. Identify symptoms of disease/injury at the early stages of illness in order to obtain Veterinary care and treatment as quickly as possible.
5. Design and construct species specific cages/vivariums to maximize animal well- being and health.
6. Educate others regarding providing the best possible care for a variety of companion animal species.

ANSC 2150. Management of Equine Operations
3 Credits (3)
Introduction and application of business skills necessary to effectively manage the equine operation. Students will learn how to use strategic thinking and sound business management practices to succeed in the demanding equine industry.
Prerequisite(s): ANSC 1160.
Learning Outcomes

1. Acquire a working knowledge of different sectors of the equine industry, including business practices, management and marketing skills.

ANSC 2310. Introduction to Meat Science
3 Credits (2+3P)
Fundamental aspects of the red meat industry. Lecture topics and laboratory exercises include the nutrient value of meat, meat preservation, meat safety, muscle structure and contraction, slaughter and processing of beef, lamb and pork, sausage manufacture, meat curing, meat cookery, and muscle and bone anatomy.
Learning Outcomes

1. Increasing the understanding of meat science applications across animal agriculture.
2. Increase the students' ability to apply principles of production to the industry perspective.
3. Apply the increased knowledge of meat science in a global situation.
4. Gain an understanding of the components involved in the development and processing of the red meat industry.

ANSC 2330. Animal Production
3 Credits (2+2P)
Production and utilization of beef cattle, sheep, and swine; emphasis on feeding, breeding, management problems and marketing; selection of animals for breeding and market
Learning Outcomes

1. Increasing the understanding of meat animal production.
2. Increase the students' ability to apply principles of production to the industry perspective.
3. Apply the increased knowledge of meat animal production to global situations.
4. Gain a broader understanding of the importance of meat animals in the global food system.

ANSC 2340. Genetics in Animal Science
3 Credits (3)
Introduction to genetics and inheritance relative to livestock production. Introduction to procedures for collection and use of performance information in livestock improvement programs.
Prerequisites: BIOL 2610G.
Learning Outcomes

1. Gain a broader understanding of the role genetic impacts in the livestock industry.
2. Employ an increased knowledge of impact of genetics in the food animal industry and the production and economic principles that apply.
3. Recognition of the global impacts of genetics in the food animal industry in a global setting.

ANSC 2996. Special Topics
1-4 Credits
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree.
Learning Outcomes

1. Varies

ANTH-ANTHROPOLOGY (ANTH)

ANTH 1115G. Introduction to Anthropology
3 Credits (3)
Anthropology is the systematic study of the humanity both past and present. The course introduces students to the four subfields of anthropology, which include archaeology, biological, linguistic and cultural anthropology. Students will learn about the concepts and methods that anthropologists use to study our species and gain a broader perspective on the human experience.
Learning Outcomes

1. Describe and summarize terms, approaches, and cultural and biological adaptations in the four subfields of anthropology.

2. Explain and analyze conceptual and ethical arguments in the four subfields of anthropology.
3. Effectively communicate content, perspectives, and ideas in four subfields of anthropology.
4. Critically evaluate sources, approaches, and arguments in the four subfields of anthropology.

ANTH 1135G. Introduction to Biological Anthropology
3 Credits (3)
This course provides a basic introduction to the broad field of biological anthropology. The research interests of biological anthropologists include the history and development of modern evolutionary biology, molecular and population genetics, modern primates, the primate and human fossil record, and modern human biological diversity.
Corequisite: ANTH 1135L.
Learning Outcomes
1. Summarize the basic principles of evolution and recognize how they apply to the human species.
2. Recognize the biological and behavioral continuity of humans with all life, and especially other modern primate species.
3. Identify ways in which the human species is biologically and behaviorally unique.
4. Summarize fossil evidence for human evolution.
5. Distinguish the major Paleolithic industries and outline the behavioral and cognitive changes indicated by the fossil and archeological evidence.
6. Critically evaluate popular accounts of human variation and human evolution.
7. Interpret modern human dilemmas (e.g., overpopulation, co-evolution of disease, and genetic engineering) from an evolutionary perspective.
8. Discuss in class and analyze in writing scholarly arguments concerning course concepts.

ANTH 1135L. Introduction to Biological Anthropology Lab
1 Credit (2P)
This laboratory course expand on the topics covered in lecture course and uses scientific methods and principles to examine evidence for the process of evolution, the nature of heredity, human evolutionary history and family tree relationships, primate ecology and behavior, and modern human diversity. Hands-on experience with fossil and skeletal material will be an important part of the learning process. Corequisite(s): ANTH 1135G
Learning Outcomes
1. Demonstrate an understanding of the scientific method.
2. Employ principles of Mendelian genetics to determine genotype and phenotype probabilities, and calculate gene, genotype, and phenotype frequencies using the Hardy-Weinberg Equilibrium formula.
3. Demonstrate an understanding of cell structure and functions.
4. Use common lab and anthropometric equipment such as a compound microscope and calipers.
5. Discuss primate evolution, and compare and contrast members of the Primate order in terms of structure, behavior, and phylogeny.
6. Classify hominid species based upon selected traits such as anatomical changes associated with bipedalism, changes in the size and structure of the brain, and the development of culture.
7. Locate and describe the major bones of the human skeleton, and identify characteristics of human skeletons or skulls such as gender, age, and ancestry.
8. Discuss current research in genome analysis of various hominid populations.

ANTH 1136. Introduction to Historic Preservation
3 Credits (3)
Introduction to historic preservation, its history, goals, methods, legal basis, and economic importance. Explores public role in decision-making. Community Colleges only.
Learning Outcomes
1. Understand why historic preservation is important;
2. be familiar with what is important to preserve;
3. know who among the general public, state, and federal governments is responsible for preserving the past;
4. Have gained experience in how we all preserve.

ANTH 1140G. Introduction to Cultural Anthropology
3 Credits (3)
This is an introductory course that provides an overview of cultural anthropology as a subfield within the broader discipline of anthropology and as a research approach within the social sciences more generally. The course presents core concepts and methods of cultural anthropology that are used to understand the ways in which human beings organize and experience their lives through distinctive cultural practices. More specifically, this course explores social and cultural differences and similarities around the world through a variety of topics such as: language and communication, economics, ways of making a living, marriage and family, kinship and descent, race, ethnicity, political organization, supernatural beliefs, sex and gender, and globalization. This course ultimately aims to present a broad range of perspectives and practices of various cultural groups from across the globe. May be repeated up to 3 credits.
Learning Outcomes
1. Introduce students to the basic concepts and research methods of cultural anthropology as one of the disciplines of social science, including fundamental concepts, such as culture and society, which form the pillars of the discipline (e.g., cultural relativism, cultural persistence and change, world-view and enculturation).
2. Comprehend the importance of studying cultural anthropology.
3. Demonstrate knowledge of the practice of anthropological research in the modern world that is increasingly multicultural, transnational and globally interconnected (e.g., globalization and modern world system).
4. Demonstrate an awareness of how students' own cultures shape their experiences and the way they see the world, as well as help them understand and interact with other cultures.
5. Understand how beliefs, values and assumptions are influenced by culture, biology, history, economic, and social structures.
6. Gain a sense of relationship with people possessing different experiences from their own.
7. Gain a deeper understanding and appreciation for cultural anthropology as a broad discipline through learning about its practices, and differentiating cultural anthropology from other disciplines that study people
8. Become more sensitive and engaged global citizens from culturally relative perspectives.

ANTH 1160G. World Archaeology
3 Credits (3)
This course is an exploration of human evolution and cultural development throughout the world. Students will be introduced to basic

anthropological methods and theories and will learn how anthropological research has contributed to our understanding of major themes in human prehistory, including human evolution, the origins of culture, migration and colonization, animal and plant domestication, and the rise and fall of civilizations.

Learning Outcomes

1. Describe and explain the major developments in human prehistory.
2. Identify and describe major archaeological cultures throughout the world.
3. Employ critical thinking skills in the evaluation of competing theories about the past.
4. Select and use relevant archaeological evidence to explain how prehistoric populations adapted to their natural and cultural environments.
5. Demonstrate competency in written communication.

ANTH 2140G. Indigenous Peoples of North America
3 Credits (3)

This course is a general survey of the history and ethnology of indigenous groups in North America. The course is designed to give students a comprehensive view of major issues pertaining to the indigenous cultures of North America, such as family structure, social organization, subsistence and contemporary economies, environmental adaptation, Indian-White relations, religious practices, and contemporary issues.

Learning Outcomes

1. Demonstrate familiarity with common elements pertaining to the languages and social organization of indigenous peoples in North America.
2. Recognize fundamental differences and similarities among traditional indigenous cultures.
3. Describe social relations of indigenous peoples in relationship to other ethnic groups.
4. Identify and analyze important ways that European societies and cultures and indigenous societies and cultures interacted from the time of Columbus to the present.
5. Evaluate the impacts of Euroamerican policies and programs on indigenous cultures.
6. Distinguish major social issues facing contemporary indigenous communities in North America.
7. Understand objectives and limitations of cross-cultural analysis in anthropology as they relate to the study of indigenous peoples in North America.
8. Demonstrate research and communication skills as they relate to the study of indigenous peoples in North America.

ANTH 2996. Special Topics in Anthropology
1-4 Credits

Specific subjects to be announced in the Schedule of Classes. May be repeated up to 12 credits.

Learning Outcomes

1. Varies

ARCH-ARCHITECTURE

ARCH 1115. Introduction to Architectural Graphics
4 Credits (2+4P)

Introduction to manual and digital drawing as well as modeling techniques for architectural and interior design. Students will learn how to represent composition, form and space by orthographic drawing, paraline and perspective views, and freehand sketching. Three-dimensional model building techniques will also be introduced. May be repeated up to 4 credits.

Learning Outcomes

1. Demonstrate an understanding of orthographic projection, multi-view drawings, plan, section, and elevation.
2. Demonstrate a knowledge of graphic standards such as line types, line weights, hatch/poche, symbols, dimensioning, annotation, key noting, cross-referencing, according to industry conventions.
3. Draw from observation and perform conceptual sketching and diagramming.

ARCH 1120. Introduction to Architecture
3 Credits (2+2P)

This course provides students the tools and vocabulary to analyze, interpret, and discuss the built environment from social, historical, perceptual, and technical determinants. Students are introduced to elements, principles, and theories of architecture through their social, historical, and technical determinants. The course seeks to lay a foundation in architectural studies, including introducing students to fundamental vocabulary and concepts.

Learning Outcomes

1. Identify and describe significant architects and iconic buildings.
2. Discuss social, cultural, and aesthetic contributions of specific architects and projects.
3. Explain architectural concepts via written and graphic communication.
4. Recall basic processes and vocabulary of architectural professional practice.
5. Understand our built environment and the language of design and architecture.
6. Understand how buildings are constructed and explain the process of development.
7. Describe and discuss design elements, principles, and theories.
8. Understand the relationships among owner, surveyors, designers, architects, engineers, and contractors.
9. Research design texts and analyze buildings, landscapes, interiors, sustainability, and products to increase knowledge of important elements of architecture and design. 1
10. Identify the various styles, periods, and movements and their social, historical, and technical impacts on architecture.

ARCH 1121. Computers in Architecture
3 Credits (2+2P)

Explore various software and photography techniques widely used in the architectural field. In addition to using industry standard CAD program as primary 2-d drafting tool, focus is to produce digital architectural models and renderings, presentation boards, and animations. Digital images will be produced and enhanced through basic techniques in photography and integration of various software. Both individual and group work will be required.

Learning Outcomes

1. Demonstrate the use of the computer and plotters/printers
2. Define and understand different terminologies
3. Demonstrate the understanding of different files using windows operating system
4. Understanding the appropriate use of the software in order to produce necessary drafting outcomes

5. Use proper plotting and printing procedures in order to increase efficiency and minimize paper waste
6. Demonstrating the use of different line types as the relate to drafting

ARCH 1122. Architectural Design Studio I
5 Credits (1+8P)
Enhancement of general graphic communication skills and introduction to fundamental design including exploration, development and defense of design concepts; structural order; 2D and 3D processes in manual and digital architectural graphic expression; model building; general communication and presentation techniques; and development of course portfolio. Course is Studio/critique-based with considerable amount of work/hours required. This course is designed to be taken during student's last year in the Pre-Architecture program at DACC. Consent of Instructor required. Restricted to Community Colleges only.
Prerequisite(s): Grade of B- or better in both ARCH 1120 and ARCH 1110.
Learning Outcomes
1. Write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. Raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards
3. Gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
4. Effectively use basic formal, organizational and environmental principles and the capacity of each to inform two-and three-dimensional design.
5. Apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two-and three-dimensional design.
6. Examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.
7. Prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
8. Respond to site characteristics, including its context and developmental patterning, the fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.
9. Design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards. 1
10. Demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system. 1
11. Understand the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

ARCH 1125. Design Fundamentals
3 Credits (2+2P)
Introduces fundamental principles and processes of two-, three-, and four-dimensional design. Design aesthetics, perception, technique, composition, evaluation of materials and methods, practicing design methodologies, exploring design principles and theories, and graphic authorship are explored through various types of assignments.
Prerequisite: ARCH 1120 and ARCH 1115.
Learning Outcomes
1. Demonstrate design solutions using the elements and principles of design and planning process to satisfy aesthetic and sustainable design criteria.
2. Furnish spaces by picture/sample of furniture, flooring, fabric, and finish samples.
3. Demonstrate the ability to use subtractive color theories and how color relates to space.
4. Demonstrate the ability to create basic lighting solutions.
5. Demonstrate the ability to perform space planning principles.

ARCH 1220. Architecture World History I
3 Credits (2+2P)
A survey of the development of world architecture from the ancient era to the advent of the enlightenment in Europe. Major emphasis is on the visual, intellectual, cultural and technological aspects of the ancient and indigenous cultures of the classical and pre-modern world. Community Colleges only. Restricted to Alamogordo, Dona Ana and Grants campuses.
Learning Outcomes
1. Identify major architectural monuments from prehistory to the Renaissance (1400's) in the Western world
2. Demonstrate an understanding of major monuments, styles of architecture and building traditions of non-Western cultures
3. Recognize the relationship of movements and styles in Western architecture to their counterparts in painting and sculpture from the various historical periods
4. Describe the basic principles of urban design
5. Express an appreciation of architectural achievements and the ways in which the elements of art {line, form, color, texture, light, etc.) combine to produce objects of beauty in the built environment
6. Describe basic engineering concerns and achievements in architecture

ARCH 2112. Architectural Visualization I
3 Credits (2+2P)
Introduction to the history, theory, and emerging practices of architectural drawing. Students will learn technical workflows for 3-D digital modeling, 2-D digital drawing, and fabrication. This course will cover strategies for prescribing drawing conventions and modes of representation, including measured drawings, diagrams, orthographic views, perspectives, image-making, and rendering. May be repeated up to 3 credits.
Learning Outcomes
1. Architectural drawing conventions, such as line weights, line styles, composition, scale, notations, and orientation.
2. Graphic and compositional strategies for drawing and perspective making.
3. Conventional and unconventional approaches to modeling and drawing and the appropriate context for both.
4. Productive use and workflow of 2-D and 3-D digital software to construct architectural drawings and images.
5. Situate questions of representation within the historical and contemporary discourse on architectural environments.

ARCH 2114. Construction Documents
3 Credits (2+2P)
Basic use of CAD to produce residential, commercial, and industrial architectural working drawings, including floor plans, sections, foundation plans and details, exterior and interior elevations, framing plans, and site plans. Use and application of building and zoning codes, typical construction methods and materials, and accessibility requirements. Basic 3-D modeling, AIA layering standards, sheet layout, and construction document coordination. Restricted to: Community Colleges only.
Prerequisite(s)/Corequisite(s): DRFT 109.
Learning Outcomes
1. Create full 3D architectural project models, both via tutorials, and independently
2. Set models up as working drawings.
3. Have a working knowledge of the tools that the majority of users will use to work with Revit Architecture.
4. Project File management skills

ARCH 2115. Architecture Design Studio II
5 Credits (1+8P)
Advanced graphic communication, design, and 3D physical model representation. Focus on site analysis, programming and fundamental design issues of context, environment, program development and space planning, 2D and 3D design and presentation techniques. Course is 'Studio/critique-based' with considerable amount of outside work/hours required. This course is designed to be taken during student's last year in the Pre-Architecture program at DACC. Restricted to Alamogordo, Dona Ana and Grants campuses.
Prerequisite(s): Grade of C- or better in ARCH 1122.
Learning Outcomes
1. Write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. Raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards
3. Gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
4. Effectively use basic formal, organizational and environmental principles and the capacity of each to inform two-and three-dimensional design.
5. Apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two-and three-dimensional design.
6. Examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.
7. Prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
8. Respond to site characteristics, including its context and developmental patterning, the fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.
9. Design sites, facilities, and systems that are responsive to relevant codesand regulations, and include the principles of life-safety and accessibility standards. 1
10. Demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system. 1
11. Understand the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

ARCH 2117. Architectural Visualization II
3 Credits (2+2P)
Students will advance on technical skills and workflows obtained in Architectural Visualization I to observe, document, transform and create multi-scalar ideas into irresistible visual expressions. This course will cover architectural drawing conventions of plan, section, elevation, axonometric projection, perspective construction, diagramming, mapping and imaging to effectively communicate design ideas through visual means. May be repeated up to 3 credits.
Prerequisite: ARCH 2111.
Learning Outcomes
1. Identify architectural conventions in orthographic projections.
2. Emphasize Architectural properties through the strategic use of drawing conventions.
3. Graphic and compositional strategies for drawing and perspective making.
4. Develop a process that transitions 2-dimensional drawings into 3-dimensional visual graphic forms.
5. Conventional and unconventional approaches to modeling and drawing and the appropriate context for both.

ARCH 2124. Professional Development and Leadership
3 Credits (2+2P)
To deepen their understanding of the architecture profession, students are encouraged to actively engage in leadership, collaboration, and community service. These experiences, along with a required internship in either Option A (Architectural Practice) or Option O (Other Qualifying Experience), provide essential real-world exposure and skill development directly aligned with architectural practice. While internships under Option A must be paid, students gaining experience under Option O may fulfill requirements through approved volunteer positions. This course is designed to support students in earning AXP hours and gaining meaningful experience in the Practice Management area, as defined by the National Council of Architectural Registration Boards (NCARB), ensuring a strong foundation in the professional standards and expectations of the field. May be repeated up to 6 credits.
Learning Outcomes
1. Develop and refine leadership skills including decision-making, delegation, conflict resolution, and team-building.
2. Adhere to ethical standards and professional codes of conduct in all aspects of practice.
3. Master professional communication techniques, including public speaking and visual presentation skills.
4. Develop strong, professional relationships with clients by understanding and addressing their goals.
5. Gain expertise in project management, including scheduling, scope management, and contract administration.

6. Understand foundational business principles essential to managing an architectural practice, including procurement processes, marketing strategies, proposal development, and operational efficiency.
7. Comply with legal and regulatory requirements governing architectural practice, including contract law and delivery methods.
8. Foster collaborative environments that support productivity, innovation, and positive interpersonal dynamics within design teams.
9. Demonstrate integrity, accountability, and transparency in decision-making, client interactions, and project execution. 1
10. Effectively engage with clients, stakeholders, and the public, managing expectations and building trust through clear, responsive dialogue. 1
11. Participate in community-based projects and design initiatives that serve the public interest and promote civic engagement. 1
12. Develop systems for responding to RFIs and design changes, ensuring that projects remain on track and within defined parameters. 1
13. Engage in lifelong learning and professional development to stay current with industry practices and expand leadership and technical competencies.

ARCH 2220. Architectural World History II
3 Credits (2+2P)
A survey of the development of world architecture from the enlightenment in Europe to the present. Community Colleges only. Restricted to Alamogordo, Dona Ana and Grants campuses.
Prerequisite(s): ARCH 1220 or consent of instructor.
Learning Outcomes
1. Identify major architectural monuments from 1400 to the present in the Western world
2. Identify major architectural monuments from 1400 to the present in the Western world
3. Recognize the relationship of movements and styles in Western architecture to their counterparts in design, painting, and sculpture from the various historical periods
4. Describe the basic principles of urban design
5. Express an appreciation of architectural achievements and the ways in which the elements of art (line, form, color, texture, light, etc.) combine to produce objects of beauty in the built environment
6. Analyze basic engineering concerns and achievements in architecture

ARCH 2994. Portfolio Design in Architecture
3 Credits (3)
This course is intended for Pre-Architecture students in their last semester of the program. Students develop a comprehensive portfolio that compiles, organizes, and showcases their most accomplished coursework produced in Architecture courses at DACC, in preparation for application to a 4 yr. Architecture program. Skills and techniques in architectural photography, scanning, and design layout using graphic software. Restricted to Community Colleges only.
Corequisite(s): ARCT 2115.
Learning Outcomes
1. Edit and enhance previous drawings, digital files, and models.
2. Research and learn about portfolio and layout styles.
3. Development/Presentation of Final Portfolio for application/transfer purposes, as well as presenting it to the class and other reviewers.
4. Document drawings, models, digital work and other productions accurately and effectively.
5. Organize their coursework and select the images that best showcase learned skills
6. Develop organizational habits to record and document their work and back up digital copies
7. Develop analytical skills to produce an effective layout to then produce a portfolio
8. Organize, layout and design their own portfolio.

ARCH 2995. Cooperative Experience
1-6 Credits
Supervised cooperative work program. Student employed in approved occupation; supervised and evaluated by employer and instructor. Student meets weekly with instructor. Graded S/U.
Prerequisite: consent of instructor.
Learning Outcomes
1. Varies

ARCH 2996. Special Topics
1-6 Credits
Topics subtitled in the Schedule of Classes. May be repeated for a maximum of 12 credits.
Prerequisite: consent of instructor.
Learning Outcomes
1. Varies

ARTH-ART HISTORY

ARTH 1115G. Orientation in Art
3 Credits (2+3P)
A multicultural examination of the principles and philosophies of the visual arts and the ideas expressed through them.
Learning Outcomes
1. Identify elements of art principles of design.
2. Articulate the relationship of art to the human experience.
3. Write and discuss critically using the vocabulary of art.
4. Interpret art within cultural, social, personal, and historical contexts.
5. Critically analyze an original work of art.

ARTH 2110G. History of Art I
3 Credits (3)
This survey course explores the art and architecture of ancient pre-historic cultures through the end of the fourteenth century. While focused primarily on the art of the Western civilizations, this course will also provide insights into the works of other major cultures in order to provide alternate views of art and history. Emphasis will be placed on the relationship of artworks to political, social, spiritual, intellectual, and cultural movements that affect and are affected by their creation and development.
Learning Outcomes
1. Identify major artworks from a variety of regions and time periods.
2. Investigate the methods of producing various works of art.
3. Articulate an understanding and appreciation for the political, social, spiritual, intellectual, and cultural contexts of art forms.
4. Comprehend and apply terms, methodologies and concepts common to studies of art history, developing a language to further understanding of art.
5. Compare works across a range of historical styles and periods.

ARTH 2120G. History of Art II
3 Credits (3)

This survey course will explore the architecture, sculpture, ceramics, paintings, drawings, and glass objects from the 14th century to the modern era. While focused primarily on the art of the Western civilizations, this course will also provide insights into the works of other major cultures in order to provide alternate views of art and history. Emphasis will be placed on the relationship of artworks to political, social, spiritual, intellectual, and cultural movements that affect and are affected by their creation and development.May be repeated up to 3 credits.

Learning Outcomes

1. Identify major artworks from a variety of regions and time periods.
2. Investigate the methods of producing various works of art.
3. Articulate an understanding and appreciation for the political, social, spiritual, intellectual, and cultural contexts of art forms.
4. Comprehend and apply terms, methodologies and concepts common to studies of art history, developing a language to further understanding of art.
5. Compare works across a range of historical styles and periods.

ARTH 2136. Writing in Art
3 Credits (3)

This class looks at the variety of writings associated with art history and studio art practice. It explores the discipline of art history itself, and introduces students to the specific ways in which art historians study art. Within a workshop setting, students will practice approaches to research, understanding art and writing about art. Students will also be introduced to professional writing practices, including digital formats, relating to studio art.

Learning Outcomes

1. Develop visual literacy in looking at art.
2. Analyze a complex art historical argument.
3. Apply art specific vocabulary to critically-based writings and discussions of art.
4. Develop writing skills to articulate the relationship of art to the human experience.

ARTH 2996. Special Topics in Art History
3 Credits (3)

Presents various topics. May be repeated up to 9 credits.

ARTS-ART STUDIO

ARTS 1121. Studio Core I: Concept Development-Process and Play
3 Credits (2+4P)

This course is designed to introduce students to the process of making art from conception through research and execution without the expectation of technical proficiency in any one media area. This course focuses on a deceptively simple question. "What is Contemporary Art, and how can we make it?" Through the exploration of basic visual design concepts, collaborative learning, and interdisciplinary studio production, this course will help us to discover what it means to be an artist in the 21st century.

Learning Outcomes

1. Cultivate Creative Thinking by developing and enhancing the ability to think creatively and generate original ideas through the embracing of divergent thinking and exploration of the artistic process.
2. Apply Creative Problem Solving to address artistic challenges and demonstrate the capacity to find innovative solutions.
3. Demonstrate ability to integrate multidisciplinary strategies to enhance creative expression.
4. Use creative thinking to explore and express emotional experiences and cultural perspectives.
5. Engage in reflective practices to analyze and understand one's own creative process and critically assess its effectiveness.

ARTS 1122. Studio Core II: Formal Structure Tools & Techniques
3 Credits (3)

Introduce students to formal design concepts as well as to various technical skills and tools in order to explore and develop innovative forms of artistic expression.

Learning Outcomes

1. Analyze and interpret visual elements within artworks, recognizing the application of formal design concepts.
2. Demonstrate an understanding of how formal design concepts contribute to effective visual communication and apply an understanding of how aesthetics enhance the overall impact and quality of artistic creation.
3. Explore and apply technical skills across a range of artistic mediums, including traditional and digital formats.

ARTS 1145G. Visual Concepts
3 Credits (2+4P)

Visual Concepts is an introduction to the philosophies of art, visual thinking, and principles of visual organization. Designed to give students a broad view of aesthetic traditions, ideologies, and techniques basic to the creation and evaluation of art. Principles and concepts are taught in a common lecture and applied in parallel small studio sections. For non-art majors only.

Learning Outcomes

1. Develop understanding of history, major styles and contemporary issues in art.
2. Introduce students to the language of visual perception and aesthetic evaluation.
3. Introduce students to the fundamental processes of visual perception and artistic expression.
4. Develop students' confidence in using various art materials for artistic expression.
5. Develop students' ability to verbalize ideas and processes in art making.
6. Develop student's ability to communicate through writing about art and art experiences.

ARTS 1240. Design I
3 Credits (3)

This course introduces the fundamentals of two-dimensional design as it applies to fine art and commercial contexts. Emphasis will be on basic color theory, elements of dynamic composition, vocabulary of visual arts and design, and development of visual conceptual skills. Students will use a variety of materials and techniques. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Produce art works that apply and organize the elements of two-dimensional form (line, shape, value, texture, color and space).
2. Produce artworks that apply the principles of two-dimensional design (harmony, variety, repetition, balance, rhythm, proportion, dominance, movement, and economy).
3. Demonstrate effective use of materials and techniques with consideration for craftsmanship and presentation.
4. Use visual art vocabulary in the development and critique of work

5. Explore concepts and ideas: from conceptual, realistic/referential to non-representational

ARTS 1250. Design II
3 Credits (3)
This course introduces the basic formal (aesthetic), spatial, and physical aspects of 3-D form as they can be applied to sculptural and functional design. Techniques that explore structure, mass, volume, scale, surface, form, and function are covered, along with various media, which may include paper, wood, clay, and/or metal. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Apply the artistic qualities of the elements of art and principles of design to three-dimensional form.
2. Create 3 dimensional form using varied sculptural methods, construction techniques and media.
3. Produce 3 D design projects safely with proper use of equipment and materials.
4. Apply realistic, referential, and abstract concepts and ideas to projects.
5. Demonstrate knowledge of 3-D related art vocabulary, origin and trends in sculpture, and 3-D design fundamentals.

ARTS 1310. Introduction to Ceramics
3 Credits (2+4P)
This course introduces the technical processes and conceptual concerns of working with ceramic material. Various methods of forming functional and expressive works out of clay are explored. Methods used include handbuilding and throwing, basic clay bodies, slip and glaze, and atmospheric firing.
Learning Outcomes
1. Explain the transformation of the ceramic material from raw clay form to glazed ceramic object
2. Demonstrate proficiency of technical ceramic skills
3. Explain larger concepts and design principles
4. Apply basic 3-D design principles in the formation of a work of art, as they apply to the ceramic media
5. Create ceramic works of art based on conceptual prompts
6. Critically evaluate a variety of artwork
7. Gain an understanding of the history of ceramic art from a multicultural perspective

ARTS 1320. Ceramics I
3 Credits (2+4P)
An introduction to the medium of clay incorporating hand building and wheel throwing to introduce the student to both the sculptural and utilitarian uses of clay. The student will also be introduced to a variety of glazing and firing techniques
Learning Outcomes
1. Demonstrate through critical discourse or writing an introductory knowledge of the history of ceramics, and ceramic language and terminology.
2. Demonstrate through mechanical application an introductory knowledge of the properties of clays, glazes, and a variety firing techniques.
3. Produce a body of work that exemplifies good ceramic design through the effective use of form, surface, and color.
4. Through the production a body of work demonstrate competency in hand building and throwing on the wheel.

ARTS 1410. Introduction to Photography
3 Credits (2+4P)
This course introduces the making of photographic images from a broad viewpoint to consider both as an art practice and as a cultural practice. The course covers technical information on camera use and functionality, composition and visual design, digital workflow and editing, professional functions of manipulating and enhancing images, and printing correctly and effectively. The historical aspects of photography are also covered.
Learning Outcomes
1. Gain fluency with basic camera function as well as a working knowledge of other photographic equipment and software to produce technically competent photographs.
2. Have a familiarity with current image-editing software to enhance images as well as developing a digital workflow for the management of digital images.
3. Be able to develop creative solutions to visual photographic problems.
4. Gain awareness of contemporary issues in contemporary art photographic practice that can be applied to the one's own individual practice.
5. Develop the ability to critically analyze and discuss photographic images.
6. Print and produce a final project that demonstrates synthesis of ideas presented in the course readings, critiques, and individual research.
7. Demonstrate photographic terminology, and the many ways photographs function in society, both currently and historically.

ARTS 1520. Digital Media I
3 Credits (2+4P)
This course provides an introduction to two of Adobe's major software applications, Illustrator and Photoshop, which are essential in creating artwork, designing promotional materials, websites and more. Part of the course deals with creating a variety of documents using the major tools of each program, and gaining an understanding of the contemporary graphic design industry and basic elements and principles of design. Community Colleges only.
Learning Outcomes
1. Demonstrate appropriate skills in configuring and navigating computer systems software applications as appropriate to digital image making needs including organization of files using keywords and running batch processes.
2. Exhibit an understanding of a layer based bitmap editing program, through photo retouching, precise use of selection tools, and color adjustment techniques.
3. Create imagery using a vector based illustration program which demonstrates an understanding of vector based drawing tools.
4. Integrate the use of bitmap and vector images using bitmap and vector based image making applications to demonstrate a basic understanding of composition, color, and appropriate image size and resolution.

ARTS 1543. Digital and Analog Drawing: Bridging Tradition and Technology
3 Credits (3)
An introduction to the historical foundations and contemporary potential of drawing that combines digital and traditional approaches. students will develop their ability to create and manipulate images by hand and with the aid of a computer, and learn to compare, translate, and integrate visuals made by old and new technologies. Students will gain a better

understanding of digital tools, their expressive capacities, and their application within the context of drawing.

Learning Outcomes

1. Demonstrate proficiency in traditional drawing fundamentals (including line, value, perspective, and proportion) as well as the formal principles of composition.
2. Develop a working knowledge of traditional drawing materials and supports; digital drawing and 3d-modeling software, such as Adobe Photoshop, Adobe Illustrator, and SketchUp and competency in hardware (including scanners, printers, vinyl/laser cutters, monitors, and projectors.
3. Apply observational drawing skills to digital drawing while demonstrating an understanding of digital drawing's unique materiality.
4. Demonstrate critical thinking and problem-solving skills through the analysis and critique of traditional and digital drawings.
5. Understand historical foundations of drawing and articulate how this intersects with contemporary technologies and approaches.

ARTS 1610. Drawing I
3 Credits (2+4P)

This course introduces the basic principles, materials, and skills of observational drawing. Emphasis is placed on rendering a 3-D subject on a 2-D surface with visual accuracy. Other topics include historical and contemporary references as well as an investigation of linear perspective, line, value, shape, space & composition.

Learning Outcomes

1. Produce drawings that demonstrate techniques and mechanics of observational drawing.
2. Demonstrate competency in the following practices: measuring and sighting, gesture, contour line, negative space, shape, value, space, volume, plane and texture.
3. Create drawings primarily from observation with black and white traditional drawing media.
4. Demonstrate effective verbal or written response to one's own art and the art of others.

ARTS 1630. Painting I
3 Credits (2+4P)

This course introduces the tradition of painting as a medium for artistic expression. Students will investigate materials, tools, techniques, history and concepts of painting. Emphasis is placed on developing descriptive and perceptual skills, color theory, and composition.

Prerequisite: ARTS 1610.

Learning Outcomes

1. Produce paintings that demonstrate the tradition of methods, techniques, materials, and tools of oil painting.
2. Construct a variety of support structures and grounds on which paintings are created
3. Examine the historical origins and practices of painting from the personal, social and cultural perspective.
4. Identify and apply environmentally safe painting practices, care of tools, equipment, and facilities, as well as disposal of mediums, solvents and paints.
5. Apply basic color theory to representational and non-representational painting.

ARTS 1710. Introduction to Printmaking
3 Credits (2+4P)

This course provides direct experience of exploring basic printmaking processes, including relief, intaglio, and monoprint processes, as well as the investigation of materials/media, tools, techniques, history, and concepts of printmaking. Emphasis is given to solving problems through thematic development while producing a portfolio of prints.

Learning Outcomes

1. Properly operate a printing press and safely handle materials and equipment.
2. Demonstrate an adequate ability to utilize basic historical printmaking techniques that are widely relevant to contemporary, artistic expressions.
3. Utilize formal elements of art and design (line, shape, value, texture, space, and color), to create prints that are formally sophisticated.
4. Create imagery that contains conceptual depth, which can be interpreted by viewers with regard to social, cultural, political, geographical, and/or psychological experiences and relevance.

ARTS 1711. Computer-Based Illustration
3 Credits (2+4P)

Introduction to the principles of computerized drawing and design. Using the basic concepts, drawing tools, and vocabulary of Adobe Illustrator.

Prerequisite: ARTS 1610, ARTS 1240, or consent of instructor.

Learning Outcomes

1. Demonstrate drawing with the pen tool.
2. Demonstrate the use of blending color and creating shapes.
3. Create spot colors and effectively use them in a page layout.
4. Demonstrate formatting and creating typography.
5. Demonstrate the use of layers, effects, graphic styles, symbols, and brushes
6. Demonstrate competency in creating digital graphics using of Adobe Illustrator software

ARTS 1712. Digital Graphics
3 Credits (2+4P)

Importing and exporting images and text into various desktop publishing formats. Exploring imaging, drawing, and page layout applications. Introduction to typography.

Prerequisite: ARTS 1520.

Learning Outcomes

1. Demonstrate competency in the use of InDesign software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio

ARTS 1713. Web Page Design
3 Credits (2+4P)

Introduction to the creation of well-designed and organized Web sites. Emphasis on building creative but functional user-friendly sites. Introduction to HTML, Flash, Java Script, and Web-authoring software. Community Colleges only.

Prerequisite: ARTS 1520.

Learning Outcomes

1. Outline the structure and functionality of a typical website.
2. Demonstrate design and layout skills.
3. Demonstrate competency in the use of Dreamweaver software.
4. Demonstrate competency in the use of photo editing software.

5. Demonstrate skills learned for website functionality.
6. Create an Internet compatible website.

ARTS 1810. Jewelry and Small Metal Construction I
3 Credits (2+4P)
This course introduces the basic techniques, materials, and tools traditionally used in the creation of jewelry and/or small-scale sculptural objects.
Learning Outcomes
1. Apply basic jewelry fabrication techniques (such as: piercing, cold connections, soldering, metal forming, casting and stone setting) to complete projects.
2. Create design sketches of the objects prior to fabrication.
3. Demonstrate knowledge of materials and safe practices for making jewelry, as well as small functional and non-traditional objects.
4. Analyze projects through critiques, oral presentations, and discussions.

ARTS 2010. Portfolio Development
3 Credits (2+4P)
This course presents the practicalities of building an art career with emphasis on developing a professional portfolio through visual aids, resumes, statements, and presentations. It covers professional practices of the studio artist including self-promotion, contracts, research tools for exhibition venues and other art related opportunities.
Prerequisites: ARTS 1712, ARTS 2611, and ARTS 1520, or consent of instructor.
Learning Outcomes
1. Develop a portfolio package with visual aids, photographic documentation, resumes, bios and artist statements.
2. Analyze the qualifications, procedures and portfolio requirements necessary for professional art related opportunities.
3. Complete an oral presentation on a series of personal works.
4. Distinguish pathways for navigating the business side of being a professional artist.

ARTS 2430. Photographic Portraiture
3 Credits (2+2P)
This course covers the study of professional photography that involves people, including studio and environmental portraits. Topics include studio and exterior lighting techniques, and selecting lighting equipment and supplies. Restricted to: Community Colleges only.
Prerequisite(s): ARTS 1410 or FDMA 1545.
Learning Outcomes
1. Demonstrate successful operation of studio lighting equipment and accurately define lighting equipment terminology
2. Illustrate the principles of photographic lighting
3. Demonstrate and apply how to use and modify natural light effectively
4. Demonstrate understanding of different approaches such as formal, informal, candid, vernacular and their cultural implications
5. Distinguish historic and contemporary cultural notions informing different types of portraits

ARTS 2431. Introduction to Graphic Design
3 Credits (2+4P)
Introduction to the principles of visual communication and digital media, letterforms, typography and identity marks. Projects produced using conventional and digital tools.
Learning Outcomes
1. Demonstrate working knowledge of the graphic design software.
2. Identify and apply basic design concepts for the purpose of visual communication.
3. Conduct visual research and create presentations on design topics.
4. Solve graphic design problems through solving fundamental communication challenges by sketching, drawing, typographic composition, use of image and color.

ARTS 2440. Photo Finishing & Presentation
2 Credits (1+2P)
Use of visual language for personal expression. Freelance photography; care of original photos; preparation of portfolios, photographic markets, exhibitions and judging, galleries and copyrights. Students will prepare a photographic portfolio. Restricted to: Community Colleges only.
Prerequisite(s): FDMA 1545.
Learning Outcomes
1. Define your target market and create a complete “Personal Promotional Package”
2. Produce a professional Resume Cover Letter.
3. Produce a professional looking Business Card, Letterhead Mailing Labels
4. Produce a single page Promotional Piece, (and possible follow-up material)
5. Produce a PDF Formatted Portfolio (Create in Photoshop Export as PDF)
6. Produce a clean, professional looking traditional hard portfolio with 20-30 pieces
7. Present the Entire Promotional Portfolio and promo materials in a “Job Interview”

ARTS 2610. Drawing II
3 Credits (2+4P)
This course introduces color and colored media as an element of composition while emphasizing descriptive and perceptual drawing skills and conceptual approaches to contemporary drawing. Restricted to ART and ANVE/DFM majors.
Prerequisite(s): ARTS 1610.
Learning Outcomes
1. Create drawings in wet and dry color media.
2. Practice analyzing and visually translating observed subjects from realistic, referential, and/or objective form, to non-representational or abstract imagery in drawings.
3. Compose fully developed drawings that include a conceptual or historical basis.
4. Engage in effective written and oral critique in response to one’s own art and the art of others.

ARTS 2611. Advanced Computer-Base Illustration
3 Credits (2+4P)
Design custom graphics and create special effects with filtering, special effects on type, graphing, technical illustrations, and three-dimensional drawing using Adobe Illustrator.
Prerequisites: ARTS 1212, ARTS 1711, and ARTS 1520, or consent of instructor.
Learning Outcomes
1. Demonstrate competency in the use of Adobe Illustrator software.
2. Create appropriate visual solutions based on target marketing information.

3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio

ARTS 2616. Aspects of Drawing
2-3 Credits
Continued work in drawing with emphasis on personal creative endeavor. Community Colleges only.
Prerequisites: ARTS 1610 and ARTS 2610.
Learning Outcomes
1. Advanced skill level in the visual dynamics of line involved in the creation of drawing.
2. Advanced skill level in the visual dynamics of shape involved in the creation of drawing.
3. Advanced skill level in the visual dynamics of value involved in the creation of drawing.
4. Advanced skill level in the visual dynamics of color involved in the creation of drawing.
5. Advanced skill level in the visual dynamics in the combination of line, shape, value and color involved in the creation of drawing.

ARTS 2630. Painting II
3 Credits (2+4P)
This course focuses on the expressive and conceptual aspects of painting, building on the observational, compositional, technical, and critical skills gained previously. Students will investigate a variety of approaches to subject matter, materials, and creative processes through in-class projects, related out-of-class assignments, library research or museum/gallery attendance, written responses, and critiques. Prerequisite(s): ARTS 1610 and ARTS 1630
Learning Outcomes
1. Produce paintings building on the skills and techniques learned in Painting I
2. Solve unique format, support, ground, over and under texturing surface challenges
3. Practice analyzing and translating observed subjects from realistic, referential, and/or objective form, to non-representational imagery
4. Create paintings that explore personal content, stylization, symbolism, narrative, and/or iconography

ARTS 2635. Painting III
2-3 Credits
Continuation of ARTS 2630.
Prerequisites: ARTS 1610, ART 1240 (for art majors), ART 1630, or consent of instructor.
Learning Outcomes
1. Color mixing and color relationships
2. Create illusions of space and volume
3. The student will strengthen his or her own personal artistic style.
4. Knowledge of the proper use and maintenance of painting tools
5. Explore and learn the technique of a master painter of the past.
6. Awareness of nature, "eye hand response," and an imaginative or personal use of the medium.
7. Awareness of the creative process, exploring unforeseen possibilities
8. An ability to work independently.
9. Understanding of painting styles and arts vocabulary

ARTS 2839. Introduction to Sculpture
3 Credits (2+4P)
Beginning sculpture students "explore space" while learning new processes and skills, including mold making, welding and woodworking.
Learning Outcomes
1. Be able to utilize a variety of traditional materials and sculpture processes, including: mold making, metal fabrication/wood fabrication, and the creative integration of mixed media.
2. You will learn to differentiate between objects and installations, and be prepared to explore sculpture in upper division, topics based courses.

ARTS 2993. Art Workshop
0.5 Credits (.5)
Required for all freshman and sophomore Art majors for four semesters, this workshop is designed to build professional student cohorts within the Department of Art; incorporate visiting artist and scholar lectures into the curriculum; and actively involve students in exhibitions and gallery and departmental events. May be repeated up to 4 credits. Crosslisted with: ARTS 308. Restricted to: BA Studio Art, BA Art History BFA Studio Art, BFA Museum Conservation majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Varies

ARTS 2996. Special Topics in Studio
1-3 Credits
Specific subjects and credits to be announced in the Schedule of Classes. No more than 9 credits toward a degree.
Prerequisite: consent of instructor.
Learning Outcomes
1. Varies

ASTR-ASTRONOMY (ASTR)

ASTR 1115G. Introduction to Astronomy Lecture & Laboratory
4 Credits (3+2P)
This course surveys observations, theories, and methods of modern astronomy. The course is predominantly for non-science majors, aiming to provide a conceptual understanding of the universe and the basic physics that governs it. Due to the broad coverage of this course, the specific topics and concepts treated may vary. Commonly presented subjects include the general movements of the sky and history of astronomy, followed by an introduction to basic physics concepts like Newton's and Kepler's laws of motion. The course may also provide modern details and facts about celestial bodies in our solar system, as well as differentiation between them – Terrestrial and Jovian planets, exoplanets, the practical meaning of "dwarf planets", asteroids, comets, and Kuiper Belt and Trans-Neptunian Objects. Beyond this we may study stars and galaxies, star clusters, nebulae, black holes, and clusters of galaxies. Finally, we may study cosmology--the structure and history of the universe.The lab component of this course includes hands-on exercises that work to reinforce concepts covered in the lecture, and may include additional components that introduce students to the night sky. May be repeated up to 4 credits.
Learning Outcomes
1. Students will discuss the night sky as seen from Earth, including coordinate systems, the apparent daily and yearly motions of the sun, Moon, and stars, and their resulting astronomical phenomena.
2. Students will list and apply the steps of the scientific method.

3. Students will describe the scale of the Solar System, Galaxy, and the Universe.
4. Students will explain telescope design and how telescopes and spectra are used to extract information about Astronomical objects.
5. Students will describe the formation scenarios and properties of solar system objects.
6. Students will describe gravity, electromagnetism, and other physical processes that determine the appearance of the universe and its constituents.
7. Students will describe methods by which planets are discovered around other stars and current results.
8. Students will describe the structure, energy generation, and activity of the sun.
9. Students will compare our sun to other stars and outline the evolution of stars of different masses and its end products, including black holes. 1
10. Students will describe the structure of the Milky Way and other galaxies and galaxy clusters. 1
11. Students will describe the origin, evolution, and expansion of the universe based on the Big Bang Theory and recent Astronomical observations. 1
12. Students will describe conditions for life, its origins, and possible locations in the universe.

ASTR 1116. Introduction to Astronomy Lab, Special
1 Credit (1)
This lab-only listing exists only for students who may have transferred to NMSU having taken a lecture-only introductory astronomy class, to allow them to complete the lab requirement to fulfill the general education requirement. Consent of Instructor required. , at some other institution). Restricted to Las Cruces campus only.
Prerequisite(s): Must have passed Introduction to Astronomy lecture-only.
Learning Outcomes
1. Course is used to complete lab portion only of ASTR 1115G or ASTR 112
2. Learning outcomes are the same as those for the lab portion of the respective course.

ASTR 1120G. The Planets Lecture & Laboratory
4 Credits (3+2P)
Comparative study of the planets, moons, comets, and asteroids which comprise the solar system. Emphasis on geological and physical processes which shape the surfaces and atmospheres of the planets. Laboratory exercises include analysis of images returned by spacecraft. Intended for non-science majors, but some basic math required. May be repeated up to 4 credits.
Learning Outcomes
1. Students will describe the sky as seen from Earth, the apparent daily and yearly motions of the Sun, Moon, planets and stars, and resulting astronomical phenomena.
2. Students will apply the process of the scientific method in an astrophysical setting.
3. Students will describe the structure of the solar system and explain the development of the currently accepted model of solar system formation.
4. Students will explain how telescopes and spectra are used to extract information about astronomical objects.
5. Students will describe properties of minor solar system objects, such as dwarf planets, moons, asteroids, meteoroids, and comets.
6. Students will compare and contrast bulk and unique properties of the Terrestrial and Jovian worlds.
7. Students will describe how gravity and other physical processes determine the appearance of the solar system and its constituents.

AUTO-AUTOMOTIVE TECHNOLOGY (AUTO)

AUTO 111. Automotive Mechanics Basics
4 Credits (4)
Basic maintenance procedures of the major components of the automobile using service repair manuals, hand and power tools, precision measurement equipment, fasteners and chemicals. Restricted to: Community Colleges only.

AUTO 112. Basic Gasoline Engines
5 Credits (2+6P)
Principles of gasoline engine operation. Identification, design, function of engine components; engine disassembly and reassembly; trouble shooting, and rebuilding heads. May be repeated up to 5 credits.
Learning Outcomes
1. Recall vehicle service information, including fluid types, engine operation, service history, technical bulletins, and recalls for xEVs and ADAS-equipped vehicles.
2. Analyze and interpret on-board diagnostics (OBD) data, including DTCs, monitor status, and freeze frame data, and clear codes when necessary.
3. Inspect engine assembly for leaks and other issues, and determine required actions for maintenance or repair.
4. Verify the proper operation of engine components, including mechanical timing, covers, and warning indicators.
5. Apply appropriate service precautions for internal combustion engine repairs, particularly for xEVs.
6. Inspect and evaluate cylinder head and valve train components for wear, damage, and proper functionality, making necessary adjustments or replacements.
7. Analyze and assess engine block components, including vibration dampers and crankshaft assembly, for wear or damage.
8. Perform engine oil and filter changes and coolant system maintenance, ensuring correct fluid types and system integrity.
9. Test and troubleshoot cooling system components, including radiators, pumps, and thermostats, to identify and resolve overheating or leakage issues. 1
10. Examine and replace drive belts, tensioners, and pulleys, ensuring proper alignment and operation. 1
11. Inspect and replace oil temperature and pressure sensors, as well as auxiliary coolers, based on diagnostic results. 1
12. Evaluate and adjust engine cooling and lubrication system components for optimal performance and repair as needed.

AUTO 113. Automotive Electricity and Electronics PT I
4 Credits (2+4P)
Topics include mastery of DC electricity, use of digital multimeters, troubleshooting electrical problems in starting, charging and accessory systems. May be repeated up to 4 credits.

Learning Outcomes

1. Research and interpret vehicle service information, system architecture, wiring diagrams, and procedures for electrical/electronic systems, including xEV, ADAS, and high-voltage systems.
2. Identify and explain the function and configuration of key electrical/electronic system components (fuses, relays, resistors, sensors, modules, actuators, networks).
3. Use proper diagnostic tools (DMM, oscilloscope, graphing multimeter, scan tool) to measure voltage, current, resistance, and circuit operation; interpret results.
4. Diagnose and repair electrical faults, including shorts, opens, grounds, resistance issues, excessive parasitic draw, and voltage drops; verify proper circuit operation.
5. Inspect, test, and service wiring, terminals, connectors, and harnesses using appropriate procedures, tools, and soldering techniques.
6. Test and maintain low-voltage batteries, cables, and connections; perform state-of-charge/load tests and charging procedures; jump-start and maintain memory functions.
7. Diagnose and repair low-voltage starting systems including slow/no crank conditions, idle-stop/start systems, and electrical/mechanical faults.
8. Inspect, test, and service charging system components (alternator, drive belts, tensioners, pulleys) and identify causes of undercharge, overcharge, or no-charge conditions.
9. Inspect, aim and troubleshoot lighting systems, including interior/exterior lamps, sockets, switches, and wiring; correct intermittent, dim, or non-functioning lights. 1
10. Inspect and diagnose instrument clusters and driver information systems, including warning lights, gauges, sensors, and maintenance indicators. 1
11. Inspect, diagnose and repair body electronic systems (power locks/windows, wipers, security, infotainment, seat/airbag systems); verify module communication and function. 1
12. Demonstrate safety procedures for xEV high-voltage systems; locate, describe, and follow correct steps to de-energize/re-energize systems and protect components and personnel.

AUTO 114. Automotive Electricity and Electronics PT II
4 Credits (2+4P)

Advanced AC and DC automotive electronic circuits. Troubleshooting electronically controlled components including supplemental restraint systems and convenience accessories. Restricted to Community Colleges campuses only.
Prerequisite: AUTO 113.

Learning Outcomes

1. Understand and demonstrate safety rules related to electronically controlled automotive systems.
2. Diagnosis and demonstrate knowledge of series, parallel, and combination circuits, and their applications as applied to automotive repair.
3. Demonstrate use of wiring diagrams as a diagnostic aide.
4. Demonstrate use of meters, handheld labscopes, scan tools, and other diagnostic equipment.
5. Demonstrate use of repair manuals, both hard copy and electronic.
6. Demonstrate knowledge, diagnose and repair Air Bag Supplemental Inflatable Restraint systems
7. Demonstrate knowledge, diagnose and repair various convenience electronic systems.
8. Interpret customer concerns, create and complete a diagnostic routine and successfully repair an electrical problem.
9. Diagnose and repair starting and charging systems.

AUTO 115. Automotive Engine Repair
4 Credits (2+4P)

Principles of gasoline engine operation. Identification of engine parts, operation, and function. Disassembly and reassembly. Engine problem diagnoses (cooling system, lubrication system, engine noises). Restricted to Community Colleges only.

Learning Outcomes

1. Understand internal combustion engine theory.
2. Identify all components of an engine and their function.
3. Identify worn engine components and determine necessary repairs.
4. Effectively present engine issues and corrections using verbal and written communication.
5. Diagnose cooling system issues and the effect on various components.
6. Rebuild/ reassemble an engine to specifications.
7. Understand the operation and rationale of forced induction.
8. Identify methods of increasing engine efficiency.

AUTO 117. Electronic Analysis and Tune-Up of Gasoline Engines
5 Credits (2+6P)

Theory and operation of ignition and emission control systems and fuel system. Use of troubleshooting equipment and diagnostic equipment.
Prerequisite: AUTO 120 or consent of instructor.

AUTO 119. Manual Transmission/Clutch
5 Credits (2+6P)

Manual transmission, transfer cases, and clutch operating principles. Students will diagnose problems, remove and replace, disassemble, repair, and assemble units.

AUTO 120. Electrical Systems
4 Credits (2+4P)

Troubleshooting and repair of starters, alternators, and associated circuits. Reading electrical diagrams, diagnosis and repair of electrical accessories.
Prerequisite: consent of instructor.

AUTO 122. Automotive Brakes
4 Credits (2+4P)

Focus is on theory, diagnosis, and service of drum, disc, and anti-lock braking systems, brake component machining, hydraulic component reconditioning, friction and hardware replacement. May be repeated up to 4 credits.

Learning Outcomes

1. Research and interpret vehicle service information, brake system types (hydraulic, disc, drum, electric), service procedures, and manufacturer specifications for fluid and components, including xEV and ADAS-equipped vehicles.
2. Identify and explain brake system components and configurations, including power-assist units, electronic brake control systems (ABS, TCS, ESC), and regenerative braking systems.
3. Retrieve, record, and clear diagnostic trouble codes (DTCs) and perform service mode activation, calibration, initialization, and relearn procedures when required.
4. Diagnose hydraulic brake system concerns using pressure principles (Pascal's Law); inspect and test brake fluid, master cylinder, lines, hoses, and fittings; determine needed action.

5. Bleed, replace, or test brake fluids, fabricate lines, and ensure correct type and contamination-free hydraulic system operation.
6. Inspect, remove, replace, and/or service drum brake components including drums, shoes, wheel cylinders, springs, levers, adjusters, and support plates.
7. Inspect, measure, service, or refinish disc brake components including rotors, calipers, pads, pistons, hardware, and mounting surfaces; determine rotor serviceability.
8. Diagnose and correct brake system performance issues such as pulling, noise, dragging, pulsation, and poor stopping, in both hydraulic and mechanical systems.
9. Inspect and test power-assist units, including vacuum and hydraulic boosters; identify operational concerns, perform functional checks, and inspect related components. 1
10. Inspect, service, and replace related systems: wheel bearings (sealed and serviceable), parking brake systems (manual and electric), wheel studs, and brake light/indicator systems. 1
11. Diagnose and repair electronic brake systems (ABS, TCS, ESC); identify components, describe function, and evaluate system performance using appropriate tools. 1
12. Describe and test regenerative braking system functions and perform electronic brake system bleeding procedures safely and accurately.

AUTO 123. Job Shadowing
1 Credit (1)
Observing a professional in a real-world work setting, while gaining on-the-job training. Student will meet in a weekly class or online.
Learning Outcomes
1. Work with colleagues in the diagnosing and repair of automobiles.
2. Understand basic tool needs to meet industry requirements.
3. Prepare for various pay scales (straight time, flat-rate, hourly).
4. Understand daily operations in a live shop setting.
5. Understand the roles in the automotive field to include Technician, Service Writer, Shop Foreman, and Service Manager.

AUTO 124. Automotive Heating and Air Conditioning
4 Credits (2+4P)
R12 and R134A air conditioning systems maintenance diagnosis and repair. R12 to R134A conversion procedures. Troubleshooting automatic temperature controls and leak detection. May be repeated up to 4 credits.
Learning Outcomes
1. Research and interpret vehicle HVAC service information, including refrigerant/oil types, diagnostic procedures, and safety precautions related to xEVs and ADAS-equipped vehicles.
2. Identify HVAC system components and configurations, including compressors, condensers, evaporators, control panels, ducts, and sensors.
3. Use diagnostic tools and procedures to retrieve DTCs, interpret A/C performance test results, and analyze system pressures, temperatures, and operating noises.
4. Diagnose and repair refrigerant circuit faults, including leaks, pressure imbalances, abnormal compressor operation, and restricted flow components (expansion valves, orifice tubes, desiccants).
5. Inspect, service, or replace HVAC components, such as compressors, condensers, evaporators, receiver/driers, hoses, and system seals; select proper oil type and quantity per OEM specs.
6. Diagnose and service heating and engine cooling system interactions with HVAC, including hoses, heater cores, control valves, and electric heating systems.
7. Inspect and diagnose HVAC airflow and cabin control components, including blower motors, filters, ducts, switches, doors, resistors, relays, and protection devices.
8. Check operation of HVAC control systems, including manual, automatic, mechanical, electrical, and vacuum-based systems; service control panels and actuators.
9. Demonstrate proper handling and recovery of refrigerants, including system evacuation, recovery, recycling, recharging, oil management, and refrigerant identification. 1
10. Safely operate and maintain refrigerant service equipment and comply with environmental regulations for refrigerant labeling, storage, and handling.

AUTO 125. Brakes
5 Credits (2+6P)
Theory of operation, diagnosis, repair, and maintenance of disc and drum brakes; safety and use of special tools. May be repeated up to 5 credits.
Learning Outcomes
1. Research and interpret vehicle service information, brake system types (hydraulic, disc, drum, electric), service procedures, and manufacturer specifications for fluid and components, including xEV and ADAS-equipped vehicles.
2. Identify and explain brake system components and configurations, including power-assist units, electronic brake control systems (ABS, TCS, ESC), and regenerative braking systems.
3. Retrieve, record, and clear diagnostic trouble codes (DTCs) and perform service mode activation, calibration, initialization, and relearn procedures when required.
4. Diagnose hydraulic brake system concerns using pressure principles (Pascal's Law); inspect and test brake fluid, master cylinder, lines, hoses, and fittings; determine needed action.
5. Bleed, replace, or test brake fluids, fabricate lines, and ensure correct type and contamination-free hydraulic system operation.
6. Inspect, remove, replace, and/or service drum brake components including drums, shoes, wheel cylinders, springs, levers, adjusters, and support plates.
7. Inspect, measure, service, or refinish disc brake components including rotors, calipers, pads, pistons, hardware, and mounting surfaces; determine rotor serviceability.
8. Diagnose and correct brake system performance issues such as pulling, noise, dragging, pulsation, and poor stopping, in both hydraulic and mechanical systems.
9. Inspect and test power-assist units, including vacuum and hydraulic boosters; identify operational concerns, perform functional checks, and inspect related components. 1
10. Inspect, service, and replace related systems: wheel bearings (sealed and serviceable), parking brake systems (manual and electric), wheel studs, and brake light/indicator systems. 1
11. Diagnose and repair electronic brake systems (ABS, TCS, ESC); identify components, describe function, and evaluate system performance using appropriate tools. 1
12. Describe and test regenerative braking system functions and perform electronic brake system bleeding procedures safely and accurately.

AUTO 126. Suspension, Steering, and Alignment
5 Credits (2+6P)
Types of steering systems, suspension maintenance and repair, four-wheel alignment procedures. May be repeated up to 5 credits.

Learning Outcomes

1. Research and interpret vehicle service data including steering/suspension systems, fluid specifications, service procedures, and manufacturer recommendations for xEVs and ADAS-equipped vehicles.
2. Identify and explain suspension, steering, and wheel alignment components, including electronically controlled systems and their functions.
3. Retrieve, record, and clear diagnostic codes related to suspension and steering systems; disable and enable SRS/airbag systems according to safety procedures.
4. Diagnose and interpret suspension and steering system symptoms (uneven ride height, noises, binding, fluid leaks, tire wear, and abnormal steering behavior); determine corrective action.
5. Inspect and service power steering systems (hydraulic and electric), including pumps, belts, hoses, fluids, gears, racks, and related components.
6. Remove, inspect, adjust, and/or replace steering system parts including tie rods, linkages, steering shafts, columns, knuckles, and bushings.
7. Inspect, replace, and service suspension system parts including control arms, struts, shocks, ball joints, sway bars, torsion bars, bushings, and electronically controlled components.
8. Perform and evaluate wheel alignment procedures including camber, caster, toe, thrust angle, setback, and SAI; explain alignment angles and their impact on handling and tire wear.
9. Prepare a vehicle for alignment, perform pre-alignment inspections, and reset steering angle sensors; determine need for ADAS recalibration. 1
10. Inspect, service, and replace wheel bearings, hubs, and mountings; check for looseness, noise, and proper installation. 1
11. Inspect, rotate, mount, balance, and repair tires and wheels; verify tire pressure, inspect TPMS systems, and perform relearn/calibration procedures. 1
12. Diagnose wheel and tire concerns such as vibration, noise, shimmy, runout, and pull; determine needed action.

AUTO 127. Basic Automatic Transmission
4 Credits (2+4P)

Theory and operation of the automatic transmission; maintenance, troubleshooting, diagnosis, and repair of components. May be repeated up to 4 credits.

Learning Outcomes

1. Recall and interpret vehicle service information, including fluid types, service history, precautions, TSBs, and ADAS/xEV-related systems.
2. Identify and describe transmission and transaxle types, components, and operational principles of CVT, DCT, hybrid, and xEV drive systems.
3. Retrieve, interpret, and clear diagnostic trouble codes (DTCs), monitor status, and freeze frame data using diagnostic tools.
4. Inspect and evaluate fluid condition, levels, and possible leaks on transmissions/transaxles both with and without dipsticks.
5. Diagnose and analyze power flow, gear ratio issues, and hydraulic/pressure concerns using mechanical and hydraulic principles (Pascal's Law).
6. Differentiate and interpret between engine performance and transmission/transaxle issues; determine appropriate corrective actions.
7. Perform and evaluate stall, lock-up converter, and electronic pressure control tests; determine necessary service or repair actions.
8. Diagnose and repair electronic transmission/transaxle control systems using manufacturer data and diagnostic tools.
9. Inspect, adjust, and/or replace components such as valve shift linkage, range sensors, powertrain mounts, and park/neutral switches. 1
10. Drain, replace, and refill transmission fluids and filters using manufacturer specifications; perform system relearn procedures. 1
11. Inspect, test, and repair external seals, gaskets, bushings, and electrical/electronic circuits within the transmission system. 1
12. Remove, reinstall, and inspect off-vehicle components including the transmission/transaxle, torque converter, oil cooler, and converter flex plate; evaluate wear and mating surfaces.

AUTO 129. Automotive Steering and Suspension
4 Credits (2+4P)

Diagnosis/service of suspension components including shocks, springs, ball joints, manual and power steering systems and four wheel alignment are some areas covered. May be repeated up to 4 credits.

Learning Outcomes

1. Research and interpret vehicle service data including steering/suspension systems, fluid specifications, service procedures, and manufacturer recommendations for xEVs and ADAS-equipped vehicles.
2. Identify and explain suspension, steering, and wheel alignment components, including electronically controlled systems and their functions.
3. Retrieve, record, and clear diagnostic codes related to suspension and steering systems; disable and enable SRS/airbag systems according to safety procedures.
4. Diagnose and interpret suspension and steering system symptoms (uneven ride height, noises, binding, fluid leaks, tire wear, and abnormal steering behavior); determine corrective action.
5. Inspect and service power steering systems (hydraulic and electric), including pumps, belts, hoses, fluids, gears, racks, and related components.
6. Remove, inspect, adjust, and/or replace steering system parts including tie rods, linkages, steering shafts, columns, knuckles, and bushings.
7. Inspect, replace, and service suspension system parts including control arms, struts, shocks, ball joints, sway bars, torsion bars, bushings, and electronically controlled components.
8. Perform and evaluate wheel alignment procedures including camber, caster, toe, thrust angle, setback, and SAI; explain alignment angles and their impact on handling and tire wear.
9. Prepare a vehicle for alignment, perform pre-alignment inspections, and reset steering angle sensors; determine need for ADAS recalibration. 1
10. Inspect, service, and replace wheel bearings, hubs, and mountings; check for looseness, noise, and proper installation. 1
11. Inspect, rotate, mount, balance, and repair tires and wheels; verify tire pressure, inspect TPMS systems, and perform relearn/calibration procedures. 1
12. Diagnose wheel and tire concerns such as vibration, noise, shimmy, runout, and pull; determine needed action.

AUTO 130. Introduction to Transportation Industry
3 Credits (3)

State and national traffic statutes that relate to the trucking industry. A Commercial Driver's License Learner s Permit will be obtained through successful completion of the course.
Prerequisites: Must be 18 years of age, have a current driver's license and consent of instructor.

AUTO 131. Class A CDL
3 Credits (1+4P)
Instruction in how to perform proper pre-trip inspection; hands-on training with a tractor-trailer unit on the backing range and street driving to develop skills necessary to pass Class A DCL exam. Restricted to Community Colleges campuses only.
Prerequisite(s): Class A CDL restricted license (permit) and either restriction of D.O.T.

AUTO 132. Automotive Air-Conditioning and Heating Systems
4 Credits (2+4P)
Theory and operation, reading schematic diagrams, troubleshooting, repair, and replacement operations performed. May be repeated up to 4 credits.
Learning Outcomes
1. Research and interpret vehicle HVAC service information, including refrigerant/oil types, diagnostic procedures, and safety precautions related to xEVs and ADAS-equipped vehicles.
2. Identify HVAC system components and configurations, including compressors, condensers, evaporators, control panels, ducts, and sensors.
3. Use diagnostic tools and procedures to retrieve DTCs, interpret A/C performance test results, and analyze system pressures, temperatures, and operating noises.
4. Diagnose and repair refrigerant circuit faults, including leaks, pressure imbalances, abnormal compressor operation, and restricted flow components (expansion valves, orifice tubes, desiccants).
5. Inspect, service, or replace HVAC components, such as compressors, condensers, evaporators, receiver/driers, hoses, and system seals; select proper oil type and quantity per OEM specs.
6. Diagnose and service heating and engine cooling system interactions with HVAC, including hoses, heater cores, control valves, and electric heating systems.
7. Inspect and diagnose HVAC airflow and cabin control components, including blower motors, filters, ducts, switches, doors, resistors, relays, and protection devices.
8. Check operation of HVAC control systems, including manual, automatic, mechanical, electrical, and vacuum-based systems; service control panels and actuators.
9. Demonstrate proper handling and recovery of refrigerants, including system evacuation, recovery, recycling, recharging, oil management, and refrigerant identification. 1
10. Safely operate and maintain refrigerant service equipment and comply with environmental regulations for refrigerant labeling, storage, and handling.

AUTO 137. Fuel Systems and Emission Controls
4 Credits (2+4P)
Covers theory and operation of fuel system and emission control. Troubleshooting, vacuum diagrams, overhaul, repair and adjustment of carburetion and fuel injection.
Prerequisites: AUTO 117 or consent of instructor.

AUTO 160. Hybrid\Electric Vehicles
4 Credits (2+4P)
Theory and operation of Hybrid and Electric vehicles with emphasis on electrical motor subsystems and battery management systems.
Prerequisite: AUTO 113, AUTO 115.
Prerequisite/Corequisite: AUTO 205.
Learning Outcomes
1. Use automotive scanners and test equipment effectively.
2. Explain the difference between hybrid and electrical vehicles.
3. Identify faulty electrical components and determine necessary repairs.
4. Effectively present issues and corrections using verbal and written communication.
5. Demonstrate proper safety when working with hybrid/EV batteries.
6. Demonstrate knowledge of differences between hybrid and fully electric vehicles and their benefits.
7. Perform routine service on hybrid and electric vehicles.

AUTO 162. Advanced Non-Structural Repair I
4 Credits (2+4P)
This course will involve the students in all phases of minor non-structural collision damage repairs. It will encompass sheet metal repair, advanced panel replacement and alignment.
Prerequisite(s): AUTO 161.

AUTO 164. Automotive Industry Collision Repair I
4 Credits (2+4P)
This advanced course is a continuation of AUTO 161, 162, and 163. This course will incorporate all areas of major non-structural collision damage repair. Through practical application the student will learn how to effectively repair all heavy collision damage using current I-CAR repair standards and procedures.
Prerequisite(s): AUTO 163.

AUTO 165. Automotive Industry Collision Repair II
4 Credits (2+4P)
This advanced course is a continuation of AUTO 164 with emplasis on time efficiency. This course will involve the student in all areas of major collision damage repair. The student will be exposed to all applicable I-CAR industry procedures and standards involved in sheet metal and composite panel repair.
Prerequisite(s): AUTO 164.

AUTO 172. Introduction to Automotive Refinishing
4 Credits (2+4P)
This course is designed to incorporate all aspects of surface preparation, paint safety, refinishing materials, and refinishing fundamentals. Students will receive instructions for the application of acrylic enamel and base coat/clear coat refinishing systems.

AUTO 174. Intermediate Automotive Refinishing
4 Credits (2+4P)
This course encompasses all areas of surface preparation, damage repair and refinishing procedures that are necessary for achieving a proper spot repair. Students will also be exposed to safe work habits in the refinishing area and correct automotive detailing procedures.
Prerequisite(s): AUTO 172.

AUTO 176. Automotive Color Adjustment & Blending
4 Credits (2+4P)
This course will help develop the skills needed to match any type of paint. It will expose the student to color theory, color evaluation, color matching, and other color adjustment factors. The student will be instructed in multiple panel paint blending techniques as well.
Prerequisite(s): AUTO 174.

AUTO 178. Automotive Overall Refinishing
4 Credits (2+4P)
This course encompasses all areas of automotive refinishing. This advanced course is a continuation of AUTO 176 with emphasis in achieving industry refinishing times and standards consistent with that of I-CAR. The student will be exposed to surface preparation and refinishing techniques involved with overall coat/clear coat refinishing system.
Prerequisite(s): AUTO 176.

AUTO 181. Frame and Structural Repair
4 Credits (2+4P)
This course will involve the student in all areas of frame and structural damage repairs. Through theory and practical application, the student will learn how to diagnose and repair various types of damage include: mash, twist, sag, and side sway. This course will expose the students to safe work habits while using measuring and straightening equipment.
Prerequisite(s): AUTO 165.

AUTO 182. Structural Panel Replacement
4 Credits (2+4P)
This course is a continuation of AUTO 181 with infancies in structural panel replacement. The student will be exposed to frame and unibody measuring equipment and their proper use in sectioning procedures. Through theory and practical application the student will learn how to ID structural components, properly separate spot welds, position and weld new body panels in place.
Prerequisite(s): AUTO 181.

AUTO 200. Engine Performance
4 Credits (2+4P)
Theory and operation of ignition, emission control systems, fuel systems, and exhaust systems. Use of troubleshooting and diagnostic equipment. May be repeated up to 4 credits.
Prerequisite/Corequisite: AUTO 113, AUTO 115.
Learning Outcomes
1. Use automotive scanners and test equipment effectively
2. Identify all emission control components of an engine and their function
3. Identify faulty ignition components and determine necessary repairs
4. Effectively present engine issues and corrections using verbal and written communication
5. Diagnose fuel system issues and the effect on various components
6. Demonstrate knowledge of differences between different fuel delivery methods and their benefits
7. Understand the operation and rationale of forced induction
8. Identify methods of increasing engine efficiency

AUTO 201. Engine Performance I
4 Credits (2+4P)
Theory, function, service and analysis of engine related subsystems including ignition, fuel, starting, and charging systems. Emphasis is placed on diagnosis and operation of electronic engine control management systems. Restricted to Community Colleges only.

AUTO 203. Engine Performance II
4 Credits (2+4P)
Study of engine management systems and emission control systems, their function and relationship to vehicle performance and air pollution. Emphasis is placed on the analysis and repair of non-compliant vehicles. Restricted to Community Colleges only.
Prerequisite: AUTO 201.
Learning Outcomes
1. Be able to explain basic electrical theories.
2. Be able to explain basic and advanced engine designs and engine operating theory.
3. Be able to explain engine cooling and lubricating systems.
4. Be able to explain intake and exhaust systems
5. Test battery, starting and charging systems
6. Test ignition systems including point type, electronic trigger type, and distributor-less systems.
7. Test automotive fuel system including fuel tanks, lines, filters and pumps.
8. Test basic electronic fuel injection systems.
9. Test automotive computer input devices and controlled devices 1
10. Demonstrate ability to work with PC based automotive software including Alldata,

AUTO 205. Manual Drive Train and Axles
4 Credits (2+4P)
Operation, diagnosis, maintenance, repair or replacement of manual transmissions, clutch assemblies, differentials, drivelines, axles, and manual transaxles. May be repeated up to 4 credits.
Learning Outcomes
1. Research and interpret vehicle service information, including fluid types, service precautions, technical bulletins, and manufacturer specifications, especially for xEVs and ADAS-equipped vehicles.
2. Identify and describe components and configurations of manual drive trains, clutches, axles, CV/universal joints, and four-wheel/all-wheel drive systems.
3. Retrieve, record, and clear diagnostic trouble codes (DTCs), freeze frame data, and monitor status using diagnostic equipment.
4. Inspect and evaluate fluid conditions, seals, leaks, and perform necessary fluid changes for manual transmissions, differentials, and transfer cases using correct specifications.
5. Diagnose and troubleshoot drive train and clutch-related issues such as slippage, noise, vibration, pulsation, and fluid concerns; determine appropriate repairs.
6. Inspect, adjust, or replace clutch components including pedal linkage, cables, pressure plates, flywheels, and hydraulic systems.
7. Service and repair shift linkage systems by adjusting, lubricating, or replacing cables, pivots, brackets, and bushings.
8. Inspect, test, and replace drive shaft, half shaft, CV joints, and universal joint components; measure driveline angles, shaft runout, and check balance and phasing.
9. Inspect and maintain differential housings, fluid levels, companion flanges, seals, and gear assemblies; assess for leaks and proper function. 1
10. Demonstrate knowledge of ring and pinion gear setup, including adjustments for depth, preload, backlash, and gear contact patterns. 1
11. Inspect and service drive axles, including wheel studs, shaft seals, bearings, retainers, and measuring runout and endplay. 1
12. Identify and resolve four-wheel and all-wheel drive concerns, including shifting issues, tire size mismatches, locking mechanisms, and fluid leaks.

AUTO 206. Automatic Transmissions
5 Credits (2+6P)

Operation, diagnosis, maintenance, and repair of automatic transmissions including rear wheel drive, front wheel drive, and electronically controlled transmissions and transaxles. Restricted to Community Colleges only.

AUTO 208. Introduction to Alternative Fueled Vehicles
3 Credits (3)
Course will familiarize student with conditions that are resulting in the alternative fueled vehicle movement as well as the design and safety precautions unique to each alternative fuel. Propulsion systems covered include electric vehicles, bio-fueled vehicles, hybrid-electric vehicles and hydrogen powered vehicles, along with other emerging technologies as appropriate. Restricted to: Community Colleges only.
Prerequisite(s): AUTO 113 and AUTO 114.

AUTO 209. Hybrid Vehicle Service Techniques
3 Credits (3)
Designed for experienced automotive technicians, this course will cover safety procedures, design, operational overview and service techniques as well as minor diagnosis and repair of all classifications of hybrid-electric vehicles. Each student must possess legal Class '0' high voltage gloves and liners to attend this class. Restricted to: Community Colleges only.
Prerequisite(s): AUTO 113 and AUTO 114.

AUTO 210. Light Diesel
4 Credits (2+4P)
Theory and operation of light duty diesel engines with emphasis on highway diesel usage including major engine subsystems and fuel management systems.
Prerequisite/Corequisite: AUTO 113, AUTO 115.
Learning Outcomes
1. Use automotive scanners and test equipment effectively.
2. Identify all emission control components included on diesel engines and their function.
3. Identify faulty emission components and determine necessary repairs.
4. Effectively present engine issues and corrections using verbal and written communication
5. Diagnose fuel system issues and the effect on various components.
6. Demonstrate knowledge of differences between different fuel delivery methods and their benefits.
7. Understand the operation and rationale of forced induction.
8. Identify methods of increasing engine efficiency.

AUTO 221. Cooperative Experience I
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U.
Prerequisite: consent of instructor.

AUTO 255. Special Problems in Automotive Technology
1-5 Credits
Individual studies in areas directly related to automotive technologies. May be repeated for a maximum of 12 credits.
Prerequisite: consent of instructor.

AUTO 290. ASE Certification Preparation
1 Credit (1)
This is the capstone course for the Automotive Technology Program and is a requirement for graduation. Consent of Instructor required. Restricted to: AUTO majors. Restricted to Community Colleges campuses
Learning Outcomes
1. write technical reports explaining customers complaint(s), specific component malfunction(s) and related problems to include repair procedures, specifications, parts and costs associated with each specific repair
2. determine, categorize and document component or systems malfunctions which will be discussed in class
3. adequately identify safety hazards associated with electrical, electronic, hydraulic, pneumatic and mechanical systems before participating in any lab project
4. use a systematic approach to identify, diagnose and repair new hydro, electrical and mechanical systems
5. identify all related parts and components before attempting to repair each system
6. clearly identify and understand the specific function of each component before these systems and subsystems are dismantled for repairs
7. demonstrate proficiency in locating, identifying and following procedures for repairs as outlined on the Mitchell and All-DATA computer information systems
8. retrieve all phases of automotive information needed to repair the following: Electrical and Electronics, Engine Repair, Engine Performance, Automatic transmissions, Heating And Air Conditioning Systems
9. demonstrate proficiency in the proper usage of on-board computer scanners used to identify and properly diagnose possible malfunction within a specific on-board computer system 1
10. demonstrate proficiency in the proper use of scanners, information and vehicle specifications to determine needed repairs 1
11. identify, evaluate, diagnosis and repair electrical, electronic and mechanical systems and subsystems

AUTO 295. Special Topics
1-6 Credits
Topics to be announced in the Schedule of Classes.

AXED-AGRICULTURAL EXTN EDUC (AXED)

AXED 1110. Introduction to Agricultural, Extension, and Technology Education
3 Credits (3)
Orientation to programs, philosophies, competencies and leadership skills needed by professionals in agricultural and technology education, extension education, agricultural communications, and related career opportunities in industry, governmental agencies, and international organizations.
Learning Outcomes
1. Orient student to the AXED Department and their role as students.
2. Explore career opportunities (and the related skill sets needed for success) in public schools, career and technical institutions, the cooperative extension service, community, and international development, agricultural communications, agricultural industry associations and public service (e.g., NMDA and USDA).
3. Develop an understanding of the self-leadership skills needed to be effective in a variety of professional and personal environments.

4. Familiarize students with the aspects included within a total program in agricultural or technology education.
5. Strengthen skills in oral and written communications.

AXED 1130. Techniques in Agricultural Mechanization
3 Credits (2+2P)
Development of competencies in agricultural mechanics including safety, tool identification, operation and maintenance of hand and power tools, cold metal, drafting, and plumbing procedures. Designed for any major wishing to improve mechanical skills needed in agriculturally related occupations in education and industry.
Learning Outcomes
1. To understand basic drafting language used in orthographic and isometric drawings.
2. To develop an understanding of the proper use and safety of basic hand and power tools.
3. To develop skills needed to operate basic hand and power tools correctly.
4. To develop an understanding of surveying methods and building layout for construction.
5. To develop an adequate level of competence in workshop techniques.
6. To prepare students to properly teach and demonstrate these techniques to others who may use them as a means of earning a living.

AXED 2110. Metal Fabrication
3 Credits (2+4P)
Instruction and skill development in process and procedures of metal fusion, including gas and electric welding techniques, safety, and oxy-acetylene cutting and welding. Designed to improve mechanical skills needed in agriculturally related occupations in education and industry.
Learning Outcomes
1. To develop students understanding and appreciation for metal fabrication, design and teaching.
2. To develop in the student an adequate level of competence in shop work techniques, so that the student may be able to properly teach and demonstrate multiple metal fabrication techniques to others who may use them as a mean of earning a living.
3. To develop the student's fundamental techniques in shielded metal arc welding, oxy-acetylene welding and cutting operations, metal inert gas welding (MIG), and gas tungsten-arc welding as needed in repair and construction of agricultural equipment.
4. Student will understand appropriate shop management techniques and have an appreciation for mechanized agriculture.
5. To assist the student in developing an understanding and comprehension of the fundamental principles that apply to the area of basic shop work included in this course; such as proper selection of electrodes, oxy-acetylene filler rods, welding processes best suited for given welding conditions, the proper tool for the job, etc.
6. To develop in the student comprehension of safety practices that apply to the areas of basic shop work, tools, and equipment required in the course.

AXED 2130. Early Field-Based Experience
2 Credits (2)
First Hand view of the roles of professional educators through field experiences with Cooperative Extension or other government agencies. Includes 4 weeks of classroom instruction and 30 hours of observation in a work setting. Consent of Instructor required. Restricted to Las Cruces campus only.
Learning Outcomes
1. Identify successful characteristics, tips and strategies that an agricultural education professional may use as part of their program.
2. Identify key components of an agricultural education program
3. Actively observe a local agricultural education program.
4. Identify ways that your agency program networks and interacts with clientele and community

AXED 2996. Special Topics
1-4 Credits (1-4)
Specific subjects and credits to be announced in the Schedule of Classes. Student can only take up to 6 credits per semester, and will not be able to have more than 12 credits count towards their degree. May be repeated up to 12 credits.
Learning Outcomes
1. Varies

B A-BUSINESS ADMINISTRATION (B A)

B A 105. Special Topics
1-3 Credits
Current topics in business and economics.

B A 291. Business Administration and Economics Internship and Cooperative Education I
1-3 Credits
Introduction and applications of the principles of business administration and economics. Registration in one course allowed per co-op work phase; a minimum of 12 work weeks is required. Open only to students in the College of Business. Option of S/U or a grade. The amount of academic credit (1-3 cr.) will be determined by the academic experience, and not by the work experience.

BCHE-BIOCHEMISTRY (BCHE)

BCHE 140. Explorations in Chemistry and Biochemistry
1 Credit (1)
In introduction to the experience of chemistry and biochemistry degrees. In this course, students will prepare a degree plan and personal statement. Career opportunities in chemistry and biochemistry will be presented and discussed. Graded S/U.
Learning Outcomes
1. Demonstrate knowledge and understanding of the sub-disciplines of Chemistry and Biochemistry.
2. Demonstrate knowledge and understanding of the requirements for the Chemistry and Biochemistry majors and career opportunities available to these majors.
3. Adopt strategies to prepare for future success in a job search or graduate school application.
4. Learn about undergraduate research opportunities in chemistry and biochemistry.

BCHE 241. Introduction to Research in Biochemistry
1-3 Credits
Techniques and procedures of biochemical research. May be repeated for a maximum of 3 credits.
Prerequisites: 8 credits of chemistry and 3.0 GPA in chemistry.

BCIS-BUSINESS COMPUTER SYSTEMS (BCIS)

BCIS 1110. Introduction to Information Systems
3 Credits (3)
Examination of information systems and their impact on commerce, education, and personal activities. Utilization of productivity tools for communications, data analysis, information management and decision-making.

Learning Outcomes

1. Describe the social impact of information literacy and systems in relation to commerce, education, and personal activities.
2. Explain how to use the information resources legally, safely, and responsibly in relation to ethical, security, and privacy issues.
3. Evaluate bias, accuracy and relevance of information and its sources.
4. Use productivity tools for communications, data analysis, information management and decision-making.
5. Describe and use current information systems and technologies

BCIS 1160. Windows
1-3 Credits (1-3)
This course prepares students to develop the skills needed to deploy and manage Windows. Students will learn how to manage and troubleshoot Windows devices in a secure network environment. Students will also learn to run multiple operating systems using client Hyper-V. Microsoft Intune will be utilized to teach students to manage Windows mobile and desktop devices in a cloud-based environment. Out-of-class computer work is required. May be repeated up to 6 credits.

Learning Outcomes

1. Demonstrate how to install Windows.
2. Execute System Utilities.
3. Explain how to manage disks and file systems.
4. Recount the features of user management.
5. Describe Windows security features.
6. Identify the features of user productivity tools and application support.
7. Highlight the steps to complete performance tuning and system recovery.
8. Outline in detail how Microsoft Intune Device Management is utilized.
9. Summarize how to run multiple operating systems inside a virtual machine using Client Hyper-V. 1
10. Summarize Enterprise Computing. 1
11. Illustrate Remote Access and Client Support processes.

BCIS 1215. Introduction to MS Excel I
3 Credits
This course introduces Microsoft Excel spreadsheet software. Coverage includes creating, editing, manipulating, and printing workbooks, charts, features and commands, spreadsheet design, formulas, and functions.

Learning Outcomes

1. Identify the basic Excel (spreadsheet) concept.
2. Describe and apply basic skills of worksheet and cell formatting, charts, and tables.
3. Recognize and demonstrate the concepts of creating, editing, and formatting worksheets.
4. Apply and demonstrate the concepts of working with charts.
5. Apply formulas and functions.
6. Analyze data using formulas and compiling workbook data.

BCIS 1220. Introduction to MS Word
3 Credits (2+2P)
This course introduces MS Word software. Basic word processing techniques and applications will be covered. Students will create, revise, store, share and retrieve documents. Students will learn various formatting techniques, use of tables, use of references tools. May be repeated up to 6 credits.

Learning Outcomes

1. Manage documents: navigate within documents; format documents; save and share documents; and inspect documents for issues.
2. Insert and format text, paragraphs, and sections: Insert text and paragraphs; format text and paragraphs; create and configure document settings.
3. Manage tables and lists: create tables; modify tables; create and modify lists.
4. Create and manage references: create and manage reference elements; create and manage reference tabs.
5. Insert and format graphic elements: insert illustrations/text boxes; format illustrations and text boxes; add text to graphic elements; modify graphic elements.
6. Manage document collaboration: add and manage comments; manage change tracking.

BCIS 1230. Introduction to MS PowerPoint
3 Credits (3)
Introduction to the electronic presentation, specifically how to use, design and edit presentation graphics for use in a variety of personal and business applications. Students will learn how to create and work with design templates, auto layouts, and background slides. Also covered are how to add tables, charts, clip art, pictures, video, sound and animation effects.
Prerequisite: BCIS 1220 or ability to demonstrate keyboarding and Windows proficiency.

Learning Outcomes

1. Create, edit, format, and save PowerPoint presentations.
2. Create and change templates.
3. Create, apply, and customize Master slides.
4. Create, apply, and customize presentation themes.
5. Create, apply, and customize styles presentations.

BCIS 1750. Microsoft Outlook and Office Procedures
3 Credits (3)
This course provides information about office principles and procedures that are used in the fast-paced offices of today. Student will become proficient using Microsoft Outlook and other current technologies to develop the foundational skills necessary to manage email, appointments, contacts, and tasks.
Prerequisite: ENGL 1110G.

Learning Outcomes

1. Demonstrate office skills in office communications, record management, proofreading, research techniques, planning meetings and conferences, writing and dictating correspondence.
2. Describe the technologies of the modern office such as electronic mail, word processing, information processing, and telecommunications.
3. Perform a mastery of punctuation, grammar, writing skills and indexing skills.

4. Manage records, make travel arrangements, and execute general administrative duties.
5. Define ethics and ethical behavior.
6. Manage the Outlook environment efficiently within a professional business setting.
7. Manage messages in an organized way for productivity.
8. Manage schedules to clearly communicate among professionals.
9. Manage contacts and groups to effectively connect business individuals.

BCIS 2120. Desktop Publishing
3 Credits (3)
This course utilizes a variety of software packages to produce reports, brochures, advertisements, correspondence and newsletters. Various software packages are used such as Microsoft Office Publisher® and Adobe® InDesign CS Suite.
Prerequisite: BCIS 1110.
Learning Outcomes
1. Effectively utilize the features of Microsoft Publisher, such as create, open, edit, save, view and print a publication.
2. Design and create top quality publications using templates, color schemes, text and graphics suitable for academic professional, and personal use.
3. Merge publications while working with advanced formatting.
4. Produce publications using design techniques, font schemes, object manipulation, and layout guides.

BCIS 2130. Web Design
3 Credits (3)
Design and create a website using HTML, CSS, web development tools and industry-recognized software while applying best practices in site management and business web presence.
Learning Outcomes
1. Students will identify and apply best practices for web design in a business setting.
2. Students will create a basic web page utilizing WC3 principles.
3. Students will explain the importance and impact of web presence in today's business environment.
4. Students will determine and utilize web page features and techniques for a specific business.
5. Students will create a web design management plan for business.
6. Students will discuss web page tools for performance and web traffic analytics.
7. Students will identify web design components for a mobile society.

BCIS 2221. MS Word®II
3 Credits (2+2P)
This course provides an in-depth study of MS Word software. Students will learn how to create professional business documents, templates, customize themes, mail merge, and reports with citations and references.
Prerequisite: OTEC 1101 or keyboarding proficiency.
Learning Outcomes
1. Create, edit, format, and save Word documents.
2. Create reports using chosen reference style which includes citations and bibliography.
3. Create a multiple-page report with tables, footnotes, and endnotes.
4. Create a professional newsletter, which includes inserting section breaks, formatting columns, inserting symbols, and distinguishing between online and inline objects.
5. Create and change templates.
6. Create, apply, and customize document themes.
7. Create, apply, and customize styles.
8. Create and edit documents using mail merge with data sources and main documents.

BCIS 2310. Spreadsheets and Data Analysis
3 Credits (3)
Evaluation of and advanced applications of electronic spreadsheets. Basic concepts of business statistics, data analysis, and management science integrated in a contemporary spreadsheet environment. Emphasizes practical applications and business decision making.
Prerequisite: BCIS 1110.
Learning Outcomes
1. Develop and work with professional-looking worksheets.
2. Integrate Microsoft Excel®® with other Microsoft programs.
3. Work with multiple worksheets and workbooks.
4. Perform what-if analyses.
5. Enhance Microsoft Excel®® with Visual Basic®.
6. Use Microsoft Excel® to perform statistical analyses.

BFIN-BUSINESS FINANCE

BFIN 2110. Introduction to Finance
3 Credits (3)
Introduces tools and techniques of financial management. Includes time value of money; financial planning, diversification and risk; debt and equity investment decisions; and financial statement analysis.
Prerequisite(s): OATS 106 or higher; OATS 120 or ACCT 2110; ECON 1110G or ECON 2110G.
Learning Outcomes
1. Explain the time value of money and its application in decision-making, including calculating present and future values of single payment and series of payments.
2. Identify the major sources of external long-term financing for corporations.
3. Explain risk-return tradeoff as it relates to diversification.
4. Differentiate the role of finance from other related disciplines such as accounting and economics.
5. Demonstrate knowledge of capital markets and securities (debt and equity).
6. Describe basic types of financial ratios and their uses.
7. Demonstrate the ability to prepare cash flows and make qualitative judgments on the relevance of the changes from one time frame to another.

BIOL-BIOLOGY (BIOL)

BIOL 1120G. Human Biology
3 Credits (3)
This course is an introduction to modern biological concepts with an emphasis on the relevance to humans and their relationships with the environment.
Learning Outcomes
1. Explain that biology is a scientific discipline based on observations and experimentations.
2. Explain the process of scientific inquiry and explain how scientific knowledge is discovered and validated.

3. Describe the chemical basis of living organisms and how biomolecules contribute to the structure and function of cells.
4. Develop a basic familiarity with cells and cell organelles.
5. Describe the structure and function of DNA as well as how DNA is used in the production of proteins
6. Describe the basic principles of genetics and heredity leading to human diversity.
7. Identify the major features of the systems in the human body, and understand the anatomy and physiology of them
8. Describe the roles of the organ systems in maintaining homeostasis
9. Explain the principles of evolution by means of natural selection explaining the diversity of life. 1
10. Describe how science and technology have impacted life in particular to society and the environment (e.g. medicine, forensic science, agriculture, ecology, sustainability).

BIOL 1120L. Human Biology Laboratory
1 Credit (3P)
This course introduces exercises, experiences, and activities exploring biological concepts and theories relevant to humans and their relationship to the environment in a laboratory setting.
Prerequisite(s)/Corequisite(s): BIOL 1120G.
Learning Outcomes
1. Understand general principles of cell structure and function.
2. Understand general principles of genetics.
3. Understand basic human anatomy and physiology.
4. Communicate scientific information effectively.
5. Demonstrate an understanding of the scientific method.
6. Knowledge of appropriate laboratory skills
7. Apply quantitative reasoning and scientific thinking to real world problems.

BIOL 1130G. Introductory Anatomy & Physiology (non-majors)
4 Credits (3+3P)
This course introduces the anatomy (structure) and physiology (function) of the human body, which includes the study of basic chemistry, molecules, cells, tissues, organs, organ systems, and terminology related to these concepts. May be repeated up to 4 credits. Restricted to Community Colleges campuses
Learning Outcomes
1. (Lecture) Define and explain anatomy and physiology.
2. (Lecture) Use anatomic directional, regional, and sectional terminology related to the human body.
3. (Lecture) Explain and describe the basic chemical principles of the human body including the structure and function of carbohydrates, lipids, proteins and nucleic acids.
4. (Lecture) Develop a basic familiarity with cells and cell organelles that include cell division, DNA replication, and protein synthesis.
5. (Lecture) Describe the structure and function of the major tissues in the human body.
6. (Lecture) Identify and describe the basic anatomical features of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
7. (Lecture) Describe the basic physiological roles of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
8. (Lecture) Apply and describe the principles of homeostasis in the human body.
9. (Laboratory) Use and apply proper anatomic terms 1
10. (Laboratory) Develop skills using the microscope correctly. 1
11. (Laboratory) Identify basic tissue types. 1
12. (Laboratory) Discuss and describe the basic anatomical features of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems. 1
13. (Laboratory) Demonstrate and describe physiological roles of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.

BIOL 1190G. Contemporary Problems in Biology
4 Credits (3+3P)
Fundamental concepts of biology will be presented using examples from relevant problems in ecology, medicine and genetics. For nonscience majors only. Community Colleges only.
Learning Outcomes
1. Identify the unity and diversity of living things
2. Identify the structure and function of cells an biological molecules
3. Recognize and demonstrate patterns of inheritance
4. Describe mechanisms of evolution
5. Describe the human body systems including immune response
6. Discuss population dynamics and ecological systems
7. Describe the process of scientific inquiry, solve problems scientifically, and communicate on a scientific level
8. Apply quantitative analysis and scientific thinking to scientific and real world problems

BIOL 1996. Topics in Biology
1-3 Credits (1-3)
Introductory level coverage of biological topics. May be repeated up to 9 credits.
Learning Outcomes
1. Varies

BIOL 2110G. Principles of Biology: Cellular and Molecular Biology
3 Credits (3)
This course introduces students to major topics in general biology. This courses focuses on the principles of structure and function of living things at the molecular, cellular and organismic levels of organization. Major topics included are introduction to the scientific process, chemistry of cells, organization of cells, cellular respiration, photosynthesis, cell division, DNA replication, transcription, and translation. Must be taken with BIOL 2110L to meet general education requirements. May be repeated up to 3 credits.
Prerequisite/Corequisite: a C- or better in MATH 1215 or higher and a C- or better in (CHEM 1120G or CHEM 1215G or CHEM 1216).
Learning Outcomes
1. Apply the scientific method to develop and evaluate hypotheses and propose an experiment to test a scientific hypothesis related to cell biology and molecular biology.
2. Describe the distinguishing characteristics of various biological molecules (water, carbohydrates, lipids, proteins, and nucleic acids).
3. Compare and contrast the basic features of cells and how prokaryotic cells differ from eukaryotic cells.
4. Understand how organisms maintain homeostasis in a dynamic environment.
5. Describe how biological molecules are acquired and how they are subsequently used to meet the metabolic needs of organisms.

6. Describe membrane structure and function.
7. Describe and analyze the nature of bioenergetic transformations and metabolism within the cell.
8. Describe the processes of cellular respiration and photosynthesis.
9. Analyze with specific detail the processes of DNA replication, transcription, and translation. 1
10. Analyze with specific detail the types, mechanisms, and regulation of cellular division. 1
11. Assess important applications of cell and molecular biology to energy use, medicine, and other day-to-day processes.

BIOL 2110L. Principles of Biology: Cellular and Molecular Biology Laboratory
1 Credit (3P)
This course introduces students to major topics in general biology. This courses focuses on the principles of structure and function of living things at the molecular, cellular and organismic levels of organization. Major topics included are introduction to the scientific process, chemistry of cells, organization of cells, cellular respiration, photosynthesis, cell division, genetics, DNA replication, transcription, and translation. May be repeated up to 1 credit.
Prerequisite: MATH 1215 or higher, and a C- or better in (CHEM 1120G or CHEM 1215G or CHEM 1216).
Prerequisite/Corequisite: BIOL 2110G.
Learning Outcomes
1. Describe and apply the scientific method to solve problems in biological context
2. Demonstrate knowledge of laboratory safety skills and procedures.
3. Practice principles of scientific method while conducting laboratory activities and experiments.
4. Perform laboratory activities using relevant laboratory equipment, chemical reagents, and supplies to observe biological specimens, to measure variables, and to design and conduct experiments.
5. Operate light microscopes, prepare wet mount slides, and use stains.
6. Exhibit ability to use pipettes and other volumetric measuring devices, chemical glassware, balances, pH meters or test papers, spectrophotometers, and separation techniques, such as chromatography and/or electrophoresis to perform activities relevant to other course competencies.
7. Analyze and report data generated during laboratory activities and experiments.

BIOL 2210. Human Anatomy and Physiology I for the Health Sciences
4 Credits (3+3P)
This course is the first of two that serve as an introduction to human anatomy and physiology for biology majors and allied health students. The course entails describing, explaining, and analyzing structure and function from the submicroscopic to the organismal level with emphasis on anatomic, directional, and sectional terminology, basic cellular structure and metabolism, tissue differentiation and characteristics, and organ system structure and function; Specifically the integumentary, skeletal, muscular, and nervous systems. Restricted to: Community Colleges only.
Learning Outcomes
1. Describe and apply anatomical terminology.
2. Describe multi cellular organization.
3. Distinguish and describe major tissue types.
4. Describe the structure and function of the integumentary system.
5. Describe the structure and function of the skeletal system.
6. Describe the structure and function of the muscular system.
7. Describe the structure and function of the nervous system.
8. Describe the structure and function of the special senses.
9. Define homeostasis and describe specific examples for the integumentary, skeletal, muscular, and nervous systems.

BIOL 2225. Human Anatomy and Physiology II
4 Credits (3+3P)
This course is the second of two that serve as an introduction to human anatomy and physiology for biology majors and allied health students. The course entails describing, explaining, and analyzing structure and function from the submicroscopic to the organismal level with emphasis on specific cellular, tissue, and organ structure and physiology, and organ system structure and function; specifically the endocrine, cardiovascular, respiratory, urinary, and reproductive systems. Additionally, an analysis of these concepts is included: fluid and electrolyte balance, pregnancy, growth and development from zygote to newborn, and heredity. Restricted to: Community Colleges only. May be repeated up to 4 credits.
Prerequisite: BIOL 2210.
Learning Outcomes
1. Identify and describe the major anatomical features of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.
2. Analyze the physiological roles of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems in maintaining homeostasis in the human body.
3. Explain how fluid and electrolyte balance is maintained in the human body.
4. Compare and contrast the anatomy and physiology of male and female reproductive systems.
5. Describe pregnancy from conception to parturition including human growth and development from zygote to newborn.
6. Explain heredity and genetic control.

BIOL 2310. Microbiology
3 Credits (3P)
Introduction to the basic principles of microbiology, microbial pathogenesis, host defenses and infectious diseases. The course will emphasize concepts related to the structure and function of microorganisms, including their mechanisms of metabolism and growth. Host parasite interactions will also be emphasized, including mechanisms of microbial pathogenesis and mechanisms of host defenses against infectious diseases. Restricted to Community Colleges campuses only.
Prerequisite(s): CHEM 1120G or CHEM 1215G or CHEM 1225G.
Corequisite(s): BIOL 2310L.
Learning Outcomes
1. Describe and compare the structure and function of prokaryotic and eukaryotic cells.
2. Describe and compare the techniques used for staining of and microscopic observation of bacteria including morphology.
3. Describe the nutritional requirements for bacterial growth and the impact of environmental factors on bacterial growth (temperature, pH, oxygen, etc.).
4. Describe and compare the mechanisms of aerobic respiration, anaerobic respiration, and fermentative metabolism.
5. Describe the mechanism of bacterial growth by binary fission, and laboratory methods used for observing and measuring bacterial growth.

6. Describe the mechanisms of bacterial DNA replication, RNA transcription, and translation, and compare and contrast witheukaryotic cells.
7. Describe the structure and replication strategies of viruses.
8. Describe and contrast mechanisms of innate nonspecific immunity and adaptive specific immunity.
9. Describe immune hypersensitivity reactions, autoimmune diseases, and immunodeficiency diseases. 1
10. Differentiate between host microberelationships, mechanisms of microbial pathogenesis, differentiate between communicable and noncommunicable diseases and describe mechanisms of direct and indirect transmission of communicable diseases.

BIOL 2310L. Microbiology Lab
1 Credit (3P)
This course will emphasize both the theory and hands-on application of techniques used in a microbiology laboratory for the growth and identification of bacterial species. Students will learn microscopy skills and staining techniques for the observation of bacteria. Students will also learn aseptic techniques used for isolation of bacteria, inoculation of cultures, and interpretation of selective and differential growth media for the identification of bacterial species.
Prerequisite: BIOL 2310 or BIOL 2320 or concurrent enrollment.
Learning Outcomes
1. Demonstrate skills of microscopy.
2. Demonstrate skills of bacterial staining.
3. Demonstrate aseptic technique for inoculation of bacterial growth media.
4. Interpret results from selective and differential media.
5. Demonstrate appropriate use of diagnostic reagents.
6. Interpret results of diagnostic assays.
7. Identify unknown bacterial species through the use of a dichotomous key, inoculation and interpretation of laboratory assays, and application of the scientific method.

BIOL 2320. Public Health Microbiology
3 Credits (3)
This course introduces microbiology on the health profession level. It incorporates cell structure, metabolism, growth, controls of growth, infectious epidemiology, etiology, pathogenicity, and relative virulence of pathogens. It will lead to students assessing a clinical infection scenario from the microbiological perspective that includes making diagnoses based on data from appropriate diagnostic tests, investigating appropriate treatment options, and making recommendations for prevention.
Prerequisite: BIOL 2110G and BIOL 2110L.
Learning Outcomes
1. Identify key physical features of various infectious agents and describe their structure and function in the pathogen
2. Describe the microbiological, serological, biochemical and genetic tests that are used to identify infectious agents in a laboratory setting and be able to interpret test results in order to identify the pathogen
3. Explain how structural and metabolic differences between infectious agents and human host can be exploited for chemotherapy
4. Explain the observed effect of a particular environmental change on the growth of a given microorganism, and the relationship between bacterial growth patterns and selected foodborne illnesses
5. Describe several mechanisms by which pathogens generate genetic diversity and the role genetic diversity plays in resistance to therapy and treatment failure
6. Explain the role of innate, and adaptive immunity in host defense
7. Describe general virulence strategies used by variety of pathogens, and different types of vaccines along with recommendations for vaccinations of specific populations
8. Demonstrate understanding of signs and symptoms of selected diseases, and be able to relate disease agents with environmental reservoirs and transmission

BIOL 2505. Pathophysiology
3 Credits (3)
This course is designed to provide the conscientious student with a solid foundation for understanding the pathophysiological processes of the human organism. Successful completion of this course will promote the general student learning outcomes listed below. Corequisite/Prerequisites(s): AHS 154 or BIOL 2225. Restricted to: Community Colleges only.
Prerequisite(s): AHS 153 or BIOL 2210.
Learning Outcomes
1. To describe the general concepts of disease processes and factors associated with disease causation.
2. To identify the function of basic cellular structures, determining the process of cellular malfunctions.
3. To describe the response of the body to injury and immunologic challenge.
4. To discuss the etiology, pathogenesis, and treatment modalities of frequently occurring diseases.

BIOL 2511. Human Pathophysiology
3 Credits (3)
The first in a two-course sequence that covers changes in body physiology that result from disease or injury. Includes a general introduction to pathophysiology as well as an overview of altered cellular and tissue biology, injury, inflammation, and neoplasia. Students will also explore deviation from fluid, hemodynamic, and endocrinologic balance. Topics related to the science of pathophysiology, including pathology, pathogenesis, etiology, epidemiology, and clinical manifestations, are also discussed throughout the course where relevant. Grade of C- or higher in microbiology is recommended. Restricted to Community Colleges campuses only.
Prerequisite(s): Grade of C- or higher in BIOL 2210 and BIOL 2225.
Learning Outcomes
1. The cellular adaptations occurring in atrophy, hypertrophy, hyperplasia, dysplasia, and metaplasia; the types and causes of cellular injury; and the types of necrosis.
2. The different compartments for body fluids; the factors that affect water movement; the processes that drive and affect capillary exchange; the mechanisms causing edema; the electrolytes in body compartments; the various electrolyte imbalances; the body mechanisms that maintain acid-base balance; and the various acid-base imbalances and how they are compensated for .
3. The interrelationships of DNA, RNA, and proteins; the various types of mutations; the various types of mutagens, the various types of numerical and structural chromosomal aberrations; the various genetic terms; the single-gene disorders discussed in class; the multifactorial disorders discussed in class.
4. The relationships between genes, environment, and multifactorial diseases; the criteria used to define multifactorial disease; the

characteristics of multifactorial traits; and the various features of the threshold model.

5. The terms related to tumor/cancer biology, classification, and nomenclature; the various features of cancer biology, including the characteristics of cancer and the genetic basis of cancer; features related to cancer invasion and metastasis; and the clinical manifestations and treatments of cancer.
6. Features related to Innate and adaptive immunity; features related to the first, second, and third lines of defense; the mechanisms and manifestations of inflammation; components/mechanisms related to the complement, clotting, and kinin systems; mechanisms of wound healing; and features of dysfunctional wound healing.
7. Aspects/mechanisms of specific (adaptive) immunity, features related to the structure, function, and classification of immunoglobulins; features related to haptens, antigens, immunogens, and epitopes; the different types of antigens; features related to immunological memory; and features related to the different types of active and passive immunity.
8. Aspects related to allergy, autoimmunity, and alloimmunity; aspects/mechanisms/examples related to the four basic types of hypersensitivity reactions; mechanisms and examples related to autoimmunity; and aspects/mechanisms related to immunodeficiency.
9. The risk factors for infection; the six components of the chain of infection; general concepts, terms, and processes/mechanisms related to basic microbiology; and the mechanisms of microbial pathogenicity. 1
10. General concepts, terms, and processes/mechanisms related to normal hormonal action; mechanisms of hormonal alterations; processes/mechanisms related to the pathophysiology of the various disorders discussed in class; and the clinical manifestations and treatment of the hormonal alterations discussed in class.

BIOL 2512. Human Pathophysiology II
3 Credits (3)

The second in a two-course sequence that covers changes in body physiology that result from disease or injury. This course focuses on the pathophysiology of the nervous, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Topics related to the science of pathophysiology, including pathology, pathogenesis, etiology, epidemiology, and clinical manifestations, are also discussed throughout the course where relevant. Grade of C- or higher in microbiology is recommended. Restricted to Community Colleges campuses only. May be repeated up to 3 credits.

Prerequisite: Grade of C- or higher in BIOL 2210, BIOL 2225, and BIOL 2511.

Learning Outcomes

1. The different types of sensory modalities; the different dysfunctions of the general and special senses; the different pain theories discussed in class; the various aspects of the neuroanatomy and neuromodulation of pain; the various clinical descriptions of pain; the various aspects of temperature regulation; components of the pathogenesis of fever; the various disorders of temperature regulation; the various aspects of sleep disorders; the various components of visual dysfunction; and the various aspects of auditory, gustatory, and olfactory dysfunction.
2. The various alterations in cognitive systems; the various alterations in arousal; the outcomes of alterations in arousal; the various alterations in awareness; the various seizure disorders; the various data processing deficits; various alterations in cerebral hemodynamics; and alterations in neuromotor function.
3. The various disorders of the central and peripheral nervous systems; and the various disorders of the neuromuscular junction.
4. The components of normal blood; the process/stages of hematopoiesis; the various normal RBC laboratory values; the components and functions of the lymphatic system; the various types of imbalances of erythropoiesis; the various types of anemias and their causes; the various types of polycythemia and their causes; the processes related to hemostasis; the various alterations of white blood cells and their causes; and the various alterations of lymphoid and hemostatic function.
5. The various diseases of the veins; the various diseases of the arteries; the various aspects of atherosclerosis; features related to the pathogenesis and consequences of coronary artery disease; the disorders of the heart wall and their consequences; the various aspects of valvular dysfunction; aspects of the pathogenesis and manifestations of rheumatic disease; the causes, pathogenesis, and manifestations of infective endocarditis; the causes, manifestations, and pathophysiology of heart failure; and the various types of shock.
6. The various signs and symptoms of pulmonary disease; the various conditions caused by pulmonary disease/injury; the various disorders of the chest wall and pleura; and the causes, manifestations, and pathophysiology of selected pulmonary disorders.
7. The features and consequences of upper and lower urinary tract obstruction; the various types of urinary tract infection; the causes, pathogenesis, and clinical manifestations of glomerulonephritis; the various features of nephrotic and nephritic syndrome; and the various features (etiology, pathophysiology, and clinical manifestations) of both acute kidney injury and chronic kidney disease.
8. The various clinical manifestations of gastrointestinal dysfunction; the various aspects (etiology, pathophysiology, and clinical manifestations) of disorders of motility; the causes, manifestations, and pathophysiology of gastritis; features related to the causes, manifestations, and pathophysiology of peptic ulcer disease; features related to the etiology, pathogenesis and pathophysiology of selected malabsorption syndromes, inflammatory bowel diseases, diverticular disease of the colon, appendicitis, and irritable bowel syndrome; the various types of vascular insufficiency; the various disorders of nutrition and their causes and clinical manifestations; and the various disorders of the accessory organs of digestion.
9. The various features associated with alterations of sexual maturity (delayed puberty and precocious puberty); features related to the etiology, pathogenesis, and pathophysiology of the various disorders of the male reproductive system, including disorders of the urethra, disorders of the penis, disorders of the scrotum, disorders of the testes, disorders of the epididymis, disorders of the prostate gland, and disorders of the male breast; features related to the etiology, pathogenesis, and pathophysiology of male sexual dysfunction; features associated with abnormalities of reproductive tract development; the various hormonal and menstrual alterations and their causes and clinical manifestations; the various conditions related to infection, inflammation, and pelvic organ prolapse (uterine prolapse, cystocele, rectocele, and enterocele); conditions involving benign growths and cancer (endometriosis, cervical cancer, vaginal cancer, vulvar cancer, endometrial cancer, uterine sarcoma, and ovarian cancer); features related to the etiology, pathogenesis, and pathophysiology of female sexual dysfunction (disorders of desire, vaginismus, anorgasmia, and dyspareunia); features related to

infertility; and features related to the etiology, pathogenesis, and pathophysiology of breast cancer.

BIOL 2610G. Principles of Biology: Biodiversity, Ecology, and Evolution
3 Credits (3)
This course is an introduction to the dynamic processes of living things. Major topics include the mechanisms of evolution, biological diversity, Mendelian genetics, and ecology.
Prerequisite/Corequisite: grade of C- or better in MATH 1215 or higher, or a Math Placement Exam score adequate to enroll in mathematics courses beyond MATH 1215.
Learning Outcomes
1. Understand the scientific method and apply it to biological topics of genetics, evolution, ecology, and biodiversity.
2. Apply quantitative reasoning and scientific thinking to real world problems.
3. Identify and describe the basic principles of evolution.
4. Analyze the relationships between the genetics of populations and evolution.
5. Analyze the processes of speciation.
6. Describe how the hierarchical classification scheme is used to categorize organisms.
7. Describe how DNA research has modernized bio systematics.
8. Compare and contrast the general characteristics of each of the living domains and kingdoms.
9. Relate the structure of organisms to the way they function. 1
10. Explain how the life histories of organisms are adapted for different environments. 1
11. Relate the complexity of behavior to the overall complexity of an organism. 1
12. Describe the ecological roles played by organisms in each kingdom. 1
13. Compare basic ecological principles at the population and community levels of organization. 1
14. Describe and compare energy relationships and the cycling of materials in ecosystems. 1
15. Identify and describe the basic principles of Mendelian genetics.

BIOL 2610L. Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory
1 Credit (3P)
This laboratory course is an introduction to the dynamic processes of living things. This course introduces students to the methods used in the study of Mendelian genetics, evolution, ecology, and biological diversity. Designed for students continuing in life sciences.
Prerequisite/Corequisite: BIOL 2610G; grade of C- or better in MATH 1215 or higher, or a Math Placement Exam score adequate to enroll in mathematics courses beyond MATH 1215.
Learning Outcomes
1. Describe and apply the scientific method to generate testable hypotheses in evolution and ecology.
2. Design and conduct laboratory experiments using relevant laboratory equipment and methods.
3. Analyze and report data generated during laboratory activities and experiments.
4. Communicate scientific results from experiments in Mendelian genetics, evolution, ecology, and biodiversity.

BIOL 2996. Special Topics
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits. Community Colleges only.
Learning Outcomes
1. Varies

BLAW-BUSINESS LAW (BLAW)

BLAW 2110. Business Law I
3 Credits (3)
Survey of the legal environment of business and common legal principles including: the sources of law, dispute resolution and the U.S. court systems, administrative law, tort law, contract law, agency and employment law, business structure and governance, ethics and corporate social responsibility. Explores sources of liability and presents strategies to minimize legal risk. Offered at all NMSU Community Colleges except Dona Ana Community College. Credit may not be earned in both BLAW 2110 and BLAW 317.
Learning Outcomes
1. Describe the sources of law.
2. Describe and explain dispute resolution and the court systems in the United States.
3. Describe the concepts of negligence, intentional torts and strict liability.
4. Describe and apply the essential aspects of contracts from creation, performance, breach and remedies, including basic contract law from Article 2 of the Uniform Commercial Code.
5. Explain the concept of ethics.

BLED-BILINGUAL EDUCATION

BLED 1110. Introduction in Bilingual Education/ESL
3 Credits
An overview of the American Education system with emphasis on organization, governance, law, demographics, and professional practice. Will include supervised experience in bilingual education/ESL elementary settings for prospective bilingual education/ESL teachers.
Learning Outcomes
1. Complete 24 hours field observations in a classroom.
2. Articulate the attributes of an education professional entering the field.
3. Construct an individualized map to teacher licensure in the State of New Mexico.
4. Differentiate and summarize the major educational philosophies and historical events that have influenced the progression of educational practice.

BLED 2110. Bilingual Methods
3 Credits (3)
This course provides a historical overview of bilingual and ESL education including an emphasis on present trends and practices. Discussions of the aspects of bilingualism at both an individual and a societal level are included. May be repeated up to 3 credits.
Learning Outcomes
1. (Culture) Develops awareness in the learner of the value of cultural diversity.
2. (Culture) Prepares and assists students to interact successfully in cross cultural settings.
3. (Culture) Recognizes and accepts different patterns of child development within and between cultures in order to formulate realistic instructional strategies.

4. (Culture) Recognizes the similarities and differences between mainstream American and other cultures and the potential conflicts and opportunities they may create for students.
5. (Culture) Demonstrates knowledge of the effects of culture and socio-economic variables in learning styles.
6. (English Language Development) Demonstrates knowledge of the basic nature of language, language acquisition, language variation, language change, and the relation of language to society and culture.
7. (English Language Development) Demonstrates knowledge of the nature of bilingualism and the process of becoming bilingual.
8. (Instructional Methodology) Demonstrates knowledge of the historical, legal, theoretical, and sociological foundations of programs of instruction for second language learners.
9. (Instructional Methodology) Demonstrates knowledge of theories of first and second language acquisition. 1
10. (Instructional Methodology) Utilizes teaching methods appropriate to various age and language groups.

BMGT-BUSINESS MANAGEMENT (BMGT)

BMGT 112. Banks and Your Money
3 Credits (3)
Banking in today's economy: language and documents of banking, check processing, teller functions, deposit function, trust services, bank bookkeeping, loans, and investments.
Learning Outcomes
1. Define and explain the importance of full-service commercial banking.
2. Explain the impacts of the banking industry on the economy, the community, and individuals.
3. Describe the major functions of commercial banks and their interrelationships.
4. List and describe the major products and services provided by commercial banks.
5. Contrast the differences and similarities between time and demand deposits.
6. Describe the process and rationale behind issuing credit and loans.
7. Discuss the importance, necessity and process of bank investments.
8. Explain the concept of liquidity and its importance to the banking industry.
9. Identify and describe the duties of the various bank regulating agencies and the major regulations they enforce. 1
10. Describe the history and growth of the banking industry in the United States. 1
11. Explain the functions and importance of the Federal Reserve System.

BMGT 126. Retail Management
3 Credits (3)
Phases of retailing, including types of retail outlets and basic problems of organizing and operating a retail store. Restricted to: Community Colleges only.
Learning Outcomes
1. Define retailing in its various perspectives and note its special characteristics.
2. Explain the steps in strategic planning for retailers.
3. Describe consumer demographics, lifestyle factors, needs and desires.
4. Examine consumer attitudes toward shopping and consumer shopping behavior, including the consumer decision process and its stages.
5. Explore the methods used by manufacturers, wholesalers, and retailers to exert influence in the distribution channel.
6. Describe the wheel of retailing, scrambled merchandising and the retail life cycle and retail strategy mixes.
7. Examine consumer attitudes toward shopping and consumer shopping behavior, including the consumer decision process and its stages.
8. Create a merchandise plan, which uses forecasting, assortments, brands, timing and allocation.

BMGT 132. Principles of Selling
3 Credits (3)
Analysis of customer behavior, persuasive communication, process of the sales interview. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Define selling, consider it from various perspectives; demonstrate its impact, and its special characteristics.
2. Explain the steps within the selling process.
3. Demonstrate how the steps in the selling process interact within one another in a logical, seamless flow.
4. Examine ethics in personal selling.
5. Demonstrate the creativity and innovation that any successful salesperson uses to overcome challenges by employing new ideas to sell their products.
6. Students will identify and understand their core personality style to enhance their communication skills.
7. Incorporate sales communication and techniques into a job interview.

BMGT 136. Forecasting Business Activity
3 Credits (3)
Course covers the important elements of forecasting all types of business activities including inventory control, revenue forecasts, staffing, and other industry specific activities using metrics and data analysis processes. Restricted to Community Colleges campuses only.
Prerequisite: BUSA 1110.
Learning Outcomes
1. Define integrity and understand its importance to small business and explain how it applies to various stakeholders.
2. Distinguish among the different types and sources of startup ideas.
3. Understand the pros and cons of franchising.
4. Describe the purpose and content of an income statement and balance sheet.
5. Designate the purpose of financial forecasting.
6. Diagnose a pro forma income statement to forecast a new ventures profitability.
7. Realize the concepts of forecasting a firm’s cash flows.
8. Identify various scenarios for effective financial forecasting.
9. Evaluate the choice between debt and equity financing. 1
10. Comprehend how technology can be used to improve customer relationships. 1
11. Explain how the internet and social media are changing promotional and communication practices. 1
12. Discuss the key financial issues in managing a firm’s inventory.

BMGT 138. Advertising
3 Credits (3)
Psychological approach to non-personal consumer persuasion; applied techniques in media selection, layout mechanics, production methods, and campaign structures. Restricted to: Community Colleges only. May be repeated up to 3 credits.

Learning Outcomes

1. Define advertising and the relevant application of psychology in delivering the message.
2. Explain the importance of various advertising media in the marketing mix.
3. Identify and explain the social, ethical and legal issues advertisers must consider.
4. Describe the significance of the marketing function in business.
5. Explain the importance of advertising and other marketing communication tools.
6. Demonstrate application of the planning process as it applies to marketing and advertising.
7. Describe the factors that are weighed when considering the use of radio and television in the creative advertising mix.
8. Describe the relationship between market segment, consumer behavior and selection of advertising campaign types.
9. List the alternative means of reaching a target market and the technical challenges of each.

BMGT 140. Principles of Supervision I
3 Credits (3)
Principles of supervision emphasizing planning, organization, rating of employees and procedures to develop good morale. Introduction to interpretation of case studies. Restricted to: Community Colleges only.

Learning Outcomes

1. Identify the elements that are necessary to be a successful supervisor in today's workforce.
2. Discuss how globalization affects supervisors in today's diverse labor force.
3. Explain the concepts of the learning organization and Continuous Quality Improvement and how their concepts influence organizational design and the management of employees.
4. Examine employee benefits and the applicable federal laws which affect the individual and the organization, and discuss their impact on both.
5. Identify and explain the decision-making process for a supervisory position.
6. Describe the value and impact of employee motivation for both the organization and the supervisor.
7. Recognize and define effective leadership styles and skills.
8. Review the importance of communication in the workplace, give examples of communication techniques and describe techniques for overcoming communication barriers.
9. Define and analyze essential supervisory skills including: team cohesiveness, human relations, decision making skills, planning and goal setting. 1
10. Summarize the importance of high ethical standards within the organization and for the employee.

BMGT 150. Income Taxation
3 Credits (3)
Federal income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates with particular reference to CLU, life insurance and annuities. Restricted to: Community Colleges only.

BMGT 155. Special Topics I
1-3 Credits (1-3)
Introductory special topics of lower division level work that provides a variety of timely subjects and content material. May be repeated up to 9 credits. Restricted to Community Colleges campuses only.

BMGT 160. Self-Presentation and Etiquette
3 Credits (3)
Introduction to business etiquette based on tradition, social expectations, and professional behavior standards. Restricted to: Community Colleges only.

BMGT 201. Work Readiness and Preparation
3 Credits (3)
Instruction in methods of selection, seeking, acquiring and retaining employment. Addresses work success skills, business etiquette, employer expectation and workplace norms. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Catalog personal and professional information that will aid in career planning and job search processes.
2. Develop methods of establishing short- and long-term career goals.
3. Recognize the strengths of various kinds of resumes and how they are used based on one's career status and type of job being sought.
4. Explain the importance of good communication and work etiquette in job success.
5. Demonstrate how to create a professional image to increase job search success.
6. Explore career management opportunities and practices.
7. Demonstrate successful interview techniques.
8. Compare and contrast employee and employer expectations.
9. Discuss ethical and appropriate work practices. 1
10. Prepare a job specific resume, cover letter, and follow up/thank you letter which are professional and appropriate.

BMGT 205. Customer Service in Business
3 Credits (3)
Establishes concepts of service quality in relationship to business success and maximization of returns to the organization. Explores techniques for delivering quality and service in a variety of business settings. Restricted to: Community Colleges only.

Learning Outcomes

1. Identify customer service and aspects of exceptional customer service.
2. Describe the elements of communication in customer service.
3. Explain professionalism in customer service.
4. Evaluate methods of resolving complaints from customers.
5. Describe the differences and influences of customers with disabilities, generational groups, and culturally diverse backgrounds.
6. Describe the purpose and use of voice and virtual technologies.
7. Explain the role of customer service management in providing quality service.

BMGT 208. Business Ethics
3 Credits (3)
The course examines the underlying dimensions of ethics in business, investigating ethics in relationship to the organization, the stakeholders,

and society. Exploration of ethical issues from a historical context, analyzing actual events through the lens of business decision making, including legal/political, sociocultural, economic, and environmental considerations will be undertaken. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Identify and reflect on the foundation of personal morals.
2. Compare and contrast the various ethical philosophies that impact personal and business decisions.
3. Describe the concepts of justice and economic distribution and apply to a real-world scenario.
4. Explain capitalism and how ethics relate to that economic system.
5. Illustrate ethical responsibilities through the lens of the corporation and apply to a real-world scenario.
6. Define and appraise the impact of ethical decisions on the consumer.
7. Explain environmental ethics through a business perspective and apply to a real-world scenario.
8. Analyze ethical and moral issues and decisions facing employers and employees through real world scenarios.

BMGT 216. Business Math
3 Credits (3)

Application of basic mathematical procedures to business situations, including percentage formula applications, markup, statement analysis, simple and compound interest, and annuities. Restricted to: Community Colleges only.

Prerequisite(s): CCDM 103 N or satisfactory math score on ACT.

BMGT 221. Internship I
1,3 Credits (1,3)

Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and instructor. May be repeated up to 3 credits.

Learning Outcomes

1. Define and explain the purpose, expectations, and professional standards associated with the internship experience.
2. Demonstrate the ability to apply theoretical knowledge and practical skills acquired in the classroom to real-world situations within the internship setting.
3. Assess personal strengths, weaknesses, and areas for improvement based on feedback received from internship supervisors, self-reflection, and peer evaluations.
4. Collaborate effectively with colleagues, supervisors, and clients in the internship setting, demonstrating strong communication, teamwork, and problem-solving skills.
5. Evaluate the overall internship experience and its impact on personal and professional development, and identify areas for future growth and learning in the chosen field of study.

BMGT 232. Personal Finance
3 Credits (3)

Budgeting, saving, credit, installment buying, insurance, buying vs. renting a home, income tax statement preparation, investment, and estate disposal through will and trust. Restricted to: Community Colleges only.

Learning Outcomes

1. Explain the time value of money.
2. Explain the importance and relevance of financial planning.
3. Demonstrate development of a financial plan.
4. Explain the concepts of cash flow and use of capital.
5. Describe credit and the use of credit to attain wealth.
6. Demonstrate a variety of investment techniques and vehicles.
7. Explain the importance of estate planning.
8. List the functions and uses of insurance.

BMGT 236. Small Business Start-Up
3 Credits (3)

Starting a small business is a complex endeavor that requires specialized knowledge. This course prepares students to take the first step in business ownership and operations. Restricted to Community Colleges campuses

Learning Outcomes

1. Identify the unique challenges of starting a small business.
2. Identify opportunities to start up a business and conduct a needs analysis.
3. Develop value proposition/market fit for proposed products and services.
4. Develop an appropriate business model.
5. Identify the availability of necessary resources.

BMGT 237. Managing Small Businesses
3 Credits (3)

Managing a small business requires the owner/operator to be proficient in a number of skills and technical areas. This course provides small business owners/operators with the training and essential knowledge to manage a small business. Restricted to Community Colleges campuses.

Learning Outcomes

1. Identify the strengths and weaknesses of small businesses.
2. Define entrepreneurship and identifying its traits.
3. Demonstrate a capability to explore and research business opportunities.
4. Explain how to plan to start a new business, identifying legal structures, financing options, and organizing a management team.
5. Identify and analyze financial statements.
6. Review the importance of management information systems.
7. Identify their own managerial leadership style.
8. Review purchasing and inventories, taxation and insurance.
9. Describe the process of writing a business plan.

BMGT 250. Diversity in the Workplace
3 Credits (3)

Concepts of culture, diversity, prejudice, and discrimination within the domestic workforce/society. Restricted to Community Colleges campuses only.

Prerequisite: BUSA 1110.

Learning Outcomes

1. Students will identify and evaluate tools useful for exploring their own identity.
2. Students will analyze and evaluate the connections they have with individuals from different backgrounds.
3. Students will analyze and evaluate concepts of culture, prejudice, and discrimination.
4. Students will demonstrate the ability to analyze, evaluate, and apply inclusive strategies to work effectively within a diverse workforce.

BMGT 272. E-Commerce Operations
3 Credits (3)

Includes the many forms of e-commerce and emerging technologies that will impact the business of tomorrow. Restricted to Community Colleges campuses only.
Prerequisite(s): OECS 105 or BCIS 1110.

BMGT 280. Introduction to Human Resources
3 Credits (3)
Personnel functions encompassing job analysis, recruitment, selection, training, appraisals, discipline, and terminations. Prerequisite(S): BUSA 1110 or B A 104. Restricted to Community Colleges campuses only.

BMGT 282. Introduction to International Business Management
3 Credits (3)
Overview of the social, economic and cultural environment of international business transactions. Restricted to Community Colleges only.
Prerequisite(s): BUSA 1110.

BMGT 286. Introduction to Logistics
3 Credits (3)
Overview on the planning, organizing, and controlling of transportation, inventory maintenance, order processing, purchasing, warehousing, materials, handling, packaging, customer service standards, and product scheduling. Restricted to: Community Colleges only.

BMGT 287. Introduction to Export/Import
3 Credits (3)
Procedures and documentation for exporting and importing products. Emphasis on NAFTA regulations and other U.S. border operations crossings. Restricted to Community Colleges only.
Prerequisite(s): BUSA 1110.

BMGT 290. Applied Business Capstone
3 Credits (3)
Refines skills and validates courses taken in BMGT program. Business simulations, case studies and projects used to test and improve business practices. Student must be within 25 credits of graduation. Restricted to: BMGT majors. Restricted to Community Colleges campuses only.
Prerequisite: BUSA 1110, and (BMGT 140 or MGMT 2110), and (BUSA 2230G or SOCI 1110G or PSYC 1110G).
Learning Outcomes
1. Plan, design, and create a real world project related to their field of study.
2. Participate in job shadowing in positions related to their field of study.
3. Create a portfolio in preparation for career applications.
4. Collaborate as a member of a team in their field of study.
5. Identify and use ethical decision-making in working on individual projects, job shadowing, and a team.

BMGT 298. Independent Study
3 Credits (3)
Individual studies directed by consenting faculty with prior approval of department chair. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): Sophomore standing with 3.0 GPA.

BUSA-BUSINESS ADMINISTRATION

BUSA 1110. Intro to Business
3 Credits (3)
Fundamental concepts and terminology of business including areas such as management, marketing, accounting, economics, personnel, and finance; and the global environment in which they operate.
Learning Outcomes
1. Explain how business and entrepreneurship affect the quality of life and the world around us.
2. Explain the characteristics of the different forms of business ownership.
3. Perform basic stakeholder analysis concerning accountability, ethics and social responsibility of business.
4. Demonstrate knowledge of the various dimensions of the business environment including political and legal, socio-cultural, environmental, diversity, economic, technological, and global.
5. Describe the purpose and functions of finance, operations, marketing, management, accounting, and information systems.
6. Demonstrate basic skills such as use of common business terminology, information search skills, presentation and writing skills, and team skills.
7. Describe the purpose and content of a business plan.

BUSA 1115. Business English I
3 Credits (3)
This course focuses on the skill development with an emphasis on correct grammar, punctuation, sentence structure, vocabulary, preparation of business letters and reports, and on presenting information in a logical, forceful and acceptable form.
Learning Outcomes
1. Identify basic parts of speech.
2. Use nouns, pronouns, verbs, prepositions, and conjunctions correctly.
3. Use subject/verb agreement principles correctly.
4. Demonstrate proper use of phrases and clauses and compose simple, compound, complex, and compound/complex sentence structures.
5. Demonstrate proper use of commas, semicolons and colons correctly in sentences and paragraphs.
6. Demonstrate proper grammatical usage for effective spoken and written English, in the business environment.
7. Develop coherent sentences and paragraphs using transitions, pronouns, and repetition of key words.
8. Utilize English skills in proofreading, editing, and writing business documents and various forms of communication such as emails, text messages, letters, reports, etc.

BUSA 1180. Business Mathematics
3 Credits (2+2P)
Applies basic mathematical operations to business and accounting applications.
Prerequisite: CCDM 103 N or adequate score on math placement exam.
Learning Outcomes
1. Select and interpret relevant information in narrative problems to solve a given business situation.
2. Choose appropriate formulas to solve quantitative business-related problems.
3. Use formulas accurately to solve quantitative business-related problems.

BUSA 1210. Records Management
3 Credits (3)
Principles, methods and procedures for the selection, operation and control of manual and automated records systems.
Learning Outcomes
1. Recognize Records Control and Management systems.
2. Utilize vocabulary pertaining to records management.

3. Recognize the importance of using organized, efficient records management systems.
4. Recognize various kinds of filing equipment and supplies (paper and electronic).
5. Apply ARMA (Association for Records Managers and Administrators) rules in alphabetic card and correspondence filing exercises.
6. Apply procedures for maintaining and controlling records including: requisitioning, charging-out, returning, and reserving files.
7. Discuss records retention cycle including: control procedures for transferring, storing, and destruction of files.
8. Recognize the use of color as a method for improving efficiency in filing systems.

BUSA 2175. Personal Development
3 Credits (3)
Development of a marketable, employable office systems person, to include interview, voice, manners, and apparel.
Learning Outcomes
1. Plan, compose and create a resume, list of references, letter of application and other job search documents.
2. Research job leads.
3. Prepare for job interviews.
4. Perform self-assessment and self-examination in order to improve soft skills.
5. Develop soft skills to improve employability and job success.

BUSA 2230G. Human Relations in Business
3 Credits (3)
This course is an examination and application of personal and interpersonal competencies and skills needed in a business setting to understand oneself, one's co-workers, employers, and customers.Students will investigate and examine attitudes, behavior, ethical behavior and cultural influences that affect the business environment. It offers structured situations in which interpersonal relationships and communication skills are explored May be repeated up to 3 credits.
Learning Outcomes
1. Identify and describe the relevance and development of human relations theories as they apply to management, interpersonal interactions, leadership, conflict resolution, and other behaviors in the workplace.
2. Critically examine how individual beliefs, values, attitudes, and perceptions of the world are formed and discuss how they affect self-esteem and human interactions in the workplace individually and in formal and informal groups.
3. Recognize differing communication styles and apply effective communication skills to various workplace situations.
4. Examine the interrelationships between self, culture, ethnicity, gender, and personal environment and analyze their effects on the development of individual work behaviors.
5. Articulate the factors that influence the development of communication, self-esteem, motivation, trust, leadership, and conflict resolution skills.
6. Apply knowledge of human behavior and its origins to the analysis of workplace case studies and the development of solutions to workplace dilemmas.
7. Apply ethical decision-making in business situations.

C E-CIVIL ENGINEERING (C E)

C E 109. Computer Drafting Fundamentals
3 Credits (2+2P)
Introduction to principles and fundamentals of drafting using both manual drawing techniques and computer-aided drafting (CAD) applications. Crosslisted with: DRFT 109 and E T 109. May be repeated up to 3 credits.
Learning Outcomes
1. Describe related career options/pathways.
2. Explain and apply common drafting terms, concepts, and conventions.
3. Utilize various AutoCAD commands and Coordinate Entry methods to produce accurate and precise Two-Dimensional drawings.
4. Setup AutoCAD working environment, drawings, styles, and applicable settings.
5. Navigate the AutoCAD user interface efficiently.
6. Apply different drafting methods, strategies, and processes.
7. Utilize AutoCAD to produce basic 2D CAD working drawings.
8. Measure utilizing scales accurately.
9. Create drawings with different scales and units. 1
10. Plot drawings produced in AutoCAD at various scales and on various sheet sizes. 1
11. Utilize the two Drawing Environments: Paper Space and Model Space. 1
12. Manage AutoCAD drawing files.

C E 151. Introduction to Civil Engineering
3 Credits (3)
Problem solving and use of computer software for civil engineering applications. May be repeated up to 3 credits.
Prerequisite/Corequisite: MATH 1220G.
Learning Outcomes
1. Understand the Civil Engineering profession and curriculum.
2. Develop software skills for use in Civil Engineering education and professional practice.
3. Understand and apply the basics of professional and academic ethics.

C E 198. Special Topics
1-3 Credits
Special topics in civil engineering. May be repeated up to 6 credits.
Prerequisite: consent of department head.
Learning Outcomes
1. Students will develop knowledge related to the specific civil engineering special topic selected for study.

C E 233. Mechanics-Statics
3 Credits (3)
Engineering mechanics using vector methods. May be repeated up to 3 credits.
Prerequisite: C- or better grade in MATH 1521G or MATH 1521H, C- or better grade in PHYS 1310G and cumulative GPA of 2.0.
Learning Outcomes
1. Student will be able to apply concepts of equilibrium.

C E 234. Mechanics-Dynamics
3 Credits (3)
Kinematics and dynamic behavior of solid bodies utilizing vector methods. May be repeated up to 3 credits.

Prerequisite: A grade of C- or better grade in the following: C E 233 and PHYS 1310G and MATH 1521G or MATH 1521H.

Learning Outcomes

1. Student will be able to apply concepts of kinematics and accelerated motion.

C E 256. Environmental Engineering and Science
3 Credits (3)
Principles in environmental engineering and science: physical chemical systems and biological processes as applied to pollution control. Crosslisted with: ENVS 2111.
Prerequisite: (C- or better grade in CHEM 1215G) and (C- or better grade in MATH 1511G or ENGR 190).

C E 256 L. Environmental Science Laboratory
1 Credit (1P)
Laboratory experiments associated with the material presented in C E 256. May be repeated up to 1 credit. Same as ENVS 2111L.
Corequisite: C E 256.

Learning Outcomes

1. An understanding of experimental analyses related to environmental science

C E 298. Special Topics
1-3 Credits
Special topics in civil engineering. May be repeated up to 6 credits.
Prerequisite: consent of department head.

Learning Outcomes

1. Students will develop knowledge related to the specific civil engineering special topic selected for study.

CCDE-DEVELOPMENTAL ENGLISH (CCDE)

CCDE 110 N. General Composition
4 Credits (3+2P)
Instruction and practice in preparation for college-level writing. Students will develop and write short essays. Provides laboratory.

Learning Outcomes

1. Recognize and employ reading and writing processes.
2. Employ rhetorical awareness in reading and writing.
3. Compose a variety of texts that demonstrate reading comprehension, clear focus, and logical development of ideas that advance the writer's purpose.
4. Recognize and apply organizational strategies.
5. Locate, evaluate, and integrate appropriate sources including appropriate style guide.
6. Recognize and use conventions of standard American English including usage and mechanics of sentence structure.

CCDM-DEVELOPMENTAL MATHEMATICS (CCDM)

CCDM 100 N. Mathematics Preparation for College Success
1-4 Credits
Mathematics skills course designed for college students with math skills insufficient for success in CCDM 103N. May be repeated for a maximum of 4 credits. RR applicable.

CCDM 103 N. Pre-Algebra
4 Credits (3+2P)
Fundamental mathematics operations and arithmetic computations. Introduction to algebra and applied geometry. Provides laboratory and individualized instruction. RR applicable.

CCDM 105 N. Mathematics Preparation and Pre-Algebra
5 Credits (4+2P)
A total immersion course that combines CCDM 100N and CCDM 103N using tutorials, manipulatives, and classroom instruction. Completion of this class is equivalent to the completion of CCDM 100N and CCDM 103N. Restricted to: Community Colleges only.

CCDM 114 N. Algebra Skills
4 Credits (3+2P)
Fundamental algebra operations: algebraic expressions, solving linear and quadratic equations, factoring, radicals, exponents. Provides laboratory and individualized instruction. Completion of CCDM 114N meets basic skills requirement. Graded: Traditional with RR. Traditional Grading with RR. Restricted to Community Colleges campuses only.
Prerequisite(s): C or better in CCDM 103N or CCDM 105N or adequate placement score.

CCDR-DEVELOPMENTAL READING (CCDR)

CCDR 105 N. Fundamentals of Academic Reading.
3 Credits (2+2P)
Fundamentals of academic reading skills. Emphasis on vocabulary development and text comprehension through literature based instruction. Course earns institutional credit but will not count towards degree requirements. Graded: Traditional with RR. May be repeated up to 3 credits. Traditional Grading with RR. Restricted to Community Colleges campuses only.
Prerequisite(s): Appropriate placement score.

CCDR 110 N. Effective College Reading
3 Credits (2+2P)
Provides a variety of strategies for effective reading and studying at the college level. Emphasis on reading across disciplines. Course earns institutional credit but will not count towards degree requirements. Graded: Traditional with RR. May be repeated up to 3 credits. Traditional Grading with RR. Restricted to Community Colleges campuses only.
Prerequisite(s): Appropriate placement score.

CCDS-DEVELOPMENTAL SKILLS (CCDS)

CCDS 109 N. Study Skills for Reading
1-3 Credits
Individualized reading skill strategies necessary for success in college classroom. May be repeated for a maximum of 3 credits. Graded traditional or S/U.

CCDS 111 N. Study Skills for Math
1-3 Credits
Individualized study skill strategies necessary for success in the math classroom. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.

CCDS 113 N. Study Skills for English
1-3 Credits
Individualized study skill strategies necessary for success in the composition classroom. May be repeated for a maximum of 3 credits.

CCDS 119 N. College Reading and Writing
4 Credits (4)
Instruction and practice in preparation for college-level reading and writing. Students will develop and write essays, work on the writing process, and learn to read and analyze college-level texts. Traditional Grading with RR.
Prerequisite(s): Appropriate placement test score.
Learning Outcomes
1. Practice the reading and writing process through activities such as pre- reading/writing, annotating, drafting, summarizing, peer reviewing, discussing, revising, proofreading, journaling, researching, and citing.
2. Infer and interpret meanings in various texts through activities such as summarizing, annotating, journaling, reflecting, and textual analysis.

CCST-CHICANA/O STUDIES

CCST 2110G. Introduction to Chicana and Chicano Studies
3 Credits (3)
An introductory survey of the Mexican American experience in the United States, with special reference to New Mexico. The course includes exploration of historical, political, social and cultural dimensions. NMSU Specific It seeks to review the historical causes and consequences of the formation of the Chicano identity and to understand its relation to the development of the Chicano experience as a distinct culture. The course explores the social and political impact that Chicana/o thought and theory has had on the United States over time, specifically developing concepts related to identity, community, social movements, and social justice. Ultimately, the course will facilitate understanding the historical ways in which Chicana/os have negotiated the pressures of their surroundings and in the process shaped or redefined American conceptions of identity, race, gender, sexuality, ethnicity, education, protest, and resistance.
Learning Outcomes
1. Apply various transdisciplinary perspectives and processes to understand humanist expressions through a variety of creative productions.
2. Assess and apply social, historical, economic and cultural perspectives as they impact diverse populations over a period of time.
3. Explain the ways in which narratives help people understand one another more clearly and profoundly across ethnic and cultural groups.
4. Design projects that foster and increase a full understanding of a subject in order to promote change in their own and listeners' attitudes, values, beliefs, or behaviors.
5. Apply qualitative and numerical data to explain diverse human actions in an everyday context of life.

CEPY-COUNSELING & EDUCATIONAL PSYCHOLOGY

CEPY 1120G. Human Growth and Behavior
3 Credits (3)
Introduction to the principles of human growth and development throughout the life span. May be repeated up to 3 credits.
Learning Outcomes
1. Students will demonstrate an understanding of the scientific study of processes of change and stability throughout the human lifespan (i.e. Human Development).
2. Students will demonstrate a familiarity with the generally recognized stages of human development from conception to death.
3. Students will be able to demonstrate understanding of the normal and exceptional patterns of human development.
4. Students will be able to demonstrate understanding of recent research development regarding the identified stages of human development as they relate to gender and multicultural issues

CEPY 1150. Career Excellence
1 Credit (1)
Professional career curriculum to assist students in developing an understanding and ability to articulate who they are as emerging professionals through personal assessment activities. The focus will be on providing students with tools and strategies for reflection, planning, and goal-setting.Course does not count toward CEP minor. Spring only course offering. Restricted to College of HEST Majors only.
Learning Outcomes
1. Demonstrate an understanding of the relationship between academic and professional career success.
2. Express a familiarity with professionalism and career culture and communicate a comprehension of various professional career skills.
3. Apply material learned to other aspects to professional excellence.
4. Develop a career life plan that will highlight goals, taking into account life circumstances.
5. Become competent in appropriate professional communication.

CEPY 1160. Academic Excellence
1 Credit (1)
The course is designed to provide you students with a foundation in their personal academic process. The course will assist students in developing an understanding and ability to articulate who they are as beginning college students through personal assessment activities. The focus will be on providing students with tools and strategies for reflection, planning, and goal-setting. Topics discussed will include time management, study skills, test taking skills, stress management, motivational and academic discipline skills, interpersonal skills and college survival skills. We intend for this to be a supportive, respectful and collaborative environment where everyone can learn and grow. Fall only course offering. Restricted to College of HEST majors.
Learning Outcomes
1. Students will be able to demonstrate an understanding of the relationship between time management and academic success.
2. Students will be able to express a familiarity with college culture.
3. Students will be able to communicate a comprehension of study skills and test taking strategies.
4. Students will be able to apply material learned to other aspects to enhance academic excellence.
5. Students will be able to develop an academic life plan that will highlight goals, taking into account life circumstances.
6. Become competent in appropriate academic communication.

CEPY 2110. Learning in the Classroom
3 Credits (3)
This class introduces you to the basic principles of learning, including cognition, motivation, and assessment. You will examine the relationships between theory, research, and practice in learning, memory,

child development, motivation, and educational assessment for the school setting. This course will provide the student with concepts and principles of educational psychology that will form a framework for thinking about learning and instruction and how theories of learning are connected to classroom situations May be repeated up to 3 credits.

Learning Outcomes

1. Define learning and compare and contrast the factors that cognitive, behavioral, and humanistic theories believed to influence the learning process, giving specific examples of how these principles could be used in the classroom.
2. Observe and reflect upon the teaching learning processes in economically, socially, culturally and educationally diverse classroom populations in order to develop a current understanding of students and families in public and private school.
3. Discuss how theories of information processing and cognitive theories of learning can impact memory, study strategies, and how certain teaching techniques can help students learn.
4. Compare teacher-centered and student-centered approaches to learning, and to identify a positive learning environment.
5. Identify various methods to motivate students and create effective learning environments.
6. Use major concepts of child and adolescent development, human learning, and social and cultural influences in planning and implementing classroom instruction, strategies, and management.
7. Evaluate the best means of accommodating instruction to meet individual needs and differences.
8. Students will examine how learning style, cultural and social issues and learning disabilities impact the learner's effectiveness in the classroom setting.
9. Explain different types of assessment used to assess learning and provide examples of effective assessment practices. 1
10. Discuss the relationship between motivation and classroom management

CEPY 2120. The Preschool Child
3 Credits (3)

Survey of psychological development from conception to age five. May be repeated up to 3 credits.

Learning Outcomes

1. Demonstrate an understanding of major theories of early childhood development
2. Demonstrate an understanding of recognized stages of human development from prenatal to preschool years
3. Explore cultural influences that may create variability in human development
4. Apply major theories to themselves and reflect on their early childhood development.

CEPY 2130. Adolescence - School Setting
3 Credits (3)

This course is designed to present the student with an introduction to the area of adolescent development with an emphasis on the positive aspects of this life stage. Students will be encouraged to be reflective on the topics presented in class that will include issues on diversity, culture, health, and well-being, emerging adulthood and suggestions for improving the lives of adolescents. May be repeated up to 3 credits.

Learning Outcomes

1. Students will become knowledgeable about the historical background of adolescent development.
2. Students will become knowledgeable about the major theories related to adolescence.
3. Students will evaluate different developmental theories and their fit across cultures as you reflect on your personal experiences through discussions and videos you will watch.
4. Students will identify key developmental milestones, conflicts, and concepts of each chapter presented by utilizing critical thinking skills as you complete summary questions.
5. Students will define relevant terms, ideas, and concepts in the study of adolescent development through quizzes and homework assignments.

CEPY 2140. Explorations of Counseling & Community Psychology
3 Credits (3)

An introduction and exploration of various career options and functions within the mental health disciplines to aid in professional development. Emphasis will be placed on depth and scope of the choices available including research, teaching, community work, public policy, and clinical work and prevention (e.g. counseling, psychotherapy, assessment, consultation). May be repeated up to 6 credits.

Learning Outcomes

1. Acquire knowledge of historical and contemporary issues which affect the provision of mental health services by members of diverse mental health disciplines including clinical, counseling, school, and community psychologists, clinical mental health counselors, and others.
2. Acquire knowledge pertaining to education and training requirements for various disciplines.
3. Acquire survey-level knowledge of psychological assessment, measurement, and treatment.
4. Acquire survey-level knowledge of various inquiry approaches applicable to research pertaining to mental health and well-being—both at the individual and community level.
5. Understand the mental health recovery model and explore the lived experiences of individuals with mental health problems in contemporary society.
6. Understand the principles of sensitivity and respect for diverse populations as integral to professional practice in diverse mental health disciplines and settings, including practice in educational and community settings.

CEPY 2140H. Exploration of CCP
3 Credits (3)

An exploration of careers, activities, & techniques in counseling, school, and community psychology. Taught with CEPY 2140 with differentiated instruction and/or independent project to be determined. Restricted to Las Cruces campus only.

Learning Outcomes

1. Demonstrating knowledge of the basic functions of careers in counseling, community and school psychology.
2. Establishing a familiarity with the educational requirements necessary for a career in counseling, community, and school psychology.
3. Acknowledging and enhancing sensitivity and respect for diverse populations in various counseling areas; including educational and community settings.
4. Beginning to develop the interpersonal skills needed to succeed in the counseling, community and school psychology professions.

CHEF-CULINARY ARTS (CHEF)

CHEF 101. Culinary Arts Kitchen Orientation
3 Credits (3)
Provides students with basic information and skills necessary for success in the Culinary Arts program. Students learn basic kitchen routines, safety and sanitation, professional conduct and deportment, standard kitchen calculations, knife handling, and are introduced to the laboratories for initial cooking experiences. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Be able to discuss the appropriate wearing of the chef uniform and the safety reasons for it.
2. Demonstrate appropriate sanitation in the professional kitchen.
3. Demonstrate proper hand-washing techniques.
4. Demonstrate proper kitchen equipment use and layout.
5. Explain professional kitchen safety practices.
6. Demonstrate basic kitchen math skills.
7. Explain the purchasing cycle in a professional kitchen.
8. Discuss appropriate behavior in the kitchen.
9. Demonstrate basic knife skills. 1
10. Discuss basic sauce preparation and uses. 1
11. Understand real life issues in professional kitchens and variety of opportunities. 1
12. Explain the importance of culinary history.

CHEF 125. Introductory Cake Decorating
1 Credit (2P)
Introduction to the professional cake decorating techniques used by pastry chefs. Basic skills of piping a variety of icings into different patterns are taught. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Demonstrate understanding of basic cake decorating principles and techniques.
2. Identify and describe basic methods for cake decoration.
3. Understand methods of production for borders, flowers, colorflow methods, and basic figure piping.
4. Demonstrate understanding of frosting types and the advantages of each.
5. List the need for and uses of various types of specialty decorating equipment.
6. Identify types of labor-saving products that specifically relate to cake decorating.

CHEF 126. Intermediate Cake Decorating
1 Credit (2P)
Introduction to more advanced professional cake decorating techniques used by pastry chefs. Fondant work and more complex decorating schemes are taught.
Prerequisite: Grade of C- or better in CHEF 125.
Learning Outcomes
1. Demonstrate understanding of advanced cake decorating principles and techniques.
2. Identify and describe advanced methods for cake decoration.
3. Understand methods of production for borders, flowers, ribbons, bows, and various 3-dimensional techniques with fondant.
4. Demonstrate understanding of creating and working with fondant.
5. List the need for and uses of various types of specialty decorating equipment.
6. Identify types of labor-saving products that specifically relate to cake decorating.

CHEF 127. Chocolate Work
1 Credit (2P)
Introduction to working with chocolate utilizing a variety of methods. Tempering, forming, molding, and other professional techniques will be taught. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Name the physical properties of chocolate and the ingredients used in its preparation.
2. List the common equipment used in chocolate and confectionary preparation.
3. Explain the production of chocolate from the cacao pod to the finished product.
4. Identify a variety of chocolate products.
5. Explain the various procedures for tempering chocolate.
6. Prepare simple chocolate decorations and candies.

CHEF 128. Advanced Chocolate Work
1 Credit (2P)
More advanced treatments of chocolate are explored and professional techniques for the chocolatier are developed.
Prerequisite: Grade of C- or better in CHEF 127.
Learning Outcomes
1. Apply the various procedures for tempering chocolate.
2. Demonstrate understanding of physical properties of chocolate and the ingredients used in its preparation.
3. Construct elaborate chocolate sculptures and candies.
4. Inventory the common equipment used in chocolate and confectionary preparation.
5. Design and outline a sculpture incorporating a variety of chocolate and confectionary techniques.

CHEF 129. Wedding Cake Design and Construction
1 Credit (2P)
Basic skills in designing wedding (or other specialty event) cakes. Includes shaping, icing selection, decorating scheme, presentation, transportation, and remote set up. Restricted to Community Colleges campuses only.
Prerequisite: Grade of C- or better in CHEF 125 and CHEF 126.
Learning Outcomes
1. Apply the techniques of wedding cake decorating philosophies.
2. Combine the methods from Basic and Advanced Cake and incorporate it into creating a wedding cake.
3. Use previously learned methods of production of flowers, ribbons, bows and various other techniques to complete a wedding cake.
4. Identify types of labor-saving products that specifically relate to wedding cakes.
5. Formulate the proper techniques in delivering cakes to clients.

CHEF 155. Special Topics
1-3 Credits (1-3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 6 credits.
Learning Outcomes
1. Competencies are based on the subject matter of the Special Topic.

CHEF 156. Sugar Work
1 Credit (1)
This course provides students with a comprehensive exploration of the principles, techniques, and artistic applications of sugar-based confectionery. The course begins with thread, then moves on to soft ball, firm ball, hard ball, then soft crack, hard crack and finally caramel. While students are learning these different stages, they are creating recipes that require using the different stages. This is a pre-requisite for Advanced Sugar Work. May be repeated up to 3 credits.
Learning Outcomes
1. Name the physical properties of sugar and the ingredients used in its preparation.
2. List the common equipment used in sugar and confectionary preparation.
3. Explain the production of sugar from the farm to the finished product.
4. Identify a variety of sugar stages and products.
5. Explain the various procedures for sugar preparations and their applications.
6. Prepare simple sugar decorations and candies.

CHEF 157. Advanced Sugar Work
1 Credit (1)
This advanced-level course delves into the intricacies of advanced sugar manipulation, focusing on techniques such as blown sugar, pulled sugar, and intricate sugar sculptures. Through a rigorous exploration of the chemical and physical properties of sugar, students will gain a profound comprehension of temperature control, crystallization, and the nuanced interplay of ingredients. The course places a strong emphasis on honing precision and innovation in sugar craftsmanship, ensuring that students not only develop technical expertise but also cultivate a discerning eye for design and presentation. May be repeated up to 3 credits.
Prerequisite: Grade of C- or better in CHEF 156.
Learning Outcomes
1. Apply the various procedures for sugar confectionery.
2. Demonstrate understanding of the physical properties of sugar and the ingredients used in its preparation.
3. Construct elaborate sugar sculptures and candies.
4. Inventory the common equipment used in sugar and confectionery preparation.
5. Design and outline a sculpture incorporating a variety of sugar and confectionery techniques.

CHEF 158. Gum Paste
1 Credit (1)
This course offers a comprehensive exploration of the specialized artistry and techniques associated with the use of gum paste in pastry and confectionery. Tailored for students seeking an in-depth understanding of advanced sugar crafting, the curriculum focuses on the fabrication and manipulation of gum paste to create intricate and lifelike decorative elements. Students will delve into the scientific properties of gum paste, examining its pliability, drying characteristics, and color absorption, while gaining proficiency in crafting flowers, figurines, and ornate embellishments. The course places a strong emphasis on precision, attention to detail, and artistic expression in gum paste work. Through practical exercises, students will learn to design and construct elaborate cake decorations, showpieces, and other edible works of art. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate understanding of gum paste flower-making principles and techniques.
2. Identify and describe advanced methods for gum paste flower making.
3. Understand methods of production for peonies, roses, and sunflower techniques with gum paste.
4. Demonstrate understanding of creating and working with gum paste.
5. List the need for and uses of various types of specialty decorating equipment.
6. Identify types of labor-saving products that specifically relate to gum paste flowers.

CHEF 159. Sculpted Cakes
1 Credit (1)
This course is designed to provide students with a comprehensive understanding and mastery of the intricate artistry involved in crafting three-dimensional and visually stunning cake sculptures. Participants will delve into the principles of structural engineering, cake carving, and fondant application to create edible masterpieces that push the boundaries of traditional cake design. The curriculum focuses on both the theoretical and practical aspects of sculpted cake creation, covering topics such as conceptualization, planning, and execution of complex designs. Students will develop proficiency in utilizing a variety of tools and techniques, including internal support structures, modeling chocolate, and edible paints. Through hands-on projects and collaborative exercises, students will refine their sculpting skills and gain the expertise required to transform cakes into visually captivating works of art. May be repeated up to 3 credits.
Learning Outcomes
1. Discuss the physical properties of cakes and the ingredients used in their preparation.
2. Describe the common equipment used in cake sculpting and confectionary preparation.
3. Identify a variety of ways to sculpt cakes into realistic shapes.
4. Explain the various procedures for working with cake and decorating tools.
5. Identify types of labor-saving products that specifically relate to sculpting cake.

CHEF 160. Asian Cookery
1 Credit (1)
This course offers an immersive exploration of the diverse and rich culinary traditions of Asia. The curriculum covers essential techniques, ingredients, and flavor profiles unique to each region, fostering an appreciation for the artistry and balance inherent in Asian cooking. Through hands-on experiences in the kitchen, students will develop the ability to execute traditional dishes while also exploring innovative and contemporary interpretations. Special attention is given to ingredient sourcing, flavor layering, and mastering the diverse cooking methods characteristic of Asian cuisine. May be repeated up to 6 credits.
Learning Outcomes
1. Identify the basic ingredients and palette of flavors of China, Korea, Japan, Vietnam, Thailand, Indonesia, and India.
2. Identify the cooking techniques of the major regions of Asia.
3. Describe unique cooking equipment or vessels used in these regions.
4. Apply basic cooking fundamentals to a variety of dishes from these regions.
5. Demonstrate previously learned principles of food safety and sanitation through professional work habits.
6. Accurately apply previously learned principles of culinary mathematics to a written project.

CHEF 161. Experimental Cookery
1 Credit (1)
This course in Experimental Cookery offers an innovative and intellectually stimulating exploration into the avant-garde realms of culinary creation. The curriculum transcends conventional boundaries to foster a deep understanding of experimental techniques, molecular gastronomy, and cutting-edge culinary trends. Students will engage in theoretical discussions on the principles of flavor pairing, texture manipulation, and creative plating, while also gaining hands-on experience in the kitchen to apply these concepts. The course encourages students to push the boundaries of traditional culinary practices, experiment with novel ingredients, and leverage modern technology to transform familiar dishes into gastronomic marvels. Emphasis is placed on developing a discerning palate, critical thinking skills, and the ability to adapt and innovate in response to evolving culinary landscapes. May be repeated up to 3 credits.
Learning Outcomes
1. Implement various cooking techniques such as sous-vide, molecular gastronomy, and infusion, to create innovative and experimental dishes.
2. Show food science principles and how they impact the cooking process to experiment with texture, taste, and presentation.
3. Analyze and adapt recipes to critically evaluate traditional experimenting with ingredient substitutions, flavor.
4. Collaborate on experimental menus in teams to showcase their collective skills and creativity.
5. Create fusion cuisine to explore the art of fusion cooking.

CHEF 162. Not So Traditional Holiday Cookery
1 Credit (1)
This course is tailored for students seeking a unique exploration of festive cuisines that break away from conventional holiday traditions. Delving into the global spectrum of celebratory dishes, this course aims to broaden students' culinary perspectives by introducing innovative and culturally diverse approaches to holiday cooking. The curriculum encompasses theoretical discussions on the historical, social, and cultural influences shaping non-traditional holiday cuisines, providing a context for the exploration of ingredients and techniques. Through hands-on experiences in the kitchen, students will learn to craft unconventional yet delectable holiday menus that reflect a fusion of flavors and culinary traditions. Emphasis will be placed on creativity, adaptability, and the development of well-balanced and aesthetically pleasing dishes. May be repeated up to 3 credits.
Learning Outcomes
1. Explore global culinary traditions by discussing diverse cultures and cuisines from around the world to discover non-traditional holiday dishes.
2. Create holiday-inspired dishes by adapting traditional holiday ingredients and concepts into modern and innovative dishes.
3. Incorporate seasonal and locally available ingredients to create non-traditional holiday dishes.
4. Develop a deeper knowledge and appreciation for cultural diversity by exploring the historical and social significance of non-traditional holiday dishes.
5. Design a non-traditional holiday menu collaborating to design a cohesive non-traditional holiday menu that showcases their culinary skills and creativity.

CHEF 165. Math for Kitchen Operations
3 Credits (3)
Fundamental mathematical concepts and computations, including measurement, recipe scaling and conversions, metric unit conversion, ingredient yield calculations, ratios and cost extensions are covered. Examples of basic mathematical calculations use kitchen and food service functions, as well as situations to demonstrate principles.
Learning Outcomes
1. Demonstrate mastery of basic math functions.
2. Calculate percentages when given data by which they may be derived.
3. Demonstrate accurate measurement calculations both in English and Metric systems.
4. Convert English to Metric measurements and vice versa with accuracy.
5. Demonstrate the ability to scale a recipe – expanding and reducing portions prepared.
6. Calculate recipe cost accurately.
7. Using standard yield factors for ingredients determine the required purchase amounts of the ingredients for a given recipe.
8. Using published baking recipe ratios, determine the quantities of ingredients required for baked goods.
9. Calculate inventory value and order quantities based on par stock and other systems.

CHEF 211. Food Production Management I
3 Credits (2+2P)
Introduction to kitchen design, workflow, and commercial equipment. Techniques, methods, and application of basic food production principles. Practical experience in cooking processes from a managerial viewpoint. Taught with: HOST 211. Restricted to Community Colleges only.
Learning Outcomes
1. Demonstrate understanding of workflow concept.
2. Understand basic principles of kitchen design/layout.
3. Identify and discuss use of commercial kitchen equipment.
4. Demonstrate safe working techniques in kitchen settings.
5. Observe and demonstrate comprehension of basic preparation techniques.
6. Apply knowledge of varied and appropriate methods of cooking.
7. Identify and describe physical and chemical change occurring during the cooking process.
8. Describe the flow of products through the operation from order to use.
9. Prepares a production order for meal service. 1
10. Explains the basic organization of typical restaurant kitchens. 1
11. Prepares a staffing chart for a hypothetical kitchen. 1
12. Discuss and identify trends in cooking and food preparation. 1
13. Show understanding concerning infusion of ideas and ingredients into cooking styles and technologies. 1
14. Demonstrate understanding of the link between customers and creativity by developing regional recipes.

CHEF 212. Food Production Management II
3 Credits (2+2P)
Selection and use of ingredients. Demonstration and application of classical and modern cooking and preparation techniques. Management techniques for kitchen personnel. Recipe design and analysis. Taught with: HOST 212. Restricted to Community Colleges only. May be repeated up to 3 credits.

Prerequisite: Grade of C- or above in CHEF 211 or consent of instructor.
Learning Outcomes

1. Demonstrate understanding of ingredient variety and availability.
2. Describe base sauces, mother sauces and derivations – both classical and modern.
3. Understand methods of preparation for protein products and application of varied cooking techniques.
4. Identify methods of preparation for side dishes, starches and vegetables.
5. Understand garde-manger functions and demonstrate knowledge of cold food preparation techniques.
6. Demonstrate understanding of buffet layout and design.
7. Understand the importance of appearance and demonstrate the ability to prepare appropriate garnish.
8. Apply elements of design, color, texture and structure as they relate to the presentation of food items.
9. Demonstrates understanding of recipe layout, structure and design. 1
10. Analyze recipes for functionality. 1
11. Understand rationale for standardized recipes and demonstrate ability to develop the same.

CHEF 213. Bakery Management I
3 Credits (2+2P)
Fundamentals of baking from a supervisory/management perspective. Exposure to commercial equipment and processes. Introduction to commercial alternatives to scratch-preparation methods. Crosslisted with: HOST 213. Restricted to Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes

1. Identify and explain at least five common baking ingredients and demonstrate their use.
2. Describe and analyze the biological and chemical reactions that occur during baking.
3. Identify and describe Danish pastry production methods and individual sweet roll construction.
4. Recognize methods of bread production for both yeast and quick bread varieties.
5. Demonstrate various production techniques for pies, pastries, and cookies.
6. Identify different types of ovens and evaluate the advantages of each.
7. Identify and evaluate the necessity and functionality of various specialty baking equipment.
8. Identify types of labor-saving products that specifically relate to baking operations.
9. Demonstrate knowledge of value in using proof and bake products. 1
10. Demonstrate the application and proper utilization of convenience production items. 1
11. Explain need and rationale for use of mixes and pre-made products. 1
12. Demonstrate development of a baking formula. 1
13. Explain the importance of planning production times and products. 1
14. Discuss the challenges of staffing in baking operations.

CHEF 214. Bakery Management II
3 Credits (2+2P)
Advanced techniques and management of bakery operations are explored. Students learn classical forms and techniques. Modern methods of preparing traditional pastry and baked goods are introduced. Taught with: HOST218. Restricted to Community Colleges only. May be repeated up to 3 credits.
Prerequisite: Grade of C- or above in CHEF 213 or consent of instructor.
Learning Outcomes

1. Accurately calculates labor cost for hypothetical bakery operation.
2. Explains the importance and challenges of equipment scheduling in a bakery.
3. Uses appropriate baking ingredients for advanced baking processes.
4. Connects the biological and chemical reactions occurring during the baking process with the anticipated outcomes and products.
5. Demonstrates the production methods used in advanced baking processes.
6. Demonstrates artisan bread production for yeast bread varieties.
7. Produces torts, pastries and cakes.
8. Familiar with the specialty equipment used in advanced baking techniques.
9. Rationalizes the value of producing high-end bakery items. 1
10. Identify types of labor-saving products that specifically relate to production of high-end products. 1
11. Utilize the specialty convenience production items that support up-scale bakery products.

CHEF 233. Culinary Arts Fundamentals I
4 Credits (1+9P)
Introduction to the basics of culinary arts, including ingredients recognition, cooking methods and techniques, knife usage, preparation of basic stocks, mother sauces, starches and vegetables. Students will participate in laboratory work designed to create an understanding of the professional role of the culinarian. Preparation and production of food products integral to service to guests is incorporated in the course. Restricted to: CHEF, HOST majors. Restricted to Community Colleges Campuses only. May be repeated up to 4 credits.
Learning Outcomes

1. Describe the meaning and function of the mise en place concept.
2. Demonstrate knowledge of how kitchen equipment operates and ability to utilize equipment in safe and sanitary manner.
3. Identify ingredients for use in differing recipes and processes.
4. Discuss basic stocks and sauce preparation and their uses.
5. Apply principles of starch, vegetable and various egg cookery methods.
6. Utilize techniques for proper preparation of fruits, salads and dressings.
7. Demonstrate basic meat cookery methods and techniques.

CHEF 234. Culinary Arts Fundamentals II
4 Credits (1+9P)
Continuation of introductory course focusing on meat cookery, daughter sauces, cold food preparation, poultry and seafood. Safe use of equipment is emphasized while experiencing differing methods of preparation and cooking. Preparation and production of food products integral to service of guests is incorporated in this course. Restricted to: HOST,HSMG,CHEF majors. Restricted to Community Colleges campuses only.
Prerequisite: Grade of C- or better in CHEF 233.
Learning Outcomes

1. Demonstrate the ability to properly, and safely, operate all kitchen equipment.
2. Identify and explain the five major cooking techniques and their application to different foods.

3. Prepare basic dishes using one or more of the major cooking techniques.
4. Demonstrate the ability to accurately and safely perform basic knife cuts.
5. Evaluate the flavor and quality of cooked meat, poultry, fish, vegetables, starches, and legumes, as well as specialty soups.

CHEF 235. Advanced Culinary Arts I
4 Credits (1+9P)
Exploration and experience in preparation techniques beyond the basic level. Nutritional components of food are discussed, as in the application of good nutrition practices in recipe design. Students are encouraged to use creative methods to expand the individual's culinary expressions. Prepares food products for service to guests in both bulk feeding and individual service settings. Plans, prepares, serves and critiques meals provided for students, faculty and staff. May be repeated up to 4 credits.
Prerequisite/Corequisite: Grade of C- or better in CHEF 234 if course has been previously taken. Restricted to: CHEF majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Create and compose menus for small meals and menu service.
2. Practice and prepare advanced dishes using the five major cooking techniques.
3. Demonstrate the ability to Perform basic and advanced knife cuts with accuracy, safety, and speed.
4. Manage and organize peers to produce a full menu for service.
5. Prepare and asses the flavor and quality of produce, meat, poultry and seafoods, and legumes.

CHEF 236. Advanced Culinary Arts II
4 Credits (1+9P)
Advanced techniques and experimental use of food combinations to enhance the student's repertoire of skills and abilities. Utilizes knowledge to develop recipes for unique products. Plans, prepares, serves and critiques meals provided for students, faculty and staff. May be repeated up to 4 credits.
Prerequisite: Grade of C- or better in CHEF 235.
Learning Outcomes
1. Create a diverse à la carte menu that features a wide variety of dishes, including appetizers, main courses, side dishes, and desserts.
2. Produce staffing plans for back of house and front of house.
3. Implement advanced culinary techniques to refine their culinary skills by mastering advanced cooking techniques of dishes to meet the standards of à la carte dining.
4. Develop expertise in food plating and presentation focused on the art of food plating and presentation to create visually stunning dishes.
5. Practice effective table service and hospitality.
6. Manage a simulated restaurant service experiencing the challenges and responsibilities of running a restaurant kitchen and dining area.
7. Evaluates meal service and critiques positive and negative aspects.

CHEF 237. Banquet/Catering Production
3 Credits (1+6P)
Planning and implementation of the culinary aspects of catered functions. Development of time schedules, work assignments and service plans for catered events and banquet functions. Production of food items in appropriate quantities for catered events. Costing and control functions are covered. May be repeated up to 6 credits.
Prerequisite: Grade of C- or better in CHEF 233.
Learning Outcomes
1. Evaluates event contract for requirements and restrictions.
2. Coordinates efforts of sales and production staffs to meet customer needs.
3. Develops menus for events within price / quality constraints of contract.
4. Plans event staffing, food production, and service organization.
5. Prepares food, stages and serves food products.
6. Evaluates production, service, and cost efficacy.

CHEF 240. Baking Fundamentals I
4 Credits (1+9P)
Introduction to baking techniques, measurement and use of ingredients; equipment use and chemical reactions inherent in the baking process. Production of simple desserts and baked goods. Introduction to working with bread doughs. May be repeated up to 4 credits.
Corequisite: Grade of C- or better in CHEF 233.
Learning Outcomes
1. Identify quality characteristics of a wide range of ingredients and baked products.
2. Describe the five major ingredients and their functions in baked products.
3. Demonstrate proficiency in scaling and measuring of ingredients.
4. Explain and demonstrate the basic fundamental techniques of baking and pastry.
5. Demonstrate the ability to properly, and safely, operate all bakeshop equipment.
6. Identify and describe basic formula of, custards, creams and batters.
7. Demonstrate principles of food safety and sanitation through professional work habits.

CHEF 241. Baking Fundamentals II
4 Credits (1+9P)
More advanced baking and bread making techniques are covered in this course with emphasis on the more advanced elements of quantity production. Students work with a variety of products and ingredients. May be repeated up to 4 credits.
Prerequisite: Grade of C- or better in CHEF 240.
Learning Outcomes
1. Construct complex desserts, pastries and cakes.
2. Apply the basic formulas of custards creams and batters.
3. Identify the function of yeast and other leaveners in breads.
4. Demonstrate the ability to produce enriched and specialty bread products.
5. Experiment with the differences in fundamental techniques of baking and pastry.

CHEF 242. Intermediate Baking I
4 Credits (1+9P)
More advanced baking and pastry techniques are covered in this course with emphasis on the basic elements of patisserie production. Focus is on preparing students to work in a pastry kitchen. May be repeated up to 4 credits.
Prerequisite: Grade of C- or better in CHEF 241.
Learning Outcomes
1. Produces acceptable quality cake items using standardized recipes.
2. Prepares tarts and pies as assigned, meeting quality standards.
3. Demonstrates use of puff pastry in a variety of advanced dessert items.

4. Prepares and utilizes frostings and icings appropriate to the item being produced.
5. Designs and decorates dessert items creatively.
6. Prepares baked custards and chilled mousse items that meet quality standards.
7. Produces high quality yeast bread products.

CHEF 243. Intermediate Baking II
4 Credits (1+9P)
Continuation of work with basic elements of patisserie products including laminated doughs and filled products. Students prepare creams, custards, fillings and are introduced to cake assembly procedures.
Prerequisite: Grade of C- or better in CHEF 242.
Learning Outcomes
1. Demonstrates ability to weigh/measure ingredients based on formula.
2. Explains the differences between recipes and formulas.
3. Discusses the different ingredients used in commercial baking and their uses.
4. Demonstrates the processes for making yeast doughs.
5. Demonstrates the making of sweet doughs.
6. Explains the use of the commercial equipment found in bakeries.
7. Explains how the chemical reactions in baked products effects the product.
8. Calculates the effect of heat of friction on the product.
9. Demonstrates scaling of large batch production into useable units.

CHEF 255. Special Topics
3 Credits (3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 6 credits. Restricted to: CULI, HOST, HSMG majors. Restricted to Community Colleges campuses only.

CHEF 256. International Cuisine
3 Credits (1+6P)
Exploration into a variety of international cuisines is undertaken, including the cultural and historical backgrounds of the foods being prepared. Students work on developing themed menus and production plans for meals utilizing a single international cuisine. May be repeated up to 6 credits.
Prerequisite: Grade of C- or better in CHEF 233.
Learning Outcomes
1. Develops menus as appropriate for assignment.
2. Writes recipes for items following standard procedures.
3. Prepares order lists for assignment.
4. Develops budget for assignment.
5. Cost National Dish recipes.
6. Designs a production list / station workload plan for assignment.
7. Under guidance, explores advanced cooking techniques.
8. Develop a palate of various ingredients.
9. Serves meals to guests following appropriate protocols. 1
10. Evaluates meal service and critiques positive and negative aspects.

CHEF 257. Garde Manger
3 Credits (1+6P)
Traditional garde manger skills are taught, including plated salads, cold foods, entrements, pates, forcemeat, terrines, charcuterie and chaud froid work. The art and craft of food design, preparation and service are emphasized. May be repeated up to 3 credits. Restricted to: CHEF, HOST majors. Restricted to Community Colleges campuses only.
Prerequisite: Grade of "C" or above in CHEF 233.
Learning Outcomes
1. Demonstrates preparation and presentation of plated salads.
2. Prepares sandwiches and other cold items as assigned that meet standards.
3. Develops, designs and prepares entremets and palate refreshers.
4. Prepares classical and modern patés and forcemeats as assigned.
5. Designs and prepares terrines and galatines following recipes and directions.
6. Prepares charcuterie products as assigned following recipes and directions.
7. Designs, prepares, and decorates products with chaud froid as appropriate.

CHEF 260. Nutrition for Chefs
3 Credits (3)
Aspects of basic human nutritional requirements are covered as are the applications of the standards to the cooking and baking. Meeting the USDA nutrient guidelines while preparing good tasting food is discussed, calorie, fat and sodium reduction techniques are explored. May be repeated up to 3 credits.
Learning Outcomes
1. Describes the functions of the various nutrients and their importance in human nutrition.
2. Explains how hydration impacts health.
3. Discusses the concept of balance and moderation in eating choices.
4. Explains how lifestyle choices impacts nutrition.
5. Discusses food fads and their challenge to the culinarian.
6. Catalogs the nutritional guidelines promoted by the USDA.
7. From the restaurant's perspective discusses the importance of being aware of customers' allergies and dietary restrictions.

CHEM-CHEMISTRY (CHEM)

CHEM 1111. Basic Chemistry
3 Credits (3)
For students whose preparatory science or math training has been deficient. Does not meet the chemistry requirement in any curriculum.
Prerequisite: Enhanced ACT composite score of at least 18 or a grade of C- or better in CCDM 114 N.
Learning Outcomes
1. The goals and objectives for CHEM 1111 are to equip students with the necessary problem solving skills to be successful in CHEM 1215G/1225G

CHEM 1120G. Introduction to Chemistry Lecture and Laboratory (non majors)
4 Credits (3+3P)
This course covers qualitative and quantitative areas of non-organic general chemistry for non-science majors and some health professions. Students will learn and apply principles pertaining, but not limited to, atomic and molecular structure, the periodic table, acids and bases, mass relationships, and solutions. The laboratory component introduces students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.
Prerequisite: CCDM 114N or A S 103 or MATH 1215 or higher.

Learning Outcomes

1. (Lecture) Use the different systems of measurements and perform conversions within the same system of measurement and between different systems of measurements
2. (Lecture) Identify elements from their name or symbol, use the periodic table to describe reactivity patterns of elements and to predict compound formation.
3. (Lecture) Describe the basic structure of an atom using subatomic particles, and apply these concepts to nuclear reactions.
4. (Lecture) Describe ion formation and the difference between covalent and ionic compounds. Name and write formulas for ionic and simple molecular compounds.
5. (Lecture) Write and balance chemical reactions. Use balanced reactions in stoichiometric calculations.
6. (Lecture) Describe the differences between the solid, liquid and gas phases. Use the gas laws in calculations, and apply these laws to everyday situations.
7. (Lecture) Explain different types of energy, and how energy is released or absorbed in a reaction
8. (Lecture) Describe acid and base behavior.
9. (Lecture) Explain the intermolecular attractive forces that determine physical properties; apply this knowledge to qualitatively evaluate these forces and predict the physical properties that result. 1
10. (Lecture) Explain the intermolecular attractive forces that determine physical properties; apply this knowledge to qualitatively evaluate these forces and predict the physical properties that result 1
11. (Laboratory) Practice concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines. 1
12. (Laboratory) Demonstrate the computational skills needed to perform appropriate laboratory-related calculations to include, but not be limited to determining the number of significant figures in numerical value, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable. 1
13. (Laboratory) Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital). 1
14. (Laboratory) Record quantitatively measured values to the correct number of significant figures and assign the correct units. 1
15. (Laboratory) Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation, filtration, and titration. 1
16. (Laboratory) Draw appropriate conclusions based on data and analyses. 1
17. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required. 1
18. Determine chemical formulas and classify different types of reactions. 1
19. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

CHEM 1215G. General Chemistry I Lecture and Laboratory for STEM Majors
4 Credits (3+3P)
This course covers descriptive and theoretical chemistry.
Prerequisite: (1) grade of C- or better in MATH 1215 or higher, or a Mathematics Placement Exam Score adequate to enroll in mathematics courses beyond MATH 1215, or grade of C- or better in CHEM 1111.

CHEM 1216. General Chemistry I Lecture and Laboratory for CHEM Majors
4 Credits (3+3P)
As the first of a two-semester sequence, this course teaches fundamental concepts in chemistry, including the electronic structure of atoms, chemical periodicity, nature of chemical bonds, molecular structure, the three phases of matter, etc. Designed for majors in chemical and other physical sciences, including engineering. May be appropriate for the life science major. It is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements. The laboratory component is designed to complement the theory and concepts presented in lecture, and will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.
Prerequisite(s): Eligible to take MATH 1250G and an ACT composite score of 22 or higher.
Learning Outcomes

1. Apply the mole concept to amounts at a microscopic level and use this to perform stoichiometric calculations for reactions in solution, gases and thermochemistry.
2. Calculate solution concentrations in various units.
3. Apply the gas laws and kinetic molecular theory to relate atomic level behavior to macroscopic properties.
4. Explain the electronic structure of atoms, isotopes and ions in terms of its subatomic particles.
5. Analyze how periodic properties (e.g. electronegativity, atomic and ionic radii, ionization energy, electron affinity, metallic character) and reactivity of elements results from electronic configurations of atoms.
6. Understand the nature of chemical bonds (ionic and covalent). Apply knowledge of electronic structure to determine molecular structure and polarity.
7. Understand the formation of different phases of matter and the underlying fundamental intermolecular interactions.
8. Describe physical states and changes, and distinguish these from chemical changes.
9. Describe the energy conversions that occur in chemical reactions and state changes, relating heat of reaction to thermodynamic properties such as enthalpy and internal energy; apply these principles to measure and calculate energy changes in reaction. 1
10. Apply principles of general chemistry to specific real-world problems in environment, engineering and health-related fields.

CHEM 1225G. General Chemistry II Lecture and Laboratory for STEM Majors
4 Credits (3+3P)
This course is intended to serve as a continuation of general chemistry principles for students enrolled in science, engineering, and certain preprofessional programs. The course includes, but is not limited to a theoretical and quantitative coverage of solutions and their properties, kinetics, chemical equilibrium, acids and bases, entropy and free energy, electrochemistry, and nuclear chemistry. Additional topics may include (as time permits) organic, polymer, atmospheric, and biochemistry.
The laboratory component is designed to complement the theory and concepts presented in lecture, and will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Prerequisite(s): C- or better in CHEM 1215G and C- or better in MATH 1215 or higher.

Learning Outcomes

1. Explain the intermolecular attractive forces that determine physical properties and phase transitions, and apply this knowledge to qualitatively evaluate these forces from structure and to predict the physical properties that result.
2. Calculate solution concentrations in various units, explain the effects of temperature, pressure and structure on solubility, and describe the colligative properties of solutions, and determine solution concentrations using colligative property values and vice versa.
3. Describe the dynamic nature of chemical equilibrium, and apply LeChatelier's Principle to predict the effect of concentration, pressure and temperature changes on equilibrium mixtures as well as describe the equilibrium constant and use it to determine whether equilibrium has been established, and calculate equilibrium constants from equilibrium concentrations and vice versa.
4. Describe the different models of acids and base behavior and the molecular basis for acid strength, as well as apply equilibrium principles to aqueous solutions, including acid/base and solubility reactions, and calculate pH and species concentrations in buffered and unbuffered solutions.
5. Explain titration curves as well as calculate concentrations of reactants.
6. Explain and calculate the thermodynamic functions, enthalpy, entropy and Gibbs free energy, for a chemical system, and relate these functions to equilibrium constants Student Learning Outcomes – Laboratory
7. Demonstrate and apply concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
8. Demonstrate the computational skills needed to perform appropriate laboratory related calculations to include, but not be limited to determining the number of significant figures in numerical value with the correct units, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.
9. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).
10. Prepare solutions with an acceptable accuracy to a known concentration using appropriate glassware.
11. Perform basic laboratory operations related to, but not limited to, colligative properties of solutions, chemical equilibria, acid/base titrations, electrochemistry.
12. Draw conclusions based on data and analyses from laboratory experiments.
13. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

CHEM 1226. General Chemistry II Lecture and Laboratory for CHEM Majors
4 Credits (3+3P)

As the second of a two-semester sequence, this course teaches fundamental concepts in chemistry, including solutions, equilibria, electrochemistry, thermodynamics and kinetics. Designed for majors in chemical and other physical sciences, including engineering. May be appropriate for the life science major. It is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements. The laboratory component is designed to complement the theory and concepts presented in lecture, and will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Prerequisite(s): C- or better in CHEM 1216.

Learning Outcomes

1. Describe the colligative properties of solutions and explain them using intermolecular forces. Determine solution concentrations using colligative property values and vice versa.
2. Explain rates of reactions, rate laws, and half-life; determine the rate, rate law and rate constant of a reaction and calculate concentration as a function of time and vice versa. Understand the principle of catalysis.
3. Explain the collision model of reaction dynamics, including activation energy, catalysts and temperature; Derive a rate law from a reaction mechanism and evaluate the consistency of a mechanism with a given rate law.
4. Describe the dynamic nature of chemical equilibrium and its relation to reaction rates; apply Le Chatelier's Principle to predict the effect of concentration, pressure and temperature changes on equilibrium mixtures.
5. Describe the equilibrium constant and use it to determine whether equilibrium has been established; calculate equilibrium constants from equilibrium concentrations (including pressures) and vice versa.
6. Describe the different models of acids and base behavior, and the molecular basis for acid strength.

CHEM 2111. Explorations in Chemistry and Biochemistry
1 Credit (1)

In introduction to the experience of chemistry and biochemistry degrees. In this course, students will prepare a degree plan and personal statement. Career opportunities in chemistry and biochemistry will be presented and discussed.

Learning Outcomes

1. Demonstrate knowledge and understanding of the subdisciplines of Chemistry and Biochemistry.
2. Demonstrate knowledge and understanding of the requirements for the Chemistry and Biochemistry majors and career opportunities available to these majors.
3. Adopt strategies to prepare for future success in a job search or graduate school application.
4. Learn about undergraduate research opportunities in chemistry and biochemistry.

CHEM 2115. Survey of Organic Chemistry and Laboratory
4 Credits (3+3P)

This course is a one -semester survey of organic and biological chemicals. Students will be introduced to nomenclature, molecular structure, properties, and reactions of hydrocarbons, alcohols, carbonyls, organic acids and bases, carbohydrates, lipids, and proteins. The handling of organic chemicals, simple organic reactions, tests for functional groups, and synthesis will be learned in the laboratory component of this course.

Prerequisite: C- or better in CHEM 1225G or CHEM 1226.

Learning Outcomes

1. Identify common organic functional groups.
2. Translate between the IUPAC names and structures of simple organic molecules.

3. Predict the products of certain organic chemical reactions from reagents and conditions presented.
4. Predict physical and chemical behavior of organic molecules based on structure.
5. Synthesize several classes of organic compounds in the laboratory that were previously studied in the lecture component of this course.
6. Recognize and name the four basic bioorganic units and certain of their derivatives and macromolecules.
7. Construct 3 dimensional models of organic compounds.
8. Understand and apply safety principles associated with Organic Chemistry laboratory operations and activities.
9. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required. 1
10. Draw/recognize stereochemistry and explain its relevance to bioorganic molecules.

CHEM 2120. Integrated Organic Chemistry and Biochemistry
3 Credits (3)
This course is a one- semester introduction to Organic Chemistry and Biochemistry designed for students in health and environmental occupations. The course surveys organic compounds in terms of structure, physical, and chemical properties, followed by coverage of the chemistry of specific classes of organic compounds in the biological environment. Students will apply course concepts to everyday organic and biological chemistry problems in preparation for careers in health and environmental fields. May be repeated up to 3 credits.
Prerequisite: CHEM 1120G or CHEM 1215G.
Corequisite: CHEM 2120L.
Learning Outcomes
1. Identify and name basic organic compounds.
2. Construct/draw organic compounds from the names.
3. Predict the products of certain organic chemical reactions from reagents and conditions presented.
4. Recognize and name the four basic bioorganic units and certain of their derivatives and macromolecules.
5. Compare and contrast the function and location of the four bioorganic units and their macromolecules and cofactors.
6. Draw/recognize stereochemistry and explain its relevance to bioorganic molecules.
7. Discuss the pathways and functions of some of the cellular metabolic processes.
8. Recognize and describe metabolic cellular processes and macromolecular structure with respect to health and/or disease state.

CHEM 2120L. Integrated Organic Chemistry and Biochemistry Lab
1 Credit (1,3P)
This course provides experiences with the physical properties and laboratory synthesis of organic compounds.
Corequisite: CHEM 2120.
Learning Outcomes
1. Discuss the chemical, structural, and physical differences among the different functional groups.
2. Prepare, label, and use solutions of appropriate and known concentrations.
3. Recognize chiral organic molecules, and explain their biological significance.
4. Understand and be able to identify the process of organic reactions: nucleophilic and electrophilic, redox reactions, and enzyme catalyzed reactions.
5. Predict the products of substitution, elimination, condensation, and redox reactions.
6. Explain why certain lipids and amino acids are essential while others are not.

CHEM 2130. Organic Chemistry I
3 Credits (3)
This course is the first of a two semester sequence of Organic Chemistry, the chemistry of carbon containing compounds, as required for chemistry, medical science, and engineering majors. The course includes theoretical, qualitative, and quantitative discussion of Organic Chemistry concepts, including but not limited to a review of electronic structure and bonding, acids and bases, stereochemistry, an introduction to organic compounds, isomers, substitution and elimination reactions of alkyl halides, reactions of alkenes, alkynes, alcohols, ethers, epoxides, amines, and thiols, mass and infrared spectrometry, ultraviolet/visible spectroscopy, and nuclear magnetic resonance.
Prerequisite: CHEM 1225G or CHEM 1226.
Learning Outcomes
1. Review properties of elements and molecules discussed in general chemistry (electronegativity, bonding, formal charge, octet rule).
2. Review chemical reactions discussed in general chemistry (products, reactants, balanced equations, byproducts).
3. Classify organic compounds and their properties by functional group, including substitution and elimination reactions of alkyl halides, reactions of alkenes, alkynes, alcohols, ethers, epoxides, amines, and thiols.
4. Use common and IUPAC rules of nomenclature to name organic compounds.
5. Review the structure and stability of compounds.
6. Comprehend the relationship between structure and reactivity.
7. Comprehend configurations of organic compounds (resonance structures, stereochemistry, isomers).
8. Interpret spectral properties and use in structure determination.
9. Correctly describe the four-five step synthesis of a simple organic molecule using reactions learned in the class.

CHEM 2135. Organic Chemistry II
3 Credits (3)
This course is the second of a two semester sequence of Organic Chemistry, the chemistry of carbon containing compounds, as required for chemistry, medical science, and engineering majors. The course will emphasize structure, main physical properties, chemical reactivity, and reaction mechanisms relating to alcohols, arenes and carbonyl compounds, as well as continued integration of mass and infrared spectrometry, ultraviolet/visible spectroscopy, and nuclear magnetic resonance technique and analysis.
Prerequisite: CHEM 2130 or CHEM 313.
Learning Outcomes
1. Identify functional groups and other key features of different organic compounds.
2. Correctly name organic compounds using the proper nomenclature (IUPAC and common names).
3. Analyze relationships among molecular structure, chemical reactivity, physical and spectral properties.
4. Understand chemical reactivity and reaction mechanisms relating, but not limited to dienes, arenes, alcohols, ethers, amines, phenols,

and carbonyl compounds, i.e. aldehydes, ketones, carboxylic acids and derivatives.

5. Write out correctly the mechanisms of electrophilic aromatic substitution, formation and hydrolysis of acetals and ketals, formation and hydrolysis of imines and enamines, conjugate addition of nucleophiles to α,β-unsaturated carbonyl compounds, Fischer esterification and hydrolysis of esters under both acidic and basic conditions, transesterification under acidic and basic conditions, amide hydrolysis under acidic and basic conditions, the aldol reaction and condensation, and the Claisen condensation/Dieckmann cyclization for examples that are different than those studied in class.
6. Relate structures to spectral properties, interpreting IR, thirteenC and oneH NMR.
7. Describe the six-seven step synthesis of a simple organic molecule using reactions learned in this class.
8. Convert the Fischer projection of a carbohydrate to its corresponding Haworth projection, or convert the Haworth projection of a carbohydrate to its Fischer projection.
9. Recognize derivatives of carbonic and phosphoric acids, alkaloids, carbohydrates, peptides, steroids, prostaglandins, aglycones, carbohydrate anomers, reducing sugars, waxes, fats, and oils.

CHEM 2991. Introduction to Research
1-3 Credits (3+9P)
Techniques and procedures of chemical research. May be repeated for a maximum of 3 credits.
Prerequisites: 8 credits of chemistry and a 3.0 GPA in chemistry.
Learning Outcomes
1. Varies

CHEM 2996. Special Topics in Chemistry
1-6 Credits (1-6)
Specific subjects in Chemistry. These subjects will be announced in the 'Schedule of Classes'. It may be repeated under different topics for a maximum of 12 credits.
Learning Outcomes
1. Varies

CHME-CHEMICAL & MATERIALS ENGR (CHME)

CHME 101. Introduction to Chemical Engineering Calculations
2 Credits (2)
Introduction to the discipline of chemical engineering, including: an overview of the curriculum; career opportunities; units and conversions; process variables; basic data treatments; and computing techniques including use of spreadsheets.
Prerequisite/Corequisite: MATH 1220G, or MATH 1250G, or MATH 1511G, or MATH1511H.
Learning Outcomes
1. Describe career opportunities available to holders of a BSCHE degree.
2. Find and use learning and advising resources within CHME and Engineering.
3. Create a course registration plan for future semesters that meets the degree and prerequisite requirements for the BSCHE in the timeliest manner.
4. Diagram a process with unit operations and material and energy flows.
5. Perform unit analysis and unit conversions accurately and efficiently.
6. Validate calculated results using estimation techniques.
7. Apply the concept of significant figures to numerical answers.
8. Identify and describe process variable measurements using engineering vocabulary.
9. Express and convert concentrations using mass, mole, and volume bases. 1
10. Convert between absolute and relative pressure and temperature scales. 1
11. Perform calculations in Excel using built-in and custom functions. 1
12. Generate 2-D plots of data and functions in Excel. 1
13. Perform a regression of data to a mathematical model.

CHME 102. Material Balances
2 Credits (2)
Perform material balances in single- and multi-phase, reacting and non-reacting systems under isothermal conditions.
Prerequisite: MATH 1220G, or MATH 1250G, or MATH 1511G, or MATH 1511H.
Learning Outcomes
1. Analyze data using trendlines, linearize when necessary.
2. Use unit conversions when solving problems.
3. Turn a verbal or written problem statement into a diagram and a mathematical form.
4. Write and solve material balances on single and multi-unit processes, for both nonreactive and reactive processes.
5. Identify what phase a substance is in and then be able to use the correct equations to relate volume to mass and moles.
6. Use Raoult's and Henry's law when solving mass balances.

CHME 201. Energy Balances & Basic Thermodynamics
3 Credits (3)
Chemical Engineering energy balances; combined energy and material balances including those with chemical reaction, purge and recycle; thermochemistry; application to unit operations. Introduction to the first and second laws of thermodynamics and their applications. May be repeated up to 3 credits.
Prerequisite: CHME 102 and MATH 1250G or MATH 1511G or MATH 1511H.
Prerequisite/Corequisite: CHEM 1216 or CHEM 1215G.
Learning Outcomes
1. Correctly implement unit conversions (outcome (a) an ability to apply knowledge of mathematics, science, and engineering).
2. Analyze and solve elementary material balances on single and multi-unit process, for both nonreactive and reactive processes.
3. Apply the first law of thermodynamics to batch and flow processes.
4. Locate thermophysical property data in the literature and estimate properties when data are not available.
5. Conduct combined material and energy balances around continuous multi-unit processes with and without chemical reaction.
6. Perform process calculations using psychrometric charts, enthalpy concentration diagrams and steam tables.
7. Derive and solve differential equations for transient heat and material balances on dynamic systems.
8. Determine individual learning style and describe how learners of that style can help themselves.
9. Use modern engineering tools (example, Excel) to solve material and energy balance problems.

CHSS - COMM HEALTH/SOC SRVCS (CHSS)

CHSS 1110. Intro to Health & Community Services
3 Credits (3)
This course offers a holistic and multidisciplinary approach towards health promotion, wellness and a healthy lifestyle. Emphasis is placed on the major problems/issues that have the greatest significance to personal and community health. Topics to be discussed include:nutrition, fitness, stress management, sexuality, drug education and others. May be repeated up to 3 credits.
Learning Outcomes
1. Understand basic foundations of community health –history, framework and present progress: Identify key historical advances, people and events in public health; Understand Healthy People 2020 goals and objectives; Understand the levels of prevention (primary, secondary, tertiary) of public health
2. Identify organizations that help shape community health and their role in promoting health: Governmental; Quasi-Governmental; Nongovernmental; Identify local resources/agencies focused on health and human services
3. Conduct research in public health: Identify major sources for public health research; Governmental websites; Journals; Interpret and evaluate public health resources for academic use; Write a basic journal article critique
4. Understand the history and function of the school health program: Identify components of a coordinated school health program; Identify and overcome barriers common to CSHP; Apply the CSHP to contemporary issues in child/adolescent health

CHSS 2510. Service Learning
4 Credits (4)
Service Learning Experience in Human and Community Service: Exploration of contemporary social, civil, economic and ethical problems that require student participation in collaborative efforts within the community. Restricted to Community Colleges campuses only.
Prerequisite: PHLS 2110.
Prerequisite/Corequisite: PHLS 1110G, CHSS 1110, and PHLS 2120.
Learning Outcomes
1. Understand the importance of service learning in community building and civic participation.
2. Students will complete 120 hours of service learning experience with a collaborating community agency.
3. Compile and submit a list of detailed daily service learning activities including contact individuals, meetings attended, presentations, specific tasks accomplished or contributions to agency or community, new skills learned, trainings, and number of hours spent on each activity.
4. Design a service learning project incorporating the key elements of Public Health, and addressing a need in the community.
5. Provide an oral presentation and write a personal reflection of the service learning experience in class.
6. Practice critical thinking, decision making skills, and civic responsibility in promoting better health and general well-being.

CHSS 2511. Service Learning - Community Health Worker
1 Credit (1)
Service Learning Experience in Community Health Work: Exploration of contemporary social, civil, economic and ethical problems that require student participation in collaborative efforts within the community. May be repeated up to 1 credit.
Prerequisite: PHLS 2110, consent of instructor.
Prerequisite/Corequisite: PHLS 1110G, CHSS 1110, and PHLS 2120.
Learning Outcomes
1. Understand the importance of service learning in community building and civic participation.
2. Students will complete 30 hours of service learning experience with a collaborating community agency focusing on Community Health Work.
3. Compile and submit a list of detailed daily service learning activities including contact individuals, meetings attended, presentations, specific tasks accomplished or contributions to agency or community, new skills learned, trainings, and number of hours spent on each activity.
4. Attend CHW trainings focused on community health including (but not limited to) chronic disease, environmental and mental health.
5. Provide an oral presentation and write a personal reflection of the service learning experience in class.
6. Practice critical thinking, decision making skills, and civic responsibility in promoting better health and general well-being

CIST-COMPUTER INFORMATION SYSTEMS TECHNOLOGY

CIST 1110. Introduction to Operating Systems
1-3 Credits
This course offers a comprehensive introduction to operating systems, covering topics such as process and memory management, file systems, I/O systems, security, mobile computing, and networking. With a focus on Windows-based systems, students will learn the implementation, configuration, installation, and maintenance of operating systems, gaining a deeper understanding of current systems. May be repeated up to 6 credits.
Learning Outcomes
1. Identify and explain computer hardware including the components of a computer system and its functions.
2. Install, configure, and troubleshoot hardware components such as CPUs, RAM, motherboards, hard drives, and expansion cards.
3. Identify and explain the different types of computer operating systems, including Windows, macOS, and Linux, and their respective features and functions.
4. Install, configure, and troubleshoot operating systems and software applications, and use various system tools and utilities to diagnose and resolve common hardware and software issues.
5. Understand and implement basic networking concepts, including IP addressing, subnetting, and network protocols.
6. Implement security concepts, including user authentication, access controls, firewalls, encryption and resolve common security threats and vulnerabilities.

CIST 1111. Introductions (Foundations) of Information Systems
1 Credit (1)
Information systems are an integral part of all business activities and careers. This course is designed to introduce students to contemporary information systems and demonstrate how these systems are used throughout global organizations. The focus of this course will be on the key components of information systems-people, software, hardware, data, and communication technologies, and how these components can be

integrated and managed to create competitive advantage. Through the knowledge of how IS provides a competitive advantage students will gain an understanding of how information is used in preorganization's and how IT enables improvement in quality, speed, and agility. This course also provides an introduction to systems and development concepts, technology acquisition, and various types of application software that have become prevalent or are emerging in modern organizations and society. May be repeated up to 1 credit.

Learning Outcomes

1. Demonstrate an understanding of the history of computers, current computer technology and terminology.
2. Understand computing disciplines: computer science and information systems.
3. Understand networking and the Internet.
4. Demonstrate knowledge of the Systems.
5. Development of Life Cycle process how technology is issued in business.
6. Understanding of INFOSEC processes and methodology and computer, network security and some of the societal implications of computers and related technology.

CIST 1117. Introduction to the Internet
3 Credits (3)

This course introduces foundational concepts and skills for navigating the Internet and using web-based tools effectively. Students will learn browser basics, including navigating web pages and managing settings, as well as email communication, web searching, and evaluating online content. Topics include accessing and citing information resources, exploring user generated content such as podcasts and social networks, understanding Internet security practices, and explaining wireless networking technologies. The course aligns with Certified Internet Web (CIW) and Internet & Computing Core Certification (IC3) standards, providing essential knowledge for beginners with no prior experience.

Learning Outcomes

1. Navigate web pages, use bookmarks or favorites, manage cookies, and employ private browsing within a web browser.
2. Create, organize, and manage email communications effectively, utilizing common message features and email application functions.
3. Conduct web searches using search engines, evaluate the credibility of websites, and apply search engine optimization techniques.
4. Locate, understand, and cite current and specific Internet content, including text-based and multimedia resources.
5. Identify, explain, and use user-generated content, including pull technologies like podcasts and feeds, and push technologies like messaging and social networks.
6. Identify and explain physical and logical security processes, including firewalls, anti-malware applications, and enhanced security practices.
7. Describe the evolution of wireless technologies and differentiate between various types of wireless networks.

CIST 1121. A+ Hardware and Operating Systems
1-3 Credits

Introduction to PC hardware, peripherals, and operating systems. Includes problem diagnosis, troubleshooting processes, Windows utilization, and system optimization. May be used to prepare for industry certification exams. May be repeated up to 3 credits.

Learning Outcomes

1. Install, configure, and maintain computer equipment, mobile devices, and software for end users.
2. Service components based on customer requirements.
3. Understand networking basics and apply basic cybersecurity methods to mitigate threats.
4. Properly and safely diagnose, resolve, and document common hardware and software issues.
5. Apply troubleshooting skills and provide customer support using appropriate communication skills.
6. Describe the basics of scripting, cloud technologies, virtualization, and multi-OS deployments in corporate environments.

CIST 1220. Programming Fundamentals
3 Credits (3)

This is an entry level programming course designed to teach students the basic concepts of computer programming. By the end of the course, students will have the skills and confidence needed to succeed in future programming language courses.

Learning Outcomes

1. Explain what computer programming.
2. Create pseudo code from a problem definition.
3. Create executable code from pseudo code.
4. Create basic calculator programs that ask users for input, perform some calculations and display results.
5. Create programs that use loops and conditionals.
6. Utilize data structures that store collections with multiple values.
7. Create programs that use functions.

CIST 1261. JavaScript Web Programming
1-3 Credits

Use JavaScript libraries and frameworks including jQuery to implement web widgets and validate form data. Create interactive web pages with JavaScript manipulation of HTML and CSS. Use AJAX and other technologies for browser-to server interactions. May be repeated up to 9 credits.

Learning Outcomes

1. Describe JavaScript, browser, and HTML DOM objects.
2. Implement control structures, expressions, and functions.
3. Demonstrate declaring variables, calculating values and displaying the results.
4. Analyze and debug an application.
5. Utilize JavaScript Frameworks and Libraries.

CIST 1409. IT Essentials I: PC Hardware, Software, and Practical Applications
1-3 Credits (1-3)

This course provides student with the knowledge required to understand the fundamentals of computer technology, networking, and security, and the skills required to identify hardware, peripheral, networking, and security components. May be repeated up to 3 credits.

Learning Outcomes

1. Analyze and evaluate basic computer hardware/software problems.
2. Understand customer service and helpdesk.
3. Categorize network problems and solutions following the to the OSI model.
4. Demonstrate use of internet resources for hardware/software problem identification, solutions, analysis, and upgrades.
5. Demonstrate ability to build, repair, configure, optimize, upgrade and install hardware.
6. Demonstrate ability to troubleshoot, upgrade and install software.

7. Understand and apply security policies, practices, and standards in a PC environment.

CIST 1411. Introduction to Networks
3-4 Credits (3-4)
An introduction to the TCP/IP and OSI networking models and concepts for implementing those models in Wide Area and Local Area Networks. TCP/IP network fundamentals will be presented. Topics include network device configuration, IPv4 and IPv6 network addressing, basic security administration and network troubleshooting principles. This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications.
Learning Outcomes
1. Configure routers, switches, and end devices to establish end-to-end connectivity and provide access to local and remote network resources.
2. Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
3. Create and implement IPv4 and IPv6 addressing schemes.
4. Explain how the upper layers of the OSI and TCP/IP models support network applications.
5. Use security best practices to configure and protect a small network.
6. Troubleshoot connectivity issues in a small network.

CIST 1412. Network Device Configuration
3-4 Credits (3-4)
This course covers the architecture, components, and operations of routers and switches in a small network and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure routers and switches, perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, configure static and dynamic addressing, and configure and secure a basic WLAN. This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications. May be repeated up to 8 credits.
Prerequisite/Corequisite: CIST 1411.
Learning Outcomes
1. Configure and troubleshoot VLANs and Inter-VLAN routing.
2. Configure and troubleshoot redundancy issues on switched networks using Spanning Tree Protocol and EtherChannel.
3. Explain how to support available and reliable networks [and configure] first-hop redundancy protocols.
4. Configure IPv4 and IPv6 static routing and dynamic addressing on network devices.
5. Configure WLANs using wireless routers and controllers.
6. Configure and apply security best practices to mitigate Layer 2 and Layer 3 network attacks.

CIST 1413. Network Administration Concepts
4 Credits (2+4P)
Students will learn to design, configure, and troubleshoot various types of networks, implement security measures to protect network assets, analyze network protocols and services, diagnose network issues, and monitor network performance. Students will engage in hands-on/virtual lab exercises, performance-based assessments, and written assessments to apply their knowledge and skills. Upon completion of this course, students will be equipped for a successful career in network administration. The course aligns with the domains and objectives of the CompTIA Network+ and TestOut Network Pro certification exams.
Prerequisite: CIST 1411.
Learning Outcomes
1. Implement security measures to protect network assets, including the use of firewalls, access controls, and encryption methods.
2. Apply network protocols and services such as TCP/IP, DNS, DHCP, and SMTP.
3. Execute network troubleshooting and optimization techniques by diagnosing and resolving network performance and optimizing issues, including problems, network operations for LAN, WAN, and wireless networks.
4. Apply network monitoring and maintenance procedures by monitoring network performance, implementing maintenance, and understanding the importance of backup and disaster recovery planning.
5. Employ virtualization and cloud technologies such as virtual networks, virtual servers, and cloud storage.

CIST 1605. Internet of Things
3 Credits (3)
Examines the evolution of the Internet and how the interconnection of people, processes, data, and things is transforming every industry. This hands-on IoT course addresses the main stages of digitization including identifying and communicating a business or social problem and designing and connecting IoT devices to interact with the physical world. Students will develop high-demand skills such as creative problem-solving, critical thinking, collaboration and communication in hands-on lab and hackathon experiences. May be repeated up to 6 credits.
Prerequisite: CIST 1605.
Learning Outcomes
1. Analyze the things and connections that make up the IoT.
2. Build sensor/actuator systems using the Arduino microcontroller.
3. Create programs in Python that provide IoT functionality to the Raspberry Pi single-board computer.
4. Create an end-to-end IoT system.
5. Design an IoT system that can solve a problem of interest to the student.

CIST 1611. Azure Fundamentals
0.5-3 Credits
This course will provide foundational level knowledge of cloud services and how those services are provided with Microsoft Azure including workloads, security, privacy, and support. Restricted to Community Colleges campuses only. May be repeated up to 6 credits.
Prerequisite/Corequisite: CIST 1121.
Learning Outcomes
1. Describe Cloud Concepts.
2. Explain Core Azure Services.
3. Compare and contrast core solutions and management tools on Azure.
4. Identify general security and network security features.
5. Describe identity, governance, privacy, and compliance features.
6. Compare Azure cost management and Service Level Agreements.

CIST 1680. Linux Essentials
3 Credits (3)
Introduces the Linux operating system with emphasis on command line application. Students will learn management of the Linux file system, processes, storage devices, users and groups. Learning objectives also include configuration of boot activity, network, and printers.

Learning Outcomes

1. Install and maintain Linux operating systems.
2. Locate Help resources in the Linux operating systems.
3. Use the package management utility to administer the Linux operating systems.
4. Explain the fundamental properties of the shell.
5. Administrate Linux operating systems using Command Line Interface (CLI) and Graphic User Interface (GUI).

CIST 1996. Topics in Computer Information Systems Technology
1-3 Credits (1-3)
Topics to be announced in the Schedule of Classes. May be repeated up to 6 credits.
Learning Outcomes

1. Varies.

CIST 2210. Introduction to SQL (Structured Query Language)
1-3 Credits (1-3)
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, and constraints and benefit by learning the industry standards while utilizing the latest database software and online training materials. This course also prepares students to pass the 1st Oracle Associate Certification Test. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite: CIST 2311.
Learning Outcomes

1. Create basic and advanced queries used to retrieve data from multiple tables utilizing proprietary and ANSI standard JOIN commands.
2. Construct queries with aggregate grouping functions.
3. Compose DML queries that manipulate, sort, and restrict data.
4. Build DDL queries that can create or alter tables and utilize transaction control for saving objects and data.
5. Construct advanced Queries: rollup, cube, set operators, merge, subqueries, and correlated subqueries.
6. Build, maintain, and execute views.

CIST 2211. Azure Administrator
1-3 Credits
An introduction to the skills and knowledge necessary for implementing, managing, and monitoring identity, governance, storage, compute, and virtual networks in a cloud environment, plus provision, size, monitor, and adjust resources, when needed. May be preparation for an industry certification exam. May be repeated up to 6 credits.
Prerequisite: CIST 1413.
Learning Outcomes

1. Explain Azure identities and governance.
2. Implement and manage storage.
3. Deploy and manage Azure compute resources.
4. Configure and manage virtual networking.
5. Monitor and back up Azure resources.

CIST 2237. Android Application Development with Java and Kotlin
1-3 Credits (1-3)
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. May be repeated up to 6 credits.
Learning Outcomes

1. Install and use an Android IDE for developing android apps.
2. Use both Java and Kotlin Programming languages to code the assignments.
3. Integrate Android Material Design features.
4. Implement common Android features, for example: Shared Preferences, splash screens, fragments, multi-threading and SQLite Database.
5. Implement current programming techniques as they evolve, such as Jetpack's Navigation, Room Database API, etc.
6. Implement JUnit Testing.
7. Describe the steps in publishing an app.

CIST 2251. Python Programming II
1-3 Credits (1-3)
In this course, students will take Python machine learning ideas and create serverless web applications accessible by anyone with an Internet connection. Students will work through a series of common Python data science problems in an increasing order of complexity. Students will learn to create a web application around numerical or categorical predictions, Machine Learning tools like TensorFlow, understand the analysis of text, create powerful and interactive presentations, serve restricted access to data, and leverage web plugins to accept credit card payments and donations. May be repeated up to 6 credits.
Learning Outcomes

1. Demonstrate how to use Serverless Technologies.
2. Demonstrate how to use client-side intelligence using regression coefficients.
3. Demonstrate how to use Real-Time Intelligence with Logistic Regression.
4. Demonstrate how to use Pretrained Intelligence with Gradient Boosting Machine.
5. Demonstrate how to Support Both Web and Mobile Browsers.
6. Demonstrate how to Display Predictions with Google Maps.
7. Demonstrate how to Forecast with Naive Bayes and OpenWeather.
8. Demonstrate how to use Interactive Drawing Canvas and Digit Predictions Using TensorFlow.
9. Demonstrate how to display dynamic charts. 1
10. Demonstrate how to use Recommending with Singular Value Decomposition.

CIST 2275. C++ Programming II
1-3 Credits (1-3)
Continues coverage of C++ programming. Covers structures, enumerated data types, C++ function enhancements, classes and objects, inheritance, polymorphism and virtual functions. This advanced course provides a solid foundation in object oriented programming methods. May be repeated up to 6 credits.
Learning Outcomes

1. Construct and use a C++ Class that models a "real-world item or task" The class will include private members and public methods, including constructors, accessors and mutators, the class will demonstrate good OOP C++ programming practice.
2. Construct a C++ program that has (at least) two programmer-written classes that demonstrate the "has a" relationship of composition.

3. Construct a program that contains an array of programmer-written objects.
4. Construct a program with at least one class that overloads basic operators to perform conditional comparisons or object data updates.
5. Demonstrate the ability to pass objects between functions using pass by address using pointer and references.
6. Construct a C++ program that incorporates the principle of inheritance to derive new, customized classes where parent methods are called internally and other methods are overridden, access the derived classes polymorphically.

CIST 2311. Database Concepts and Principles
1-3 Credits (1-3)
A study of how relational databases are designed for maximum data manipulation is the first step in the field of data management and analytics. Topics covered include core database concepts, how to create database objects and manipulate data. May be preparation for an industry certification exam. May be repeated up to 6 credits.
Learning Outcomes
1. Discuss relational database concepts.
2. Select, insert, update and delete data in databases.
3. Explain data manipulation language (DML) and data definition language (DDL).
4. Choose data types, build tables, and create views.
5. Build primary, foreign, and composite keys.
6. Create stored procedures and functions and construct indexes.
7. Examine database security concepts.
8. Design database backups and restoration processes.

CIST 2321. Visual Analytics
3 Credits
This course explores the principles and practices of Business Intelligence (BI), which is a critical component of modern decision-making in organizations. Students will learn how to collect, analyze, and visualize data to support strategic and tactical business decisions.
Learning Outcomes
1. Explain the fundamentals of Business Intelligence.
2. Describe various BI tools and technologies.
3. Perform data extraction, transformation, and loading (ETL).
4. Create interactive dashboards and reports.
5. Analyze real-world BI case studies and applications.
6. Describe the ethical and legal considerations in BI.

CIST 2331. Predictive Analytics
3 Credits (3)
This course delves into the field of predictive analytics, equipping students with the skills to use historical data to make future predictions. Students will learn various predictive modeling techniques, data preprocessing, model evaluation, and the practical applications of predictive analytics in real-world scenarios. May be repeated up to 6 credits.
Learning Outcomes
1. Explain the fundamentals of predictive analytics.
2. Describe techniques for data preparation and feature engineering.
3. Explain how to build and evaluate predictive models.
4. Explore predictive analytics applications across industries.
5. Apply predictive modeling skills to real-world datasets.
6. Identify the ethical considerations in predictive analytics.

CIST 2411. Enterprise Networking
3-4 Credits (3-4)
This course describes the architecture and considerations related to designing, securing, operating, and troubleshooting enterprise networks. Topics include wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access and software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. Network management tools and key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation, are introduced. May be repeated up to 8 credits.
Prerequisite/Corequisite: CIST 1412.
Learning Outcomes
1. Configure single-area OSPFv2 in both point-to-point and multiaccess networks.
2. Explain how to mitigate threats and enhance network security using security best practices.
3. Implement access control lists (ACLs) to filter traffic and secure administrative access.
4. Explain techniques to provide address scalability and configure NAT services.
5. Explain QoS and how to optimize, monitor, and troubleshoot scalable network architectures.
6. Explain and implement network management protocols.
7. Explain how technologies such as virtualization, software defined networking, and automation affect evolving networks.

CIST 2611. Windows Hybrid Server Administration
3 Credits (3)
This course provides students with the skills to perform the following technical tasks: deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments; and manage Windows Servers and workloads in a hybrid environment. Students will also learn how to manage virtual machines and containers; implement and manage an on premises and hybrid networking infrastructure; and manage storage and file services.
Prerequisite/Corequisite: CIST 1116 or CIST 1611.
Learning Outcomes
1. Deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments.
2. Manage Windows Servers and workloads in a hybrid environment.
3. Manage virtual machines and containers.
4. Implement and manage an on-premises and hybrid networking infrastructure.
5. Manage storage and file services.

CIST 2620. Windows Server Administration
3 Credits (2+2P)
This course addresses the implementation and support needs of IT professionals that are planning to deploy and support Window Servers(s). It provides in-depth, hands-on training for IT professionals responsible for the planning, implementation, management, and support of Windows Server operating systems(s). Assists in preparation for the Microsoft certification.
Prerequisite/Corequisite: E T 120.
Learning Outcomes
1. Be able to manage back-ups, disks and volumes and storage pools.
2. Be able to manage basic networking, DNS, and DHCP services.

3. Be able to configure, deploy, and manage servers; manage files and folders, quotas and printing.
4. Be able to create and manage virtual hard disks and volumes, machines, switches, and storage.
5. Be able to create domain controllers and manage users, devices and organizational units using AD DS.
6. Be able manage domain policies, rights, and permissions.

CIST 2636. CLOUD Computing
1-3 Credits (1-3)
Investigation of technology skills related to maintaining and optimizing cloud infrastructure services. These skills include virtualization, configuration, maintenance, management, securing and troubleshooting of cloud infrastructure services. May be repeated up to 6 credits.
Prerequisite/Corequisite: CIST 1680.
Learning Outcomes
1. Analyze the different cloud models to design the best solution to support business requirements.
2. Manage and maintain servers, including OS configurations, access control and virtualization.
3. Analyze system requirements to successfully execute workload migrations to the cloud.
4. Maintain and optimize cloud environments, including proper automation and orchestration procedures, backup and restore operations, and disaster recovery tasks.
5. Troubleshoot capacity, automation, connectivity and security issues related to cloud implementations.

CIST 2811. Foundations of Security
3 Credits (3)
This course is a study of encryption technologies, system and network security, firewall implementation, intrusion detection and prevention. It also covers operating system, user account, and file resource security, assessing risk, auditing.
Prerequisite/Corequisite: CIST 1413. Restricted to Las Cruces campus only.
Learning Outcomes
1. Assess the security posture of an enterprise environment and recommend and implement appropriate security solutions.
2. Monitor and secure hybrid environments, including cloud, mobile, and Internet of Things (IoT).
3. Discuss applicable regulations and policies, including principles of governance, risk, and compliance.
4. Identify, analyze, and respond to security events and incidents.

CIST 2812. Fundamentals of Cybersecurity
3 Credits (3)
An introduction that explores various methods for attacking and defending a network, security concepts and attack methodologies. Topics may include Internet architecture, routing, addressing, topology, fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. May be preparation for an industry certification exam.
Prerequisite/Corequisite: MATH 1215. Restricted to Las Cruces campus only.
Learning Outcomes
1. Apply environmental reconnaissance techniques using appropriate tools and processes.
2. Implement or recommend the appropriate response and countermeasure.
3. Analyze the output resulting from a vulnerability scan and compare and contrast common vulnerabilities found in targets within an organization.
4. Explain the importance of communication during the incident response process.
5. Analyze common symptoms to select the best course of action to support incident response.
6. Explain the relationship between frameworks, common policies, controls, and procedures.
7. Review security architecture and make recommendations to implement compensating controls.
8. Compare and contrast the general purpose and reasons for using various cybersecurity tools and technologies.

CIST 2860. Digital Forensics and Incident Response
3 Credits (3)
This course offers students a structured approach to the field of computer forensics and the analysis of digital evidence. Through a combination of theoretical knowledge and hands-on practical exercises, students will develop the skills necessary to conduct effective computer forensic investigations. The course will cover various forensic investigation techniques and utilize standard forensic tools to successfully gather, preserve and analyze digital evidence. This class prepares students for a position as a cybersecurity incident handler.
Prerequisite/Corequisite: E T 120.
Learning Outcomes
1. Understand core concepts in digital forensics, incident response and chain of custody.
2. Execute data analysis for forensic or incident purposes.
3. Explain the relationship between digital forensics and incident response.
4. Conduct and report on system investigations across different platforms.
5. Apply cryptographic hash functions to forensic artifacts.
6. Employ steganography for data hiding and recovery in media files.

CIST 2881. Cybersecurity Fundamentals
3 Credits (3)
This course covers a range of topic including network and computer security, general security concepts, communication security, infrastructure security, operational and organizational security, encryption technologies, system and network security types of attacks, risk management, intrusion detection and prevention, assessing risk, auditing, and security control procedures. The course is designed to prepare students for an industry certification exam.
Prerequisite/Corequisite: E T 120.
Learning Outcomes
1. Identify and mitigate various types of security threats, such as malware, social engineering, and network attacks.
2. Utilize security technologies, including firewalls, intrusion detection and prevention systems, and VPNs, to secure a network.
3. Implement security principles and practices in the design and implementation of secure networks and systems.
4. Manage user authentication, authorization, and access control to secure sensitive data.
5. Respond to security incidents and have a disaster recovery plan in place.

CIST 2887. Ethical Hacking
3 Credits (3)

This course introduces the essential concepts and practices of ethical hacking. Students will learn to use various ethical hacking tools and techniques to assess the security posture of a network and identify potential vulnerabilities that could be exploited by malicious actors. The course is based on the EC Council Ethical Hacking ECH Version 12 and TestOut Ethical Hacker Pro certification exam domains/objectives. By the end of the course, students will have a solid understanding of network security threats and vulnerabilities, and the ability to perform a comprehensive security assessment of a network. The course is suitable for students interested in pursuing a career in cybersecurity or who want to improve their understanding of network security and ethical hacking.
Prerequisite: CIST 1411 and CIST 2881.
Prerequisite/Corequisite: E T 283.
Learning Outcomes

1. Apply vulnerability scanning tools to identify network security weaknesses.
2. Use penetration testing tools to assess network security and identify potential vulnerabilities.
3. Analyze the impact of various network security threats and recommend appropriate countermeasures.
4. Develop and implement appropriate security controls to protect a network from security threats.
5. Create a comprehensive security assessment report that presents findings and recommendations in a clear and concise manner.

CIST 2996. Topics in Computer Information Systems Technology
1-4 Credits (1-4)
Specific subject to be determined based upon student need. May be repeated up to 8 credits.
Learning Outcomes

1. Varies.

CIST 2998. Internship in Computer Information Systems Technology
1-3 Credits (1-3)
Work experience, directly related to a student's field of study, that provides an opportunity to explore career options while experiencing hands-on application, knowledge, and theory learned in the classroom. May be repeated up to 6 credits.
Prerequisite: (CIST 1409 or CIST 1121) AND (CIST 1680), AND (CIST 1411).
Learning Outcomes

1. Varies.

CIST 2999. Capstone in Computer Information Systems Technology
3-4 Credits (3-4)
Experiential hands-on learning applying skills and knowledge gained in computer and technology-related courses supporting contemporary workforce performance. May be repeated up to 8 credits.
Learning Outcomes

1. Varies.

CJUS-CRIMINAL JUSTICE

CJUS 1110G. Introduction to Criminal Justice
3 Credits (3)
This course provides an overall exploration of the historical development and structure of the United States criminal justice system, with emphasis on how the varied components of the justice system intertwine to protect and preserve individual rights. The course covers critical analysis of criminal justice processes and the ethical, legal, and political factors affecting the exercise of discretion by criminal justice professionals.
Learning Outcomes

1. Describe the history, structure and function of the criminal justice system in the United States.
2. Discuss the role of law enforcement, court systems, corrections, and security in maintaining social order.
3. Identify and describe crime causation theories, various measures of crime and their reliability and victimization theories.
4. Relate fundamental principles, concepts and terminology used in criminal justice to current events.
5. Apply basic analytical and critical thinking skills in evaluating criminal justice issues, policies, trends and disparities.

CJUS 1120. Criminal Law
3 Credits (3)
This course covers basic principles of substantive criminal law including elements of crimes against persons, property, public order,public morality, defenses to crimes, and parties to crime. May be repeated up to 3 credits.
Learning Outcomes

1. Explain the concepts of substantive criminal liability in the United States, including actus reas, mens rea, causation, concurrence, and parties to crime.
2. Define the differences between criminal law and civil law in the United States.
3. Demonstrate basic knowledge of legal terminology as it relates to criminal law.
4. Identify the elements of crimes against persons, property, public order and the administration of justice, public morality, and the inchoate crimes.
5. Describe the various defenses to crimes.

CJUS 1996. Special Topics in Criminal Justice
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. May be repeated under different topics for a maximum of 6 credits.
Learning Outcomes

1. Varies

CJUS 2120. Criminal Courts and Procedure
3 Credits (3)
This course covers the structures and functions of American trial and appellate courts, including the roles of attorneys, judges, and other court personnel, the formal and informal process of applying constitutional law, rules of evidence, case law and an understanding of the logic used by the courts.
Learning Outcomes

1. Explain the application of the Constitutional Amendments that apply to criminal justice.
2. Explain and describe the dual court system in the U.S. and how courts enforce the rule of law.
3. Identify and list the duties and requirements of the courtroom workgroup.
4. Describe courtroom procedures, rules of the court, and due process of law.
5. Articulate basic knowledge of the U.S. criminal court system.
6. Define legal terms.
7. Explain the use of discretion in criminal procedure.
8. Differentiate the role of courts of limited jurisdiction, courts of general jurisdiction, and the appellate courts in the processing of criminal cases.

CJUS 2140. Criminal Investigations
3 Credits (3)
This course introduces criminal investigations with in the various local, state, and federal law enforcement agencies. Emphasis is given to the theory, techniques, aids, technology, collection, and preservation procedures which insure the evidentiary integrity. Courtroom evidentiary procedures and techniques will be introduced. Community Colleges only. (Note: students completing CJUS 2140 may not take CJUS 321.)
Learning Outcomes
1. Identify developments in investigation technology.
2. Identify common types of criminal investigations and their key components.
3. Apply proper crime scene investigative protocols.
4. Explain proper evidentiary gathering and handing procedures, and utilize various interviewing techniques.
5. Identify and compare different law enforcement agencies and the role they play in criminal investigations.
6. Describe proper collection, evidence preservation, documentation, and court presentation.
7. Develop effective search authorization.

CJUS 2150. Corrections System
3 Credits (3)
This course introduces the corrections system in the United States, including the processing of an offender in the system and the responsibilities and duties of correctional professionals. The course covers the historical development, theory, and practice, as well as the institutional and community-based alternatives available in the corrections process.
Learning Outcomes
1. Describe the purposes of the corrections system and the issues facing the corrections system.
2. Explain the components of the corrections system and describe their functions.
3. Compare and contrast the different forms of correction practices.
4. Explain the goals of corrections, the different factors affecting the sentencing process, the legal rights of prisoners, and the issues concerning prison violence.
5. Explain the impact of reentry into society.
6. Identify the issues concerning capital punishment.
7. Describe the effectiveness of various correction programs on offenders.

CJUS 2160. Field Experience in Criminal Justice
3-6 Credits
This course is designed to provide actual experience working for a criminal justice agency and the opportunity to apply criminal justice concepts and theory to a field situation. Students already working in an agency will complete an approved learning project while on the job.
Prerequisites: CJUS 1110G, prior arrangement and consent of instructor and a GPA of 2.0 or better in major.
Learning Outcomes
1. Obtain practical experience by observing, researching, and working in a criminal justice agency.
2. Apply the knowledge of principles, theories, and methods that were learned in the classroom to situation in which field experience will be devoted
3. Instill an understanding for general and specific problems that criminal justice agencies encounter on a daily basis.
4. Develop a professional work ethic and attitudes, including reliability, professional responsibility, and the ability to work cooperatively with others.

CJUS 2220. The American Law Enforcement System
3 Credits (3)
This course covers the historical and philosophical foundations of law and order, with an in-depth examination of the various local, state, ad federal law enforcement agencies and how they interact within the criminal justice system.
Learning Outcomes
1. Discuss, evaluate, and analyze the role of police in the democratic society today, and the historical development of modern day law enforcement
2. Define and explain the different types of community policing and the valid reasons behind their application within a community
3. List and discuss the ways to overcome the barriers to change within a police organization, good recruitment, screening, and retention of employees
4. Analyze and discuss the history of and the different types of police patrol, as well as the use of force and deadly force, and methods used for controlling police behavior
5. Describe and discuss the different types of police behavior, potential oversight, and remedy and their limitations
6. List and discuss the benefits of higher and continued education, along with the minimum educational requirements for police officers
7. Evaluate and discuss the reasons for police stress and the methods of dealing with stressors
8. Interpret current court cases, both state and federal, that affect police procedures

CNST-CONSTRUCTION

CNST 1110. General Carpentry or Building Trades I
8 Credits (2+12P)
This course will have two components: a classroom segment, where carpentry concepts will be explored, and a hands-on segment where students will be able to participate in the actual construction of a structure. Habitat for Humanity has generously offered one of their projects as a "hands-on" site. May be repeated up to 8 credits.
Learning Outcomes
1. Identify and define various elements of a Structural Wood Wall.
2. Build Structural and non-load bearing Walls and Partitions using OSHA compliant safety practices.
3. Size floor joists and roof rafters according to local building codes.
4. Hang and "Trim Out" Doors and Windows for Residential Construction Projects.
5. Choose construction project foundations.

CNST 1114. Basic Carpentry
3 Credits (1+4P)
Covers orientation to the trade; wood building materials, fasteners, and adhesives; detailed description and explanations of hand-operated and power tools, including safety; framing basics including laying out and constructing of wood floors, walls and ceilings and includes roughing in of door and window openings.
Corequisite: CNST 1115, CNST 1116.
Learning Outcomes
1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.

3. Work effectively as a team.
4. Identify various types of building materials and their uses.
5. Calculate the quantities of lumber and wood products using industry standard methods.
6. Describe the fasteners, anchors and adhesives used in construction.
7. Describe the responsibilities of safety related to the construction industry.
8. Select proper tools for the job.
9. Identify the different grades and markings of wood building materials. 1
10. List and recognize different types of flooring materials. 1
11. Knowledge of the materials and methods used to construct floor systems using the platform method of floor framing. 1
12. Describe the procedure for laying out a wood frame wall. 1
13. Describe the correct procedure for laying out floor joist. 1
14. Estimate the materials required to frame a floor system.

CNST 1115. Carpentry Level I
3 Credits (1+4P)
Describes the various kinds of roofs and provides instructions for lay out of the different roofing systems. Describes the various types of windows, skylights, and exterior doors and provides instruction for installation.
Corequisite: CNST 1114; CNST 1116.
Learning Outcomes
1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Work effectively as a team.
4. Identify various types of building materials and their uses.
5. Calculate the quantities of lumber and wood products using industry standard methods.
6. Describe the fasteners, anchors and adhesives used in construction.
7. Describe the responsibilities of safety related to the construction industry.
8. Select proper tools for the job.
9. Identify the different grades and markings of wood building materials. 1
10. List and recognize different types of flooring materials. 1
11. Knowledge of the materials and methods used to construct floor systems using the platform method of floor framing. 1
12. Describe the procedure for laying out a wood frame wall. 1
13. Describe the correct procedure for laying out floor joist. 1
14. Estimate the materials required to frame a Floor System.

CNST 1116. Basic Carpentry Lab
2 Credits (2)
Provides students the opportunity to practice skills they have acquired in CNST 1114 and CNST 1115. It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCER) Carpentry Program.
Corequisite: CNST 1114; CNST 1115.
Learning Outcomes
1. Demonstrate the correct selection, use, and care of various hand tools.
2. Demonstrate the correct selection, use, and care of various power tools.
3. Recognize and Read basic blueprint terms, components, and symbols.
4. Recognize and identify different classifications of drawings.
5. Lay out and frame a complete roof structure.
6. Be able to layout and set up concrete forms.
7. Build a Staircase.
8. Install windows and exterior doors properly.

CNST 1118. Math for Building Trades
3 Credits (3)
Geometry, algebra, arithmetic, and basic trigonometry pertaining to mathematical applications in the building trades field. Same as OEET 118, DRFT 118, OEPB 118.
Prerequisite: CCDM 103 N.

CNST 1120. Construction Drawings
4 Credits (2+4P)
An introduction to the various construction documents with symbols. Emphasizing extraction of information and specifications from drawings.
Learning Outcomes
1. Interpret construction documents.
2. Identify and navigate the basic views commonly displayed in a technical drawings.
3. Identify and describe common components on construction documents.
4. Demonstrate the use of measuring devices.
5. Use appropriate construction terminology.

CNST 1121. Introduction to Construction I
2 Credits (2+1P)
Basic safety, including personal protective equipment, how to perform basic construction tasks safely, and what to do if an accident occurs. Includes basic construction methods.
Corequisite: CNST 1122 and CNST 1133.
Learning Outcomes
1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Students will demonstrate the ability to effectively work in a team.
4. Demonstrate how related industry theories apply to real world settings.
5. Investigate mechanical processes found in building trades.
6. Identify and resolve ethical workplace issues.
7. Describe the responsibilities of safety related to the construction industry.
8. Students will be able to selected the proper tools for the job.

CNST 1122. Introduction to Construction II
2 Credits (2+1P)
Introduction to power and hand tools, blueprints, and basic rigging hardware and techniques.
Corequisite: CNST 1121 and CNST 1133.
Learning Outcomes
1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Students will demonstrate being able to work effectively in a team.
4. Demonstrate how related industry theories apply to real world settings.
5. Investigate mechanical processes found in building trades.
6. Identify and resolve ethical workplace issues.

7. Describe the responsibilities of safety related to the construction industry.
8. Students will be able to selected the proper tools for the job.

CNST 1133. Introduction to Construction Laboratory
3 Credits (3)
Provides students the opportunity to practice skills they have acquired in CNST 1121 and CNST 1122 It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCER) Carpentry Program.
Corequisite: CNST 1121, CNST 1122.
Learning Outcomes
1. Demonstrate effectively leadership skills.
2. Work effectively as a team.
3. Demonstrate the ability to read construction drawings.
4. Demonstrate how related industry theories apply to real world settings.
5. Identify and resolve ethical workplace issues.
6. Describe the responsibilities of safety related to the construction industry.
7. Work effectively as a team.
8. Demonstrate an awareness of the environmental problems arising from conventional practices.
9. Students will be able to operate hand and power tools safely. 1
10. Students will be able to selected the proper tools for the job. 1
11. Investigate mechanical processes found in building trades.

CNST 1144. Woodworking Skills I
3 Credits (1+4P)
Use and care of hand tools and elementary power tools, safety procedures, and supervised project construction. May be repeated up to 3 credits.
Learning Outcomes
1. Students will gain the skills necessary to use hand tools, and power tools, perform basic calculations accurately, and complete projects.
2. Students will purchase materials, draft, and construct one project without a door or drawer.
3. Students will develop creative thinking skills and problem-solving skills in working with the various hand tools.

CNST 1155. Woodworking Skills II
3 Credits (1+4P)
Advanced woodworking skills to include use of advanced power tools, power tool safety, and supervised construction.
Learning Outcomes
1. Students will gain the skills necessary to use hand tools, and power tools, perform basic calculations accurately, and complete projects.
2. Students will purchase materials, draft, and construct one project without a door or drawer.
3. Students will develop creative thinking skills and problem-solving skills in working with the various hand tools.

CNST 1160. Plumbing Theory I
3 Credits (2+3P)
Covers occupational introductions, human relations, safety, tools and equipment used in plumbers trade, plumbing components, sizes of various residential and commercial plumbing systems, pipe fittings, pipe joining and cost estimation.
Learning Outcomes
1. Demonstrate the ability to use equipment safely and to demonstrate these practices in the classroom.
2. Demonstrate diagramming and explain the drain, waste, and vent system.
3. Demonstrate the ability to diagram and explain the potable water system.
4. Demonstrate the ability to draw and explain storm water systems.
5. Demonstrate an awareness of the various materials and fittings used in plumbing.
6. Demonstrate an awareness of the various materials and fittings used in plumbing.
7. Demonstrate soldering of copper pipe. Demonstrate gluing of PVC pipe.

CNST 1166. Woodworking Theory and Practice
3 Credits (2+2P)
History of wood manufacturing, industrial techniques, wood characteristics, stains and finishes. Design and construction of minor wood projects. May be repeated up to 3 credits.
Learning Outcomes
1. Students will learn about the history of woodworking, learn about the different types of wood and best use for projects; learn about wood stain, and construct one project without a drawer working with various hand tools.

CNST 1215. Weatherization in Construction
3 Credits (2+2P)
Introduction to industry weatherization standards and practices utilized in the construction of buildings for the purpose of energy conservation. Economic and environmental impacts of the use of energy in heating and cooling building will be examined.
Prerequisite(s): CNST 1110, CNST 1122 and CNST 1133.
Learning Outcomes
1. Knowledge of the construction industry.
2. Knowledge of related career pathways.
3. Applicable knowledge and skills related to specific industry fields.
4. Knowledge and ability to follow industry safety practices and procedures.
5. Understand applicable codes, rules, and regulations.

CNST 1240. Cabinet Making
3 Credits (1+3P)
Covers advanced design and construction of cabinets including safety and use of hand and power tools, and materials.
Prerequisites: CNST 1155, CNST 1166, or consent of instructor.
Learning Outcomes
1. Demonstrate the safe use of various hand and power tools used in cabinet making.
2. Demonstrate the proper selection of tools for required tasks.
3. Design cabinet projects and prepare accurate materials lists.
4. Perform planning, joining, cutting, routing and other procedures used for cabinet making.
5. Demonstrate how to select and apply various finishes.
6. Properly assemble, install, assess and adjust cabinet project components.

CNST 1311. Small Equipment Maintenance and Repair
4 Credits (2+4P)

Covers small engine theory, troubleshooting and repair, auto maintenance, hydraulic theory and repair lubricants, batteries and scheduled tool maintenance. May be repeated up to 4 credits.

CNST 1330. Professional Development and Leadership
1 Credit (1)
As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. Students competing or participating in Skills USA are required to register for the course.
Learning Outcomes
1. Apply knowledge of conduit types and sizes to select appropriate bending methods.
2. Describe the purpose and function of raceways and fittings.
3. Restate the properties, ratings, and applications of different conductors and cables.
4. Identify the layout and organization of electrical drawings, including plans, elevations, and details.
5. Determine residential service sizing, grounding, and bonding requirements.
6. Apply knowledge of test equipment usage and safety practices to perform accurate electrical measurements and diagnostics.

CNST 1510. Forklift Operation
1 Credit (1)
Classroom instruction and hands-on practice to prepare students to operate a forklift safely in the workplace. Students will have the opportunity to earn a forklift operator's permit. Consent of Instructor required.
Learning Outcomes
1. Recall the rules and regulations for operating a forklift.
2. Apply knowledge of the correct methods for handling loads with a forklift.
3. Evaluate the factors affecting the stability of a forklift.
4. Utilize a forklift safety checklist to ensure compliance with safety protocols and procedures.
5. Indicate the process and safety guidelines for battery charging in forklifts.
6. Define the procedures for servicing and handling LP gas in forklifts.

CNST 2217. Building and the Environment
3 Credits (3)
Introduction to LEED's, and Green Building Fundamentals, sustainability, sustainable design and green building evaluating cost implication of green building. Describes site development; managing site water runoff, improving a project's water use efficiency. Discusses renewable energy sources, and introduces student to generating power on-site using renewable energy sources, improving a building's indoor environment quality, improving the building industries' environmental performance and environmental aspects of building maintenance, re-use and conservation.
Learning Outcomes
1. Employ effective oral and written communication skills.
2. Interpret information and instructions accurately.
3. Explain knowledge of sustainable and alternative building practices, such as LEED/Green initiatives.
4. Evaluate mechanical processes commonly used in building trades.
5. Describe and utilize methods to measure personnel and individual improvement.
6. Demonstrate effective leadership skills by utilizing available resources efficiently.

CNST 2290. Plumbing II
3 Credits (2+3P)
Provides students the opportunity to gain more practice in the skills and knowledge learned in Plumbing I. Students will install fixtures and run the various plumbing supply lines from Plumbing Level I. The course included hands on projects in which the students apply many of the competencies that have been presented through the National Center for Construction and Education Research (NCCER) Plumbing Program.
Prerequisite/Corequisite: CNST 1160.
Learning Outcomes
1. Work with copper tubing and fittings.
2. Practice safety related to the plumbing trade.
3. Work with cast iron pipe and fittings.
4. Work with steel pipe and fittings.
5. Perform calculations related to the plumbing trades.
6. Read plumbing blueprints and drawings.
7. Install plumbing fixtures.
8. Install and design drain, waste and vent systems.
9. Identify the major components of water distribution systems and describe their functions.

CNST 2994. Special Problems in Building Technology
1-4 Credits
Individual studies in areas directly related to building technologies. May be repeated up to 4 credits.
Learning Outcomes
1. Varies.

CNST 2995. Cooperative Co-Op
1-4 Credits (1-4)
Supervised cooperative work program. Student is employed in an approved occupation and is supervised and rated by the employer and instructor. Student will meet in a weekly class.
Learning Outcomes
1. Varies.

CNST 2996. Topics in Construction
1-6 Credits (1-6)
Topics to be announced in the Schedule of Classes.
Learning Outcomes
1. Varies.

COMM-COMMUNICATION (COMM)

COMM 1115G. Introduction to Communication
3 Credits (1+2P)
This survey course introduces the principles of communication in the areas of interpersonal, intercultural, small group, organizational, public speaking, mass, and social media. May be repeated up to 3 credits.
Learning Outcomes
1. Describe basic communication terms, forms and concepts.
2. Identify basic communication research methods and theories.
3. Explain the significance of ethics and diversity in communication processes.
4. Apply various concepts and skills in multiple communication contexts.

COMM 1130G. Public Speaking
3 Credits (3)
This course introduces the theory and fundamental principles of public speaking, emphasizing audience analysis, reasoning, the use of evidence, and effective delivery. Students will study principles of communication theory and rhetoric and apply them in the analysis, preparation and presentation of speeches, including informative, persuasive, and impromptu speeches. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate effective speech preparation.
2. Demonstrate effective speech delivery through use of language, nonverbal elements and the creation of presentation aids.
3. Analyze a potential audience and tailor a speech to that audience.
4. Evaluate presentations according to specific criteria.
5. Explain common propaganda techniques and logical fallacies, and identify them in the speeches of others.
6. Recognize diversity and ethical considerations in public speaking.

COMM 2110. Communication Theory
3 Credits (3)
This course provides an exploration of major theories, concepts and methods of research in the study of human communication. May be repeated up to 3 credits.
Learning Outcomes
1. Identify, explain, and illustrate key concepts and principles of the major traditions of communication theory.
2. Analyze practical problems and situations using theories.
3. Integrate research correctly and ethically from credible sources to support the primary purpose of communication.

COMM 2996. Special Topics
1-3 Credits (1-3)
Specific subjects and credits to be announced in the Schedule of Classes. May be repeated up to 12 credits.
Learning Outcomes
1. Define and describe key concepts and principles related to the group study or selected topic as identified by the course subtitle.
2. Apply key concepts and principles related to the group study or selected topic as identified by the course subtitle.

COMM 2997. Independent Study
1-3 Credits (1-3)
Individualized, self-paced projects for students with a special interest in communication topics. Students must be sophomore standing to enroll. May be repeated up to 6 credits.
Prerequisite: COMM 1115G.
Learning Outcomes
1. The student will study a selected topic and conduct a literature review or comparable research assignment.
2. The student will apply knowledge and understanding of the topic in a final paper or project.

CSCI-COMPUTER SCIENCE

CSCI 1110. Computer Science Principles
4 Credits (3+2P)
This course provides a broad and exciting introduction to the field of computer science and the impact that computation has today on every aspect of life. It focuses on exploring computing as a creative activity and investigates the key foundations of computing: abstraction, data, algorithms, and programming. It looks into how connectivity and the Internet have revolutionized computing and demonstrates the global impact that computing has achieved, and it reveals how a new student in computer science might become part of the computing future.
Prerequisite: MATH 1215 or higher.
Learning Outcomes
1. Identify and differentiate programming constructs like IF, FOR, and WHILE.
2. Convert numbers between Hexadecimal, Binary and Decimal.
3. Write pseudo code to manipulate a robot.
4. Use an ASCII table to translate HEX strings into characters.
5. Encrypt and Decrypt simple messages with a Caeser Cypher.

CSCI 1115G. Modern Computing in Practice
4 Credits (3+2P)
This course provides a survey of practical and theoretical foundations for how computers work and how they support fundamental organizational needs. The course covers broad aspects of the hardware, software, and mathematical basis of computers. Lab assignments provide hands-on applications to use simple basic software tools to write simple programs, build and edit websites, analyze data with spreadsheets, choose an office productivity suite, and demonstrate computer literacy to potential employers. May be repeated up to 4 credits.
Prerequisite: MATH 1130G or MATH 1215 or higher.
Learning Outcomes
1. Students will create simple python programs using conditional statements and loops.
2. Students will analyze data with spreadsheet formulas, charts, and tools.
3. Students will create and publish a personal website using website building tools.
4. Students will edit HTML and CSS to format a website manually.
5. Students will practice the skill of performing software QA and providing actionable feedback to developers.
6. Students will become aware of common cybersecurity risks.
7. Students will learn basic vocabulary and context for broad aspects of hardware, software, and computer science theory such as Security, Privacy, Cloud Computing, the Internet, the Web, Operating Systems, Discrete Math, and Information Systems.
8. Students will be exposed to various sub-fields of CS including artificial intelligence, security, data analytics, UX, web development, and QA testing.
9. Students will reason about the societal impacts of technology. 1
10. Students will incorporate their new knowledge and skills into their resume.

CSCI 1120. Introduction to Computer Animation
3 Credits (3)
Introductory course for learning to program with computer animation as well as learning basic concepts in computer science. Students create interactive animation projects such as computer games and learn to use software packages for creating animations in small virtual worlds using 3D models. Recommended for students considering a minor/major in computer science or simply interested in beginning computer animation or programming.

CSCI 1210. Computer Programming Fundamentals
3 Credits (2+2P)
This course is an introduction to problem-solving methods and algorithm development. Students will learn how to design, code, debug, and document programs. Students will explore basic programming concepts

including variables, data types, operators and expressions. Students will learn about input/output mechanisms, including command prompt interaction, and reading and writing data to files. Students will be introduced to control structures such as branching, conditionals, iteration, and loops and arrays. They will also learn how to define and use functions/methods to structure code and improve code reuse. May be repeated up to 3 credits.
Prerequisite(s): MATH 1215 or higher.
Learning Outcomes

1. Demonstrate an understanding of procedural programming techniques by implementing programs which employ structured programming techniques.
2. Implement control flow structures in programs to execute statements in a specified order, repeat sequences of statements, and execute different statements based on conditions.
3. Apply modularization principles by defining and using functions/methods to structure code and improve code reuse and maintainability.
4. Write code utilizing data structures such as arrays, simple classes and objects, to provide useful access to, and operations on, data.
5. Input/output mechanisms to collect user input and display data, including implementing error handling mechanisms to handle invalid input and output operations. the concept of recursion and identify base case and inductive step.

CSCI 1220. Computer Programming Fundamentals: Python
3 Credits (3)
This course is an introduction to fundamental programming concepts, with a focus on problem-solving techniques and algorithm development using the Python programming language. Students will learn how to create basic scripts, work with data types and variables, use control structures, and build functions. The course is designed for students with little or no prior experience in programming and is intended to provide a foundation in programming that can be applied in a variety of fields.
Prerequisite: MATH 1215 or higher.
Learning Outcomes

1. Apply programming concepts to design and develop solutions for computational problems.
2. Utilize optimal flow-control strategy for solving a given problem.
3. Design and implement functions to support organization, decomposition and reusability of code.
4. Evaluate and select data structures to efficiently organize and store information for a given problem.
5. Demonstrate the concept of scope to control access to global, local, and class variables.
6. Create and use a simple class to demonstrate object-oriented programming principles.
7. Utilize basic file input/output with text-based files.

CSCI 1225. Python Programming II
3 Credits (3)
This course covers advanced Python programming, including classes, objects, and inheritance, embedded programming in domain applications, database interaction, and advanced data and text processing. The focus will be on preparing students to use Python in their own areas.
Prerequisite(s): CSCI 1220 or CSCI 4520.

CSCI 1235. R Programming I
3 Credits (3)
This course is an introduction to data processing in the R language, covering fundamental script configuration, data types and data collections, R control structures, and basic creation of graphs and data visualizations. This course will not focus on the statistical capabilities of R, though some basic statistical computations will be used.
Prerequisite(s): MATH 1220G.
Learning Outcomes

1. Show proficiency in installing R, navigating the RStudio interface, setting work directories, executing scripts, and using built-in R functions for data analysis.
2. Create and implement custom R functions to streamline and automate data processing.
3. Demonstrate the ability to create, manipulate, and use various R data structures including vectors, matrices, arrays, data frames, lists, and factors for effective data operations.
4. Acquire skills to import and export data in various formats including CSV and RData, and install and use essential R packages for data analysis.
5. Utilize R's control flow constructs like conditional statements and loops to write robust R scripts for data analysis.
6. Use apply family functions, such as apply(), sapply(), lapply(), and tapply(), to enhance data manipulation and analysis, particularly when dealing with missing values.
7. Generate, customize, and save various types of plots including scatter plots, bar charts, pie charts, histograms, and box plots for data visualization.
8. Apply exploratory data analysis techniques, including measuring central tendency, dispersion, and constructing five-number summaries, to analyze data distributions.
9. Manipulate string data using R functions and regular expressions to prepare text for analysis.

CSCI 1240. C++ Programming I
3 Credits (2+2P)
This course is an introduction to problem-solving methods and algorithm development using C++. Students will learn how to design, code, debug, and document programs. Students will explore basic programming concepts including variables, data types, operators and expressions. They will also learn how to work with the C++ preprocessor directives and libraries. Students will learn about input/output mechanisms, including command prompt interaction, reading and writing data to files. Students will be introduced to control structures such as branching, conditionals, iteration, and loops and arrays. They will also learn how to define and use functions to structure code and improve code reuse.
Prerequisite: MATH 1215 or higher.
Learning Outcomes

1. Implement programs which employ structured programming techniques.
2. Implement control flow structures.
3. Apply modularization principles by defining and using functions/methods to structure code and improve code reuse and maintainability.
4. Write code utilizing data structures such as arrays, using pointers, and simple classes to provide useful access to, and operations on, data.
5. Use input/output mechanisms to collect user input and display data, including implementing error handling mechanisms to handle invalid input and output operations.

CSCI 1720. Computer Science I
4 Credits (3+2P)

Computational problem solving; problem analysis; implementation of algorithms using Java. Object-oriented concepts, arrays, searching, sorting, and recursion.
Prerequisite: (A C- or better in either MATH 1220 or higher) OR (Math placement into MATH 1250 or higher) OR (A C- or better in CSCI 1110).
Learning Outcomes
1. Develop algorithms to solve problems.
2. Implement algorithms using the fundamental programming features of sequence, selection, iteration, and recursion.
3. Apply an understanding of primitive and object data types.
4. Design and implement classes based on given attributes and behaviors.
5. Explain the fundamental concepts of object-oriented programming.

CSCI 2210. Object-Oriented Programming
4 Credits (3+2P)
This course is an introduction to object-oriented programming. Including: Classes and objects, and associated topics such as constructors, properties, and methods, inheritance, polymorphism, encapsulation, abstraction, exception handling and best practices. May be repeated up to 4 credits.
Prerequisite: At least a C- in CSCI 1720 or ENGR 140.
Learning Outcomes
1. Implement object-oriented designs based on project requirements.
2. Use encapsulation to write programs that are loosely coupled and easy to debug, maintain and modify.
3. Use inheritance to define simple class hierarchies that allow code to be reused by distinct subclasses.
4. Implement and reason about control flow in a program using polymorphism to solve common programming problems.

CSCI 2220. Introduction to Data Structures and Algorithms
4 Credits (3+2P)
Design, implement, and use fundamental abstract data types including linked lists, stacks, queues, and trees. Analyze the time and space complexity of algorithms, such as sorting.
Prerequisite: At least a C- in CSCI 1720, or placement.
Learning Outcomes
1. Implement basic data structures such as linked lists, stacks, queues, and trees in a high-level programming language.
2. Compare alternative implementations of data structures with respect to time and space complexity.
3. Explain the advantages and disadvantages of a variety of sorting algorithms.

CSCI 2230. Assembly Language and Machine Organization
4 Credits (3+2P)
Computer structure and system organization, instruction execution, memory addressing modes, hardware/software interface. Programming in assembly language.
Prerequisite: At least a C- in CSCI 1720 or ENGR 140.
Learning Outcomes
1. Describe the architecture of a microcontroller, the interconnections between the components, and the major units inside the CPU.
2. Use signed and unsigned numbers, bitwise operations, branching instructions, and the corresponding flags in the status register.
3. Use immediate, direct, indirect addressing modes in assembly instructions.
4. Map high-level programming language features to assembly instructions, such as loops, conditionals, procedure calls, value and reference parameter passing, return values, and recursion.
5. Interface with input/output devices via instructions, memory addressing, or interrupts.
6. Design and implement an assembly language program.

CSCI 2310. Discrete Mathematics for Computer Science
4 Credits (3+2P)
Discrete mathematics required for Computer Science, including the basics of logic, number theory, methods of proof, sequences, mathematical induction, set theory, counting, and functions. Taught with CSCI 4560.
Prerequisite: At least C- in CSCI 1720.
Learning Outcomes
1. Use logic to specify precise meaning of statements, demonstrate the equivalence of statements, and test the validity of arguments.
2. Construct and recognize valid proofs using different techniques including the principle of mathematical induction.
3. Use summations, formulas for the sum of arithmetic and geometric sequences.
4. Explain and apply the concepts of sets and functions.
5. Apply counting principles to determine the number of various combinatorial configurations.

CSCI 2410. Practical Programming
2 Credits (1+1P)
A hands-on dive into practical programming skills development. Students will practice skills such as implementing algorithms that manipulate data in arrays and other data structures, implementing and using hashing-based data collections, using I/O in programs to access and create data, and object-oriented programming. Students will also focus on honing their use of tools such as command line, integrated development environments, debuggers, and profilers for software development. May be repeated up to 2 credits.
Learning Outcomes
1. Perform simple manipulation of arrays and other basic data structures.
2. Better utilize objects and object oriented programming.
3. Utilize different tools for building, debugging, and improving their programs.
4. Will be able to learn and use a new programming language quickly.
5. Use basic I/O capabilities in a variety of languages.
6. Use documentation to learn important features of a programming languages.
7. Write programs that solve interview-like problems.

CSCI 2996. Special Topics
1-3 Credits (1-3)
Varies.
Learning Outcomes
1. Varies.

CSCI 3410. Introduction to Intelligent Agents Using Science Fiction
3 Credits (3)
This course uses science-fiction movies to introduce fundamental principles and techniques in agents and multi-agent systems. It is a gentle introduction to decision theory, machine learning, multi-agent systems, and ethics in agent-based systems.

Learning Outcomes

1. Use decision-theoretic models and algorithms to represent and solve simple planning and reasoning problems under uncertainty.
2. Use Markov Decision Processes to model and solve planning and reinforcement learning problems.
3. Use game-theoretic models and algorithms to represent and solve simple game- theoretic problems.
4. Understand the tradeoffs between the different agent models.
5. Understand the challenges for ensuring that AI agents are safe as they play an increasingly large role in modern society.

CSCI 3710. Software Development
4 Credits (3+2P)
Software specification, design, testing, maintenance, documentation; informal proof methods; team implementation of a large project. Taught with CSCI 4575.
Prerequisite: At least a C- in CSCI 2210 and CSCI 2220.
Learning Outcomes

1. Understand and explain the activities and structure of different styles of software development processes, including waterfall, (spiral,) iterative, and agile methodologies.
2. Apply requirements knowledge and techniques to create functional and non-functional requirements for a software system.
3. Apply high and low level design ideas to create an object-oriented design of a software system.
4. Use good design and programming ideas to implement individual and team software systems in compiled OOP languages.
5. Apply white and black box testing techniques and tools to individual and team software development.
6. Use UML class diagrams (and sequence diagrams) to capture aspects of system design and/or requirements (domain).
7. Use practical software development tools, including version control systems, automated build tools, and testing tools.

CSCI 3720. Data Structures and Algorithms
4 Credits (3+2P)
Introduction to efficient data structure and algorithm design. Order notation and asymptotic run-time of algorithms. Recurrence relations and solutions. Abstract data type dynamic set and data structures based on trees. Classic algorithm design paradigms: divide-and-conquer, dynamic programming, greedy algorithms. Taught with CSCI 5110.
Prerequisite: At least a C- in CSCI 2220 and CSCI 2310.
Learning Outcomes

1. Analyze the growth of functions via asymptotic notation.
2. Evaluate the asymptotic running time of a given algorithm.
3. Solve recurrence relations of the kinds encountered in algorithm analysis.
4. Design algorithms using the divide-and-conquer technique.
5. Design algorithms using the greedy technique.
6. Design algorithms using the dynamic-programming technique.
7. Use and analyze data structures based on trees.
8. Analyze the design, correctness, and time complexity of basic graph algorithms.

CSCI 3730. Compilers and Automata Theory
4 Credits (3+2P)
Methods, principles, and tools for programming language processor design; basics of formal language theory (finite automata, regular expressions, context-free grammars); development of compiler components. Taught with CSCI 4580.
Prerequisite: At least a C- in CSCI 2210, CSCI 2220, and CSCI 2230.
Learning Outcomes

1. Understand the language theory concepts of regular languages, context free languages, regular expressions, context free grammars, and formal language hierarchy.
2. Use Thompson's construction to convert from regular expression to NFA, and subset construction to convert from NFA to DFA.
3. Apply recursive descent parsing in programming a parser of a small grammar.
4. Understand the ideas in LL and LR parsing of context-free language classes.
5. Understand and use table-driven top-down (LL(1)) and bottom up (SLR) parsing to parse a sentence.

CSCI 3790. Algorithm Design & Implementation
3 Credits (3)
Introduction to efficient data structure and algorithm design. Basic graph algorithms. Balanced search trees. Classic algorithm design paradigms: divide-and-conquer, greedy scheme, and dynamic programming. Taught with CSCI 4590.
Prerequisite: At least a C- in CSCI 2220, or consent of instructor.

CSCI 3997. Independent Study
1-6 Credits (1-6)
Faculty supervised investigation, to culminate in a written report. May be repeated up to 6 credits.
Learning Outcomes

1. Varies.

CSCI 4105. Programming Language Structure I
3 Credits (3)
Syntax, semantics, implementation, and application of programming languages; abstract data types; concurrency. Not for Computer Science graduate students.
Prerequisite: At least a C- in CSCI 3730 and CSCI 3710.
Learning Outcomes

1. Analyze the strengths and weaknesses of various programming languages for solving specific classes of problems.
2. Develop strategies to efficiently learn and adapt to new programming languages.
3. Evaluate and justify the choice of programming paradigms and languages for new and unfamiliar problems.
4. Identify and explain the primary components of a running program.
5. Implement programs using the principles of functional programming.
6. Implement programs using the principles of logic programming.
7. Design and implement simple parallel programs using threads.
8. Write programs in at least five different programming languages, demonstrating proficiency in syntax and idiomatic usage.
9. Write and analyze C programs to demonstrate an understanding of low-level architecture details.

CSCI 4110. Computing Ethics and Social Implications of Computing
1 Credit (1)
An overview of ethics for computing majors includes: history of computing, intellectual property, privacy, ethical frameworks, professional ethical responsibilities, and risks of computer-based systems.
Prerequisite: At least a C- in CSCI 3710.

Learning Outcomes

1. Understand the fundamental technologies and operation of the web.
2. Design and develop responsive interactive web sites.
3. Deploy web applications on Cloud Computing Platforms.
4. Leverage modern tools and packages to develop full stack web applications.
5. Be fluent in the application of emerging web technologies like browser extensions, WebSockets, and WebRTC.
6. Use existing materials and references on the web to learn new skills.

CSCI 4120. Operating Systems I
3 Credits (3)
Operating system principles and structures, and interactions with architectures. Not for Computer Science graduate students.
Prerequisite: At least a C- in CSCI 2230 and CSCI 3710.
Learning Outcomes

1. Explain OS control and management of hardware resources.
2. Explain OS management and execution of processes.
3. Explain OS control and management of real and virtual memory.
4. Explain classical concurrency issues and their solutions.
5. Analyze and implement threads.
6. Analyze OS interaction with networks and architecture.

CSCI 4130. Linux System Administration
3 Credits (3)
Basic system administration for Linux environments. Topics include user managements, file systems, security, backups, system monitoring, kernel configuration and other relevant aspects of system administration. Not for Computer Science graduate students.
Learning Outcomes

1. Understand the history and basic concepts of Linux and explain the differences between Linux distributions.
2. Demonstrate the installation of a Linux VM, use of basic Linux commands, and navigate the Linux file system.
3. Understand the basics of shell environments and types and write basic shell scripts to automate tasks.
4. Understand Linux file system security, user and group management, file system hierarchy and disk management.
5. Install, update, remove, and configure software, firewalls, and network settings, in Linux.
6. Monitor system performance and, analyze and troubleshoot system logs.
7. Understand device and configuration management automation.

CSCI 4140. Database Management Systems I
3 Credits (3)
Database design and implementation; models of database management systems; privacy, security, protection, recovery. Not for Computer Science graduate students. Taught with CSCI 5140.
Prerequisite: At least a C- in CSCI 2220 and CSCI 2310.
Learning Outcomes

1. Utilize the basic concepts of relational database model.
2. Utilize database query languages (e.g. SQL).
3. Identify data integrity and security requirements.
4. Analyze, capture, and model user requirements for building database systems using conceptual models.
5. Design and normalize relational schemas.
6. Apply application development methods to implement a database system.

CSCI 4205. Computer Security
3 Credits (3)
Introduction to the art and science of computer security. Fundamentals of computer security including elementary cryptography, authentication and access control, security threats, attacks, detection and prevention in application software, operating systems, networks and databases. Not for Computer Science graduate students. Taught with CSCI 5205.
Prerequisite: At least a C- in CSCI 2220, CSCI 2230 or consent of instructor.
Learning Outcomes

1. Describe fundamental concepts in security and privacy.
2. Understand requirements of security in different contexts.
3. Describe practical implementation challenges in security/privacy system design.
4. Explain at a high-level symmetric and public key cryptography.
5. Explain various access control mechanisms such as authentication, authorization.
6. Understand aspects of secure system design that a computer programmer/engineer needs to account for.

CSCI 4206. Hardware Security
3 Credits (3)
Hardware security covers the intersection of hardware and security attacks/defenses. Students will study a variety of approaches to hardware security in this course, e.g., micro-architectural side channels, cache side-channel attacks, memory attacks, speculative-based attacks, etc. Students will also learn about the various computer architectural components that can be exploited for launching security attacks. Taught with CSCI 5206. Preferable to have knowledge of CSCI 4230 (Architectural Concepts I).
Prerequisite: At least a C- in CSCI 2230.
Learning Outcomes

1. Understand how computer architectural components can be exploited for launching security attacks.
2. Build an insight of developing defense mechanism again hardware-based security attacks.
3. Explain micro-architectural side channels.
4. Understand cache side channel attacks.
5. Demonstrate knowledge of memory attacks.
6. Explain Speculative execution based attacks.
7. Understand Rowhammer.
8. Explain trusted execution environment as a security mechanism.

CSCI 4210. Introduction to Smart Grids
3 Credits (3)
This course is an introduction to the technologies and design strategies associated with the Smart Grid. The emphasis will be on the development of communications, energy delivery, coordination mechanisms, and management tools to monitor transmission and distribution networks. Topics include: Smart grid introduction and evolution; Power systems; Networking and transport control; Artificial intelligence & agent coordination; Data mining for smart grids. Taught with CSCI 5210.
Prerequisite: At least a C- in CSCI 2220 and a C- in ENGR 230; or Consent of instructor.
Learning Outcomes

1. Get basic understanding of how conventional power system is operated and protected.

2. Understand and use basic knowledge of communication techniques in smart grids.
3. Understand and use basic knowledge for the coordination of the different units in smart grids.
4. Understand and apply data mining techniques for protecting smart grids.

CSCI 4215. Parallel Programming
3 Credits (3)
Programming of shared memory and distributed memory machines; tools and languages for parallel programming; techniques for parallel programming; parallel programming environments. Not for Computer Science graduate students. Taught with CSCI 5215.
Prerequisite: At least a C- in CSCI 3730 or consent of instructor.
Learning Outcomes
1. Describe existing parallel architectures including shared memory versus distributed memory platforms.
2. Apply basic techniques for organizing parallel computations.
3. Apply basic techniques for performance measurement and theoretical limitations of parallelism.
4. Explain alternative parallel techniques and hardware.
5. Perform performance Analysis of different parallel programming techniques.
6. Program shared memory machines using threads, processes, and the OpenMP library.
7. Program using a message passing paradigm and obtain working knowledge of the Message Passing Interface (MPI).

CSCI 4220. Cloud and Edge Computing
3 Credits (3)
The course presents a top-down view of cloud computing, from applications and administration to programming and infrastructure. Its main focus is on the concepts of networking and parallel programming for cloud computing and large scale distributed systems which form the cloud infrastructure. The topics include: overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems. Students will study state-of-the-art approaches to cloud computing followed by large cloud corporations, namely Google, Amazon, Microsoft, and Yahoo. Students will also apply what they learn through project developments using Amazon Web Services. Not for graduate Computer Science majors. Taught with: CSCI 5220.
Prerequisite: Background in CSCI 4245/CSCI 5245 is preferred or consent of instructor.
Learning Outcomes
1. Explain the role of cloud computing and IoT.
2. Explain security techniques in cloud and IoT networks.
3. Summarize the features and associated risks of different service models.
4. Design a model or prototype as a solution of the identified problem.
5. Understand the differences between various infrastructure deployment models such as on-prem, hybrid, public, and private.

CSCI 4225. Introduction to Cryptography
3 Credits (3)
The course covers basic cryptographic primitives, such as symmetric, public-key ciphers, digital signature schemes, and hash functions, and their mathematical underpinnings. Course helps students understand basic notions of security in a cryptographic sense: chosen plaintext and chosen ciphertext attacks, games, and reductions. Course also covers computational number theory relevant to cryptography. Consent of Instructor required. Taught with: CSCI 5225.
Prerequisite: CSCI 2310 (or equivalent) with a C or better.
Learning Outcomes
1. Describe basic cryptographic primitives, including symmetric ciphers, asymmetric ciphers, digital signatures, message authentication codes, and hash functions.
2. Understand the mathematical, fundamental underpinnings of cryptography, and how to reason about the security of crypto primitives: indistinguishability (IND) properties of ciphertexts, CPA/CCA games, and reductions to fundamental math assumptions.
3. Be able to discuss number theory/algebra underpinning the design of cryptographic primitives, in some depth.

CSCI 4230. Architectural Concepts I
3 Credits (3)
Comparison of architectures to illustrate concepts of computer organization; relationships between architectural and software features. Not for Computer Science graduate students.
Prerequisite: At least a C- in CSCI 2230 and CSCI 3730.
Learning Outcomes
1. Explain the concepts in instruction set architecture.
2. Analyze the behavior of pipelined CPU data path and control.
3. Analyze behavior and performance of memory hierarchies with different cache designs.
4. Describe the implementation of binary integer and floating point representation and arithmetic.
5. Identify and analyze performance of instruction level parallelism and multi-core parallelism.
6. Describe virtual memory and architectural support for operating systems.
7. Understand the organization of various kinds of secondary storage devices, and their performance and tradeoffs.
8. Create software that demonstrates performance of architectural features and evaluate the effects of software change.

CSCI 4235. Cellular Networks and Mobile Computing
3 Credits (3)
This course will offer a solid introduction to major global wireless standards and comparisons of the different wireless technologies and their applications and examine each technology and how to utilize several different systems for the best results. A basic understanding of Computer Networks is preferable as a course prerequisite.
Learning Outcomes
1. Understand user associations and routing in a cellular/mobile network.
2. Develop insight into interaction of elements within the cellular/mobile core.
3. Understand the concept of end-to-end delivery of a packet and/or signal.
4. Develop an understanding of what happens with the hand-off at each step along the communications path.
5. Be able to explain differences in core architecture between different generations of cellular and mobile network technologies.

CSCI 4240. Software Reverse Engineering
3 Credits (3)
This class provides students with fundamental experience in software reverse engineering with a focus on malware reverse engineering. Students will learn operational security for safely analyzing untrusted

code in a sandbox environment. Students will learn control flow integrity attacks, binary control flow analysis, and how to analyze live program behavior. Taught together with CSCI 5240.

Learning Outcomes

1. Students will learn how malware behaves, spreads, and is controlled.
2. Students will learn how to safely analyze malware in controlled environments.
3. Students will learn how malware seeks to hide in systems.
4. Students will learn to perform static analysis of binaries using simple tools.
5. Students will learn how malware obfuscates itself to avoid analysis, including using crypto packers, polymorphism, and sandbox detection.
6. Students will learn to perform decompilation and control-flow analysis of binaries using Ghidra.
7. Students will learn to dynamically analyze malware in a sandbox environment while observing network traffic, resource consumption, and system calls.
8. Students will learn to detect malware running with operating-system level permissions (rootkits).
9. Students will learn memory forensics techniques to detect malware hidden within benign processes.

CSCI 4245. Computer Networks I
3 Credits (3)

Fundamental concepts of computer communication networks: layered network architecture, network components, protocol stack and service. Example of application, transport, network and data link layers, protocols primarily drawn from the Internet (TCP, UDP, and IP) protocol multimedia networks; network management and security. Not for Computer Science graduate students. Taught with CSCI 5245.

Prerequisite: At least a C- in CSCI 2220 and CSCI 2230.

Learning Outcomes

1. Explain the layered model of networking using the OSI and TCP/IP models.
2. Explain TCP and UDP as particular transport layer protocols.
3. Explain and analyze routing and forwarding mechanisms.
4. Implement application layer protocols.
5. Explain other network issues such as multicasting, audio/video data streaming, and Domain Name System.

CSCI 4250. Human-Centered Computing
3 Credits (3)

Covers iterative, human-centered interface design, including prototyping and evaluation. Basics of graphic design and visualization. Not for Computer Science graduate students. Taught with CSCI 5250.

Prerequisite: At least C- in CSCI 3710.

Learning Outcomes

1. Describe, analyze, and/or critique a device interface using a design vocabulary.
2. Enact a human-centered process of interaction design: gather data; develop a data-driven design; iterate design through testing; and evaluate results.
3. Conduct human-computer interaction research by proposing, developing, and conducting experiments; analyzing data; and developing synthesized results.
4. Communicate design and evaluation with presentations, demos, and reports.
5. Implement a variety of interaction techniques.

CSCI 4255. Digital Game Design
3 Credits (3)

An introduction to digital game design. Topics include design, development, and playtesting of games. The course is structured to use team-based learning. Not for Computer Science graduate students. Taught with CSCI 5255.

Prerequisite/Corequisite: CSCI 3710.

Learning Outcomes

1. Describe, analyze, and/or critique games with a consistent vocabulary.
2. Design, develop, and playtest games.
3. Understand the formal systems of games.
4. Communicate game designs through demonstrations and presentations.

CSCI 4260. Visual Programming
3 Credits (3)

Design and implementation of programs using visual (i.e. dataflow or diagrammatic) programming techniques, with an emphasis on real-time data processing. Students will learn how to design visual programs, including how to handle cycles and state maintenance, and will learn to process audio, video, and other data using visual programs. Not for Computer Science graduate students. Taught with CSCI 5260.

Prerequisite: At least a C- in CSCI 2220 and CSCI 2310.

Learning Outcomes

1. Develop software in graph-based visual environments.
2. Understand flows of control in visual programming environments.
3. Use signals, digital and analog, to drive software.
4. Communicate software design and evaluation with presentations, demos, and reports.

CSCI 4265. Modern Web Technologies
3 Credits (3)

In this course, we will take a full-stack approach to modern web application design. We will start with the fundamentals including HTML5, CSS3, Javascript, JSON, and the underlying networking concepts and protocols driving the modern web. We will then move on to more advanced topics including javascript backend development with Node.js, NoSQL database design with MongoDB, cloud computing, and re- sponsive web design. Finally, we cover advanced topics including the design and im- plementation of browser extensions and real-time web technologies like WebRTC and WebSockets. Consent of Instructor required. Taught with: CSCI 5265.

Learning Outcomes

1. Understand the fundamental technologies and operation of the web.
2. Design and develop responsive interactive web sites.
3. Deploy web applications on Cloud Computing Platforms.
4. Leverage modern tools and packages to develop full stack web applications.
5. Be fluent in the application of emerging web technologies like browser extensions, WebSockets, and WebRTC.
6. Use existing materials and references on the web to learn new skills.

CSCI 4270. Principles of Virtual Reality
3 Credits (3)

This course is an introduction to building systems and doing research in / on virtual reality. We cover system design, development, and evaluation, with an emphasis on recent research in the space. We cover a range of methods, qualitative and quantitative, in order to develop insights into effective VR designs. Students in this class will develop a foundation in VR development; learn about current topics in VR; and design, develop, evaluate, and report on a VR system.
Prerequisite: CSCI 4250.
Learning Outcomes
1. Design and develop systems in virtual reality.
2. Understand the variety of development techniques in VR.
3. Understand the state-of-the-art in VR systems.
4. Communicate understanding of people, designs, and evaluations through presentations, demos, and/or reports.

CSCI 4305. Bioinformatics
3 Credits (3)
Introduction to bioinformatics and computational biology. Computational approaches to sequences analysis, protein structure prediction and analysis, and selected topics from current advances in bioinformatics. Not for Computer Science graduate students. Taught with CSCS 5305.
Prerequisite: At least a C- in CSCI 2220 and CSCI 2310.
Learning Outcomes
1. Explain the biology motivation of a bioinformatics question.
2. Formulate a computational problem and its solution to address a molecular biology question.
3. Implement basic bioinformatics algorithms such as sequence alignment, pattern matching, and genome assembly.
4. Evaluate the performance of a bioinformatics algorithm on real data sets.
5. Argue the correctness of a bioinformatics algorithm.
6. Analyze the complexity of a bioinformatics algorithm.

CSCI 4310. Bioinformatics Programming
3 Credits (3)
Computer programming to analyze high-throughput molecular biology data including genomic sequences, bulk and single-cell transcriptome, epigenome, and other omics data. Quality control, library size normalization, confounding effect removal, clustering, statistical modeling, trajectory inference, and visualization. Taught with CSCI 5310.
Learning Outcomes
1. Write R scripts and functions to manipulate biological sequences, genome annotation, and gene expression data.
2. Perform high-throughput data analysis with established R packages.
3. Detect differential gene expression on RNA sequencing data.
4. Perform single-cell RNA sequencing data analysis (quality control, library size normalization, confounding effect removal, modeling).
5. Assess statistical significance of analytical results.
6. Create automatic data analysis pipeline to link multiple software packages.

CSCI 4405. Artificial Intelligence I
3 Credits (3)
Fundamental principles and techniques in artificial intelligence systems. Intelligent Agents; solving problems by searching; local search techniques; game-playing agents; constraint satisfaction problems; knowledge representation and reasoning. Further selected topics may also be covered. Not for Computer Science graduate students. Taught with CSCI 5405.
Prerequisites: At least a C- in CSCI 2220 and CSCI 2310.
Learning Outcomes
1. Use various search algorithms commonly used in problem-solving.
2. Use various methods for solving constraint satisfaction problems.
3. Use propositional and first-order logic to represent knowledge.
4. Use logical inference methods to derive conclusions from a knowledge base.
5. Use adversarial search for game-playing agents.
6. Analyze the different search strategies.
7. Design and Implement heuristic search for problem-solving.
8. Understand how adversarial attacks can affect decision-making and problem-solving in classical AI.

CSCI 4410. Computer Graphics I
3 Credits (3)
Languages, programming, devices, and data structures for representation and interactive display of complex objects. Not for Computer Science graduate students. Taught with CSCI 5405.
Prerequisite: At least C- in CSCI 3730 or CSCI 3710.
Learning Outcomes
1. Demonstrate understanding of techniques used in three-dimensional graphics.
2. Apply Computer Graphics lightning and shading to model a scene.
3. Understand client-server graphics using WebGL.
4. Apply Geometric and Solid modeling techniques.
5. Develop and implement Computer Graphics algorithms.

CSCI 4415. Introduction to Data Mining
3 Credits (3)
Techniques for exploring large data sets and discovering patterns in them. Data mining concepts, metrics to measure its effectiveness. Methods in classification, clustering, frequent pattern analysis. Selected topics from current advances in data mining. Taught with CSCI 5415.
Prerequisite: At least a C- in CSCI 2220 and CSCI 2310.
Learning Outcomes
1. Explain and recognize different data mining tasks such as data pre-processing, visualization, classification, regression, clustering, association rules, and anomaly detection.
2. Apply classical data mining / machine learning algorithms for classification, clustering, association rules, and anomaly detection.
3. Evaluate and compare the performance of different data mining / machine learning algorithms.
4. Utilize data mining algorithms to analyze data in real applications using a data mining tool.

CSCI 4420. Applied Machine Learning I
3 Credits (3)
An introductory course on practical machine learning. An overview of concepts for both unsupervised and supervised learning. Topics include classification, regression, clustering, and dimension reduction. Classical methods and algorithms such as linear regression, neural networks, support vector machines, and ensemble approaches. Recent techniques such as deep learning. Focused on applying of machine learning techniques in application domains. Not for Graduate Majors. Taught with: CSCI 5420.
Prerequisite: At least a C- in CSCI 2220, MATH 1511G; or consent of instructor.
Learning Outcomes
1. Implement and utilize different data processing techniques.
2. Differentiate and assess several dimension reduction techniques.

3. Utilize several classifiers (SVM, Decision tree, k-Nearest Neighbor, and logistic regression) and differentiate their advantages and disadvantages.
4. Explain and demonstrate regression analysis.
5. Describe and illustrate clustering approaches.
6. Apply ensemble learning approaches.
7. Implement several neural network classifiers, including deep learning models.

CSCI 4425. Introduction to Deep Learning
3 Credits (3)
The course covers basic concepts of neural networks which include transition of classical machine learning to hierarchical feature learning, feedforward networks, regularization, optimization, hyperparameter tuning, deep convolutional networks and their applications in computer vision, deep sequence models, and deep generative models. Taught together with CSCI 5425.
Prerequisite: At least a C- in CSCI 2220 or CSCI 1220, and CSCI 2310, or consent of instructor.
Learning Outcomes
1. Have significant familiarity with different state-of-the-art theories and practices of deep learning.
2. Be able to apply deep learning to a variety of tasks suitable for data science-based projects of academia and industry.
3. Understand much of the current literature on the topic, review papers, and extend their knowledge through further study.
4. Design and evaluate novel deep learning models.
5. Train and test deep learning models on real-life and benchmark datasets using Python libraries such as TensorFlow and PyTorch.

CSCI 4430. Graph Data Mining
3 Credits (3)
The course covers graph terminology, representation, and techniques to extract patterns from large graph data. The topics include random and scale-free graph generation, link analysis (PageRank), graph representation learning, graph neural networks, deep graph generation, community detection, frequent subgraph mining, graph classification, influence maximization, and knowledge graph mining.
Prerequisite: At least a C- in CSCI 2220 or CSCI 1220, and CSCI 2310, or consent of instructor.
Learning Outcomes
1. Have significant familiarity with different state-of-the-art theories and practices of graph data mining.
2. Graph representation and graph querying using graph manipulating toolbox/library.
3. Use random and scale-free graph models to generate graphs and visualize complex network properties.
4. Apply algorithms such as PageRank, spectral clustering, and non-negative matrix factorization.
5. Implement graph representation learning algorithms and graph neural networks.
6. Understand much of the current literature on the topic, review papers, extend their knowledge through further study, and present findings of the papers.

CSCI 4435. Text Mining and Natural Language Processing
3 Credits (3)
This course is an introduction to text mining and natural language processing (NLP). It covers NLP techniques for extracting insights from unstructured text data. Topics include text classification, semantic textual similarity, topic modeling, sentiment analysis, text summarization, text generation, and machine translation.
Prerequisite: At least a C- in CSCI 2220 and CSCI 2310.
Learning Outcomes
1. Describe and apply techniques for text processing, text representation, and text modeling.
2. Describe and apply machine learning algorithms for text mining and NLP tasks such as text classification, semantic textual similarity, topic modeling, sentiment analysis, text summarization, text generation, and machine translation.
3. Utilize Python and popular libraries for implementing NLP-based applications.
4. Evaluate the performance of text mining and NLP algorithms.

CSCI 4440. Generative Artificial Intelligence
3 Credits (3)
Covers the theory and applications of generative artificial intelligence. Concentration will be on specific topics such as large language models, adversarial neural networks, neural symbolic computing, and inductive logic programming. May be repeated up to 3 credits.
Learning Outcomes
1. Understand the theoretical foundation of generative AI tools.
2. Understand the strengths and weaknesses of generative AI tools and identify appropriate tools for a given application.
3. Utilize advanced generative AI tools such as multi-modal LLMs for problem-solving and developing practical applications.
4. Understand the ethical consequence of using generative AI tools.

CSCI 4505. Java Programming
3 Credits (2+2P)
Programming in the Java language. More advanced than CSCI 1210. Recommended for nonmajors only. Not for Computer Science undergraduate standing students.

CSCI 4510. C++ Programming
3 Credits (3)
Programming in the C++ language. Taught with CSCI 1240. More advanced than CSCI 1240. Recommended for nonmajors only. Not for Computer Science undergraduate students.
Learning Outcomes
1. Use various data types and the corresponding operations.
2. Write C++ programs that contain expressions, program control, functions, arrays, and input/output.
3. Explain basic object-oriented programming concepts.
4. Demonstrate proficiency in using classes, inheritance, pointers, streams, and recursion.

CSCI 4520. Python Programming I
3 Credits (3)
This course is an introduction to programming in the Python language, covering fundamental scripts, data types and variables, functions, and simple object creation and usage. The focus will be on preparing students to use Python in their own areas. No prior programming experience is required. Taught with CSCI 1220. More advanced than CSCI 1220.
Learning Outcomes
1. Develop an algorithm to solve a problem.
2. Demonstrate the ability to use Python data types: int, float, strings, and lists; and the built-in functions associated with those data types.
3. Edit and debug programs using the Spyder IDE for Python.
4. Implement algorithms using the Python features of assignment, input, output, branches, loops, and functions.

5. Explain the fundamental concepts of object-oriented programming with Python.
6. Design and implement Python classes based on given attributes and behaviors.
7. Work with existing Python modules such as math, random, and os.
8. Write Python programs that input data from files and store results in files.

CSCI 4525. Python Programming II
3 Credits (3)
This course covers advanced Python programming, including classes, objects, and inheritance, embedded programming in domain applications, database interaction, and advanced data and text processing. The focus will be on preparing students to use Python in their own areas. For graduate students only. Has more advanced work than CSCI 1225, and does not count towards Computer Science major requirements. Computer Science students are excluded from taking this course.
Prerequisite(s): CSCI 1220 or CSCI 4520.
Learning Outcomes
1. Write Python applications for solving data-analysis problems.
2. Represent and interpret data using Python libraries NumPy, pandas, and the re (regular expression) package.
3. Apply exception handling in Python applications for error handling.
4. Perform data loading, cleansing, and processing using Python.
5. Connect to a relational database using Python, to create, load, and process data.
6. Retrieve data from websites using Python and web APIs.
7. Create data visualizations with Python libraries to improve the problem-solving process.
8. Write object-oriented programs with Python classes.

CSCI 4530. R Programming I
3 Credits (3)
This course is an introduction to data processing in the R language, covering fundamental script configuration, data types and data collections, R control structures, and basic creation of graphs and data visualizations. This course will not focus on the statistical capabilities of R, though some basic statistical computations will be used. For graduate students only. Has more advanced work than CSCI 1235. Does not count towards Computer Science major requirements. Student should have a good understanding of college algebra or higher, before enrolling.
Learning Outcomes
1. Show proficiency in installing R, navigating the RStudio interface, setting work directories, executing scripts, and using built-in R functions for data analysis.
2. Create and implement custom R functions to streamline and automate data processing.
3. Demonstrate the ability to create, manipulate, and use various R data structures including vectors, matrices, arrays, data frames, lists, and factors for effective data operations.
4. Acquire skills to import and export data in various formats including CSV and RData, and install and use essential R packages for data analysis.
5. Utilize R's control flow constructs like conditional statements and loops to write robust R scripts for data analysis.
6. Use apply family functions, such as apply(), sapply(), lapply(), and tapply(), to enhance data manipulation and analysis, particularly when dealing with missing values.
7. Generate, customize, and save various types of plots including scatter plots, bar charts, pie charts, histograms, and box plots for data visualization.
8. Apply exploratory data analysis techniques, including measuring central tendency, dispersion, and constructing five-number summaries, to analyze data distributions.
9. Manipulate string data using R functions and regular expressions to prepare text for analysis.

CSCI 4540. Computer Science I Transition
3 Credits (3)
Computational problem solving; problem analysis; implementation of algorithms. Recursive structures and algorithms. For Computer Science graduate students only; cannot be used to meet a Computer Science student's program of study. Taught with CSCI 1720.
Learning Outcomes
1. Develop algorithms to solve problems.
2. Implement algorithms using the fundamental programming features of sequence, selection, iteration, and recursion.
3. Apply an understanding of primitive and object data types.
4. Design and implement classes based on given attributes and behaviors.
5. Explain the fundamental concepts of object-oriented programming.

CSCI 4545. Object Oriented Programming Transition
3 Credits (3)
Introduction to problem analysis and problem solving in the object-oriented paradigm. Practical introduction to implementing solutions in the C++ language. Hands-on experience with useful development tools. Cannot be used in a Computer Science student's program of study. Taught with CSCI 2210.
Prerequisite: At least a C- in CSCI 1720 or CSCI 4540 or consent of instructor.
Learning Outcomes
1. Develop an algorithm to solve a problem.
2. Implement algorithms using the C and C++ languages including imperative and object-oriented language features.
3. Demonstrate a noticeable increase in understanding of problem analysis and program design.
4. Demonstrate proficiency in using control structures including if statements (single selection), switch (multiple selection), and loops (repetition).
5. Demonstrate proficiency in using arrays and functions.
6. Create UML class and relationship diagrams.
7. Design a class to model a real-world person, place, thing, or event.
8. Use editing and debugging software to create, debug, and test C and C++ programs.
9. Understand the basic terminology used in object-oriented programming. 1
10. Create a make file to build an executable from a set of C or C++ source files.

CSCI 4550. Introduction to Data Structures Transition
3 Credits (3)
Design, implementation, use of fundamental abstract data types and their algorithms: lists, stacks, queues, deques, trees; imperative and declarative programming. Internal sorting; time and space efficiency of algorithms. Cannot be used in a C S student's program of study. Consent of Instructor required. Taught with CSCI 2220.

Prerequisite: At least a C- in CSCI 1720 or CSCI 4540 or consent of instructor.

Learning Outcomes

1. Be able to implement and use lists.
2. Be able to implement and use stacks.
3. Be able to implement and use queues.
4. Be able to implement and use trees.
5. Be able to perform the run time analysis of basic algorithms using Big O notation.
6. Be able to implement, use, and analyze searching algorithms.
7. Be able to solve a problem recursively.
8. Take a problem statement from a user and convert it into a Java program that fulfills the user's needs.
9. Create object oriented Java classes that effectively separate and hide implementation details from client applications.

CSCI 4555. Machine Programming and Organization Transition
3 Credits (3)

Computer structure, instruction execution, addressing techniques; programming in machine and assembly languages. Cannot be used in a Computer Science student's program of study. Taught with CSCI 2230.
Prerequisite: At least a C- in CSCI 1720 or CSCI 4540 or consent of instructor.

Learning Outcomes

1. Describe the architecture of a microcontroller, the interconnections between the components, and the basic units inside the CPU.
2. Use signed and unsigned numbers, the associated branching instructions, and the corresponding flags in the status register.
3. Explain immediate, direct, indirect addressing modes, their opcode and operands, and their utilities.
4. Map high-level programming language features to assembly instructions, including loops, conditionals, procedure calls, value and reference parameter passing, return values, and recursion.
5. Interface with I/O devices including LED and sensors via digital input and output, and analog-to-digital conversion.
6. Program timers/counters and interrupts to control real-time applications.
7. Design an assembly program.

CSCI 4560. Discrete Math for Computer Science Transition
3 Credits (3)

Logical connectives, sets, functions, relations, graphics, trees, proofs, induction, and application to computer science. For Computer Science graduate students only. Cannot be used in a Computer Science student's program of study. Taught with CSCI 2310.
Prerequisite: At least a C- in CSCI 1720 or CSCI 4540 or consent of instructor.

Learning Outcomes

1. Use logic to specify precise meaning of statements, demonstrate the equivalence of statements, and test the validity of arguments.
2. Construct and recognize valid proofs using different techniques including the principle of mathematical induction.
3. Use summations, formulas for the sum of arithmetic and geometric sequences.
4. Explain and apply the concepts of sets and functions.
5. Apply counting principles to determine the number of various combinatorial configurations.

CSCI 4575. Software Development Transition
3 Credits (3)

Software specification, design, testing, maintenance, documentation; informal proof methods; team implementation of a large project. For Computer Science graduate students only. Cannot be used in a Computer Science student's program of study. Taught with CSCI 3710.
Prerequisite(s): At least a C- in CSCI 2210 or CSCI 4545, in CSCI 2220 or CSCI 4550, or consent of instructor.

Learning Outcomes

1. Understand and explain the activites and structure of different styles of software development processes, including waterfall, (spiral,) iterative, and agile methodologies.
2. Apply requirements knowledge and techniques to create functional and non-functional requirements for a software system.
3. Apply high and low level design ideas to create an object-oriented design of a software system.
4. Use good design and programming ideas to implement individual and team software systems in compiled OOP languages.
5. Apply white and black box testing techniques and tools to individual and team software development.
6. Use UML class diagrams (and sequence diagrams) to capture aspects of system design and/or requirements (domain).
7. Use practical software development tools, including version control systems, automated build tools, and testing tools.

CSCI 4580. Compilers and Automata Transition
3 Credits (3)

Methods, principles, and tools for programming language processor design; basics of formal language theory (finite automata, regular expressions, context-free grammars); development of compiler components. For Computer Science graduate students only; cannot be used in a students program of study. Taught with CSCI 3730.
Prerequisite: At least a C in (CSCI 2210 or CSCI 4545), in (CSCI 2220 or CSCI 4550), in (CSCI 2230 or CSCI 4555), or consent of instructor.

Learning Outcomes

1. Understand the language theory concepts of regular languages, context free languages, regular expressions, context free grammars, and formal language hierarchy.
2. Use Thompson's construction to convert from regular expression to NFA, and subset construction to convert from NFA to DFA.
3. Apply recursive descent parsing in programming a parser of a small grammar.
4. Understand the ideas in LL and LR parsing of context-free language classes.
5. Understand and use table-driven top-down (LL(1)) and bottom up (SLR) parsing to parse a sentence.

CSCI 4590. Algorithm Design and Implementation
3 Credits (3)

This course introduces the basic knowledge of designing classical algorithms and implementing these algorithms using a programming language. In particular, the course teaches various data structures, including graphs and balanced binary search trees, and efficient schemes to implement these data structures. This course also teaches basic algorithm design techniques including divide-and-conquer, greedy scheme, and dynamic programming. This course covers graph algorithms, including graph traversals (depth-first search and breadth-first search), connectivity, shortest paths, and minimum spanning trees. Graduate standing. Not for Computer Science students. Taught with CSCI 3430.

Prerequisite: At least a C- in CSCI 2220, or Consent of Instructor.

Learning Outcomes

1. Use and implement sorting algorithms.
2. Design and implement graph algorithms.
3. Design and implement algorithms using the divide-and-conquer technique.
4. Design and implement algorithms using the greedy technique.
5. Design and implement algorithms using the dynamic programming technique.
6. Apply and implement balanced search trees.
7. Use and implement hashing techniques.
8. Perform the run time analysis of basic algorithms using Big O notation.

CSCI 4980. Senior Project

4 Credits (4)

Capstone course in which Computer Science majors work in teams and apply computer science skills to complete a large project. Restricted to: Computer Science majors or Cybersecurity majors.

Prerequisite: At least a C- in CSCI 3730 and CSCI 3710.

Learning Outcomes

1. Apply design and development principles in the construction of software systems of varying complexity.
2. Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
3. Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
4. Use current techniques, skills, and tools necessary for computing practice.
5. Analyze a problem, and identify and define the computing requirements appropriate to its solution.
6. Function effectively as teams to accomplish a common goal.
7. Communicate effectively with a range of audiences.

CSCI 4996. Special Topics

1-12 Credits

Topics announced in the Schedule of Classes. May be repeated up to 12 credits.

Learning Outcomes

1. Varies.

CSCI 4999. Senior Thesis

4 Credits (4)

Capstone course in which Computer Science majors apply computer science skills to complete a research project, culminating in a written thesis report. Restricted to: Computer Science majors or Bachelor of Science in Cybersecurity degree.

Prerequisite: At least a C- in CSCI 3730 and CSCI 3710.

Learning Outcomes

1. Apply design and development principles in the construction of software systems of varying complexity.
2. Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
3. Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
4. Use current techniques, skills, and tools necessary for computing practice.
5. Analyze a problem, identify, and define the computing requirements appropriate to its solution.
6. Communicate effectively with a range of audiences via presentations and technical reports.

CSCI 5110. Data Structure and Algorithms Transition

3 Credits (3)

Introduction to efficient data structure and algorithm design. Order notation and asymptotic run-time of algorithms. Recurrence relations and solutions. Abstract data type dynamic set and data structures based on trees. Classic algorithm design paradigms: divide-and-conquer, dynamic programming, greedy algorithms. For Computer Science graduate students only. Taught with CSCI 3720.

Prerequisite: At least a C- in (CSCI 2220 or CSCI 4550) and a C- in (CSCI 2310 or CSCI 4560), or consent of instructor.

Learning Outcomes

1. Analyze the growth of functions via asymptotic notation.
2. Evaluate the asymptotic running time of a given algorithm.
3. Solve recurrence relations of the kinds encountered in algorithm analysis.
4. Design algorithms using the divide-and-conquer technique.
5. Design algorithms using the greedy technique.
6. Design algorithms using the dynamic-programming technique.
7. Use and analyze data structures based on trees.
8. Analyze the design, correctness, and time complexity of basic graph algorithms.

CSCI 5140. Database Management Systems I

3 Credits (3)

Database design and implementation; models of database management systems; privacy, security, protection, recovery; taught with CSCI 4140; requires more advanced graduate work than taught with CSCI 4140. Students are expected to have solid knowledge of data structures and discrete mathematics.

Learning Outcomes

1. Utilize the basic concepts of relational database model.
2. Utilize database query languages (e.g. SQL).
3. Identify data integrity and security requirements.
4. Analyze, capture, and model user requirements for building database systems using conceptual models.
5. Design and normalize relational schemas.
6. Apply application development methods to implement a database system.

CSCI 5205. Computer Security

3 Credits (3)

Introduction to the art and science of computer security. Fundamentals of computer security including elementary cryptography, authentication and access control, security threats, attacks, detection and prevention in application software, operating systems, networks and databases. Taught with CSCI 4205. Requires more advanced graduate work than CSCI 4205. Recommended knowledge of materials in CSCI 2220.

Prerequisite: At least a C- in CSCI 2230 or consent of instructor.

Learning Outcomes

1. Describe fundamental concepts in security and privacy.
2. Understand requirements of security in different contexts.

3. Describe practical implementation challenges in security/privacy system design.
4. Explain at a high-level symmetric and public key cryptography.
5. Explain various access control mechanisms such as authentication, authorization.
6. Understand aspects of secure system design that a computer programmer/engineer needs to account for.

CSCI 5206. Hardware Security
3 Credits (3)
Hardware security covers the intersection of hardware and security attacks/defenses. Students will study a variety of approaches to hardware security in this course, e.g., micro-architectural side channels, cache side-channel attacks, memory attacks, speculative-based attacks, etc. Students will also learn about the various computer architectural components that can be exploited for launching security attacks. Taught with CSCI 4206. Preferable to have knowledge of CSCI 4230.
Prerequisite: At least a C- in CSCI 2230.
Learning Outcomes
1. Understand how computer architectural components can be exploited for launching security attacks.
2. Build an insight into developing defense mechanisms against hardware-based security attacks.
3. Explain micro-architectural side channels.
4. Understand cache side-channel attacks.
5. Demonstrate knowledge of memory attacks.
6. Explain Speculative execution based attacks.
7. Understand Rowhammer.
8. Explain trusted execution environment as a security mechanism.

CSCI 5210. Introduction to Smart Grids
3 Credits (3)
This course is an introduction to the technologies and design strategies associated with the Smart Grid. The emphasis will be on the development of communications, energy delivery, coordination mechanisms, and management tools to monitor transmission and distribution networks. Topics include: Smart grid introduction and evolution; Power systems; Networking and transport control; Artificial intelligence & agent coordination; Data mining for smart grids. Taught with CSCI 4210. Requires more advanced work than CSCI 4210.
Prerequisite: At least a C- in CSCI 2220 and a C- in ENGR 230 or Consent of Instructor.
Learning Outcomes
1. Get basic understanding of how conventional power system is operated and protected.
2. Understand and use basic knowledge of communication techniques in smart grids.
3. Understand and use basic knowledge for the coordination of the different units in smart grids.
4. Understand and apply data mining techniques for protecting smart grids.

CSCI 5215. Parallel Programming
3 Credits (3)
Programming of shared memory and distributed memory machines; tools and languages for parallel programming; parallelizing compilers; parallel programming environments; taught with CSCI 4215; requires more advanced graduate work than CSCI 4215. Students are expected to have knowledge of programming and machine organization equivalent to CSCI 2210 and CSCI 2230.
Learning Outcomes
1. Describe existing parallel architectures including shared memory versus distributed memory platforms.
2. Apply basic techniques for organizing parallel computations.
3. Apply basic techniques for performance measurement and theoretical limitations of parallelism.
4. Explain alternative parallel techniques and hardware.
5. Perform performance Analysis of different parallel programming techniques.
6. Program shared memory machines using threads, processes, and the OpenMP library.
7. Program using a message passing paradigm and obtain working knowledge of the Message Passing Interface (MPI).

CSCI 5220. Cloud and Edge Computing
3 Credits (3)
The course presents a top-down view of cloud computing, from applications and administration to programming and infrastructure. Its main focus is on the concepts of networking and parallel programming for cloud computing and large scale distributed systems which form the cloud infrastructure. The topics include: overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems. Students will study state-of-the-art approaches to cloud computing followed by large cloud corporations, namely Google, Amazon, Microsoft, and Yahoo. Students will also apply what they learn through project developments using Amazon Web Services. Might have additional requirements for graduate students. To enroll in this course a background in CSCI 4245/CSCI 5245 is preferred or have consent from the instructor. Taught with: CSCI 4220. Requires more advanced graduate work than CSCI 4220.
Learning Outcomes
1. Explain the role of cloud computing and IoT.
2. Explain security techniques in cloud and IoT networks.
3. Summarize the features and associated risks of different service models.
4. Design a model or prototype as a solution to the identified problem.
5. Understand the differences between various infrastructure deployment models such as on-prem, hybrid, public, and private.

CSCI 5225. Introduction to Cryptography
3 Credits (3)
The course covers basic cryptographic primitives, such as symmetric, public-key ciphers, digital signature schemes, and hash functions, and their mathematical underpinnings. Course helps students understand basic notions of security in a cryptographic sense: chosen plaintext and chosen ciphertext attacks, games, and reductions. Course also covers computational number theory relevant to cryptography. Taught with: CSCI 4225. Requires more advanced graduate work than CSCI 4225.
Prerequisite: CSCI 2310 (or equivalent) with a C or better.
Learning Outcomes
1. Describe basic cryptographic primitives, including symmetric ciphers, asymmetric ciphers, digital signatures, message authentication codes, and hash functions.
2. Understand the mathematical, fundamental underpinnings of cryptography, and how to reason about the security of crypto primitives: indistinguishability (IND) properties of ciphertexts, CPA/CCA games, and reductions to fundamental math assumptions.

3. Be able to discuss number theory/algebra underpinning the design of cryptographic primitives, in some depth.

CSCI 5235. Cellular Networks and Mobile Computing
3 Credits (3)
This course will offer a solid introduction to major global wireless standards and comparisons of the different wireless technologies and their applications and examine each technology and how to utilize several different systems for the best results. Taught together with CSCI 4235. A basic understanding of Computer Networks is preferable as a course prerequisite.
Learning Outcomes
1. Understand user associations and routing in a cellular/mobile network.
2. Develop insight into interaction of elements within the cellular/mobile core.
3. Understand the concept of end-to-end delivery of a packet and/or signal.
4. Develop an understanding of what happens with the hand-off at each step along the communications path.
5. Be able to explain differences in core architecture between different generations of cellular and mobile network technologies.

CSCI 5240. Software Reverse Engineering
3 Credits (3)
This class provides students with fundamental experience in software reverse engineering with a focus on malware reverse engineering. Students will learn operational security for safely analyzing untrusted code in a sandbox environment. Students will learn control flow integrity attacks, binary control flow analysis, and how to analyze live program behavior. Taught together with CSCI 4240.
Learning Outcomes
1. Students will learn how malware behaves, spreads, and is controlled.
2. Students will learn how to safely analyze malware in controlled environments.
3. Students will learn how malware seeks to hide in systems.
4. Students will learn to perform static analysis of binaries using simple tools.
5. Students will learn how malware obfuscates itself to avoid analysis, including using crypto packers, polymorphism, and sandbox detection.
6. Students will learn to perform decompilation and control-flow analysis of binaries using Ghidra.
7. Students will learn to dynamically analyze malware in a sandbox environment while observing network traffic, resource consumption, and system calls.
8. Students will learn to detect malware running with operating-system level permissions (rootkits).
9. Students will learn memory forensics techniques to detect malware hidden within benign processes.

CSCI 5245. Computer Networks I
3 Credits (3)
Fundamental concepts of computer communication networks: layered network architecture, network components, protocol stack and service. Example of application, transport, network and data link layers, protocols primarily drawn from the Internet (TCP, UDP, and IP) protocol suite; local and wide area networks, wireless and mobile networks, multimedia networks; network management and security; taught with CSCI 4245; requires more advanced graduate work than CSCI 4245. Students are expected to have solid knowledge of data structures, machine-level programming. Knowledge of statistics (at the level of MATH 371 or MATH 470) is recommended.
Learning Outcomes
1. Explain the layered model of networking using the OSI and TCP/IP models.
2. Explain TCP and UDP as particular transport layer protocols.
3. Explain and analyze routing and forwarding mechanisms.
4. Implement application layer protocols.
5. Explain other network issues such as multicasting, audio/video data streaming, and Domain Name System.

CSCI 5250. Human-Centered Computing
3 Credits (3)
Covers iterative, human-centered interface design, including prototyping and evaluation. Basics of graphic design and visualization. Taught with SCI 4250. Requires more advanced graduate work than CSCI 4250 with an emphasis on studying recent research in human-computer interaction. Students are expected to have knowledge of software engineering equivalent to CSCI 3710.
Learning Outcomes
1. Describe, analyze, and/or critique a device interface using a design vocabulary.
2. Enact a human-centered process of interaction design: gather data; develop a data-driven design; iterate design through testing; and evaluate results.
3. Conduct human-computer interaction research by proposing, developing, and conducting experiments; analyzing data; and developing synthesized results.
4. Communicate design and evaluation with presentations, demos, and reports.
5. Implement a variety of interaction techniques.

CSCI 5255. Digital Game Design
3 Credits (3)
An introduction to digital game design. Topics include design, development, and playtesting of games. The course is structured to use team-based learning. Taught with CSCI 4255. Requires more advanced graduate work than CSCI 4255 with deeper attention to a team game project.
Learning Outcomes
1. Describe, analyze, and/or critique games with a consistent vocabulary.
2. Design, develop, and playtest games.
3. Understand the formal systems of games.
4. Communicate game designs through demonstrations and presentations.

CSCI 5260. Visual Programming
3 Credits (3)
Design and implementation of programs using visual (i.e. dataflow or diagrammatic) programming techniques, with an emphasis on real-time data processing. Students will learn how to design visual programs, including how to handle cycles and state maintenance, and will learn to process audio, video, and other data using visual programs. Students must be in graduate standing to enroll. Taught with CSCI 4260. Requires more advanced graduate work than CSCI 4260.
Learning Outcomes
1. Develop software in graph-based visual environments.
2. Understand flows of control in visual programming environments.

3. Use signals, digital and analog, to drive software.
4. Communicate software design and evaluation with presentations, demos, and reports.

CSCI 5265. Modern Web Technologies
3 Credits (3)
In this course, we will take a full-stack approach to modern web application design. We will start with the fundamentals including HTML5, CSS3, Javascript, JSON, and the underlying networking concepts and protocols driving the modern web. We will then move on to more advanced topics including javascript backend development with Node.js, NoSQL database design with MongoDB, cloud computing, and responsive web design. Finally, we cover advanced topics including the design and im- plementation of browser extensions and real-time web technologies like WebRTC and WebSockets. Taught with: CSCI 4265. Requires more advanced graduate work than CSCI 4265.
Learning Outcomes
1. Understand the fundamental technologies and operation of the web.
2. Design and develop responsive interactive web sites.
3. Deploy web applications on Cloud Computing Platforms.
4. Leverage modern tools and packages to develop full stack web applications.
5. Be fluent in the application of emerging web technologies like browser extensions, WebSockets, and WebRTC.
6. Use existing materials and references on the web to learn new skills.

CSCI 5305. Bioinformatics
3 Credits (3)
Introduction to bioinformatics and computational biology. Computational approaches to sequences analysis, protein structure prediction and analysis, and selected topics from current advances in bioinformatics; taught with CSCI 4305; requires more advanced graduate work than CSCI 4305. Students are expected to have a knowledge of algorithms and data structures equivalent to CSCI 3720 or exposure to Biology (equivalent to BIOL 2310 or BIOL 311).
Learning Outcomes
1. Explain the biology motivation of a bioinformatics question.
2. Formulate a computational problem and its solution to address a molecular biology question.
3. Implement basic bioinformatics algorithms such as sequence alignment, pattern matching, and genome assembly.
4. Evaluate the performance of a bioinformatics algorithm on real data sets.
5. Argue the correctness of a bioinformatics algorithm.
6. Analyze the complexity of a bioinformatics algorithm.

CSCI 5310. Bioinformatics Programming
3 Credits (3)
Computer programming to analyze high-throughput molecular biology data including genomic sequences, bulk and single-cell transcriptome, epigenome, and other omics data. Quality control, library size normalization, confounding effect removal, clustering, statistical modeling, trajectory inference, and visualization. Taught with CSCI 4310. Requires more advanced graduate work than CSCI 4310.
Learning Outcomes
1. Write R scripts and functions to manipulate biological sequences, genome annotation, and gene expression data.
2. Perform high-throughput data analysis with established R packages.
3. Detect differential gene expression on RNA sequencing data.
4. Perform single-cell RNA sequencing data analysis (quality control, library size normalization, confounding effect removal, modeling).
5. Assess statistical significance of analytical results.
6. Create automatic data analysis pipeline to link multiple software packages.

CSCI 5405. Artificial Intelligence I
3 Credits (3)
Fundamental principles and techniques in artificial intelligence systems. Knowledge representation formalisms; heuristic problem solving techniques; automated logical deduction; robot planning methods; algorithmic techniques for natural language understanding, vision and learning; taught with CSCI 4405; requires more advanced graduate work than CSCI 4405. Students are expected to have strong knowledge of algorithms and data structures (at the level of CSCI 3720).
Learning Outcomes
1. Use various search algorithms commonly used in problem-solving.
2. Use various methods for solving constraint satisfaction problems.
3. Use propositional and first-order logic to represent knowledge.
4. Use adversarial search for game-playing agents.
5. Analyze the different search strategies.
6. Design and Implement heuristic search for problem-solving.
7. Use logical inference methods to derive conclusions from a knowledge base.
8. Understand how adversarial attacks can affect decision-making and problem-solving in classical AI.

CSCI 5410. Computer Graphics I
3 Credits (3)
Languages, programming, devices, and data structures for representation and interactive display of complex objects. Taught with C S 476. Requires more advanced graduate work than CSCI 4410. Students are expected to have knowledge of compilers design and software engineering equivalent to CSCI 3730 and CSCI 3710.
Learning Outcomes
1. Demonstrate understanding of techniques used in three-dimensional graphics.
2. Apply Computer Graphics lightning and shading to model a scene.
3. Understand client-server graphics using WebGL.
4. Apply Geometric and Solid modeling techniques.
5. Develop and implement Computer Graphics algorithms.

CSCI 5415. Introduction to Data Mining
3 Credits (3)
Techniques for exploring large data sets and discovering patterns in them. Data mining concepts, metrics to measure its effectiveness. Methods in classification, clustering, frequent pattern analysis. Selected topics from current advances in data mining. Students are expected to have a preparation in Discrete Mathematics and Data Structures equivalent to C S 272 and CSCI 2310. Requires more advanced graduate work than CSCI 4415. Taught with: CSCI 4415.
Learning Outcomes
1. Explain and recognize different data mining tasks such as data pre-processing, visualization, classification, regression, clustering, association rules, and anomaly detection.
2. Apply classical data mining / machine learning algorithms for classification, clustering, association rules, and anomaly detection.
3. Evaluate and compare the performance of different data mining / machine learning algorithms.

4. Utilize data mining algorithms to analyze data in real applications using a data mining tool.

CSCI 5420. Applied Machine Learning I
3 Credits (3)
An introductory course on practical machine learning. An overview of concepts for both unsupervised and supervised learning. Topics include classification, regression, clustering, and dimension reduction. Classical methods and algorithms such as linear regression, neural networks, support vector machines, and ensemble approaches. Recent techniques such as deep learning. Focused on applying of machine learning techniques in application domains. Taught with: CSCI 4420. Requires more advanced graduate work than CSCI 4420.
Learning Outcomes
1. Implement and utilize different data processing techniques.
2. Differentiate and assess several dimension reduction techniques.
3. Utilize several classifiers (SVM, Decision tree, k-Nearest Neighbor, and logistic regression) and differentiate their advantages and disadvantages.
4. Explain and demonstrate regression analysis.
5. Describe and illustrate clustering approaches.
6. Apply ensemble learning approaches.
7. Implement several neural network classifiers, including deep learning models.

CSCI 5425. Introduction to Deep Learning
3 Credits (3)
The course covers basic concepts of neural networks which include transition of classical machine learning to hierarchical feature learning, feedforward networks, regularization, optimization, hyperparameter tuning, deep convolutional networks and their applications in computer vision, deep sequence models, and deep generative models. Taught with CSCI 4425. Requires more advanced graduate work than CSCI 4425.
Prerequisite: At least a C- in CSCI 2220 or CSCI 1220, and CSCI 2310, or consent of instructor.
Learning Outcomes
1. Have significant familiarity with different state-of-the-art theories and practices of deep learning.
2. Be able to apply deep learning to a variety of tasks suitable for data science-based projects of academia and industry.
3. Understand much of the current literature on the topic, review papers, and extend their knowledge through further study.
4. Design and evaluate novel deep learning models.
5. Train and test deep learning models on real-life and benchmark datasets using Python libraries such as TensorFlow and PyTorch.

CSCI 5430. Graph Data Mining
3 Credits (3)
The course covers graph terminology, representation, and techniques to extract patterns from large graph data. The topics include random and scale-free graph generation, link analysis (PageRank), graph representation learning, graph neural networks, deep graph generation, community detection, frequent subgraph mining, graph classification, influence maximization, and knowledge graph mining. Taught with CSCI 4430. Requires more advanced graduate work than CSCI 4430.
Prerequisite: At least a C- in C S 272 or CSCI 1220, and CSCI 2310, or consent of instructor.
Learning Outcomes
1. Have significant familiarity with different state-of-the-art theories and practices of graph data mining.
2. Graph representation and graph querying using graph manipulating toolbox/library.
3. Use random and scale-free graph models to generate graphs and visualize complex network properties.
4. Apply algorithms such as PageRank, spectral clustering, and non-negative matrix factorization.
5. Implement graph representation learning algorithms and graph neural network.
6. Understand much of the current literature on the topic, review papers, extend their knowledge through further study, and present findings of the papers.

CSCI 5435. Text Mining and Natural Language Processing
3 Credits (3)
This course is an introduction to text mining and natural language processing (NLP). It covers NLP techniques for extracting insights from unstructured text data. Topics include text classification, semantic textual similarity, topic modeling, sentiment analysis, text summarization, text generation, and machine translation.
Prerequisite: At least a C- in CSCI 2220/C S 272 or C S 463/CSCI 4550 and C S 278/CSCI2310 (or C S 465/CSCI 4560).
Learning Outcomes
1. Describe and apply techniques for text processing, text representation, and text modeling.
2. Describe and apply machine learning algorithms for text mining and NLP tasks such as text classification, semantic textual similarity, topic modeling, sentiment analysis, text summarization, text generation, and machine translation.
3. Utilize Python and popular libraries for implementing NLP-based applications.
4. Evaluate the performance of text mining and NLP algorithms.

CSCI 5440. Generative Artificial Intelligence
3 Credits (3)
Covers the theory and applications of generative artificial intelligence. Concentration will be on specific topics such as large language models, adversarial neural networks, neural symbolic computing, and inductive logic programming. Taught together with CSCI 4440.
Prerequisite: At least a C- in CSCI 4405 or CSCI 5405.
Learning Outcomes
1. Understand the theoretical foundation of generative AI tools.
2. Understand the strengths and weaknesses of generative AI tools and identify appropriate tools for a given application.
3. Utilize advanced generative AI tools such as multi-modal LLMs for problem-solving and developing practical applications.
4. Understand the ethical consequence of using generative AI tools.

CSCI 5505. Analysis of Algorithms
3 Credits (3)
Techniques for design and analysis of algorithms; time and space complexity; proving correctness of programs. Particular algorithms such as sorting, searching, dynamic programming. NP complete problems. Students are expected to have knowledge of algorithms and data structures equivalent to CSCI 3720.
Learning Outcomes
1. Prove algorithm correctness by loop-invariant.
2. Prove an algorithm to be incorrect by counterexamples.
3. Develop efficient divide-and-conquer algorithms.
4. Design and analyze binary search tree algorithms.
5. Construct dynamic programming solutions.

6. Prove the correctness of dynamic programming solutions by contraposition.
7. Traverse graphs efficiently.
8. Find paths in graphs efficiently.
9. Determine if a problem is NP-Complete or NP-Hard. 1
10. Basic concepts of quantum computing.

CSCI 5510. Automata, Languages, Computability
3 Credits (3)
Regular and context-free languages, pushdown and finite-state automata, Turing machines, models of computation, halting problems. Students are expected to have knowledge of algorithms equivalent to CSCI 3720.
Learning Outcomes
1. Describe the language accepted by an automaton or generated by a regular expression or a context-free grammar.
2. Design automata, regular expressions and context-free grammars accepting or generating a certain language.
3. Prove properties of languages, grammars, and automata with formal mathematical methods.
4. Convert between equivalent deterministic and non-deterministic finite automata, and regular expressions.
5. Convert between equivalent context-free grammars and pushdown automata.
6. Define Turing machines performing simple tasks.

CSCI 5605. Operating Systems II
3 Credits (3)
Advanced topics related to operating system principles, guided by the current literature. Students are expected to have knowledge of computer architectures and operating systems equivalent to CSCI 4230 and CSCI 4120.
Learning Outcomes
1. Further an understanding of the principles of operating systems.
2. Develop insight into process management and scheduling issues.
3. Understand memory management operation.
4. Develop an understanding of file system implementation and of multiple levels of hardware support and management.
5. Develop a deep understanding of the concepts of cooperating processes, including communication, synchronization, and deadlock (detection and avoidance).
6. Be able to evaluate operating system features.
7. Develop an understanding of the distributed operating system environment.

CSCI 5750. Artificial Intelligence II
3 Credits (3)
Covers advanced theory and application of artificial intelligence. Concentration on several specific research areas, such as knowledge representation, problem solving, common-sense reasoning, natural language understanding, automated tutoring systems, learning systems. Students are expected to have knowledge of artificial intelligence equivalent to CSCI 4405.
Learning Outcomes
1. Apply selected planning algorithms in solving problems.
2. Identify problems where knowledge representation and reasoning techniques are applicable.
3. Be able to apply answer set programming in problem solving.
4. Be aware of various advanced research topics in Artificial Intelligence.

CSCI 5810. Advanced Software Engineering
3 Credits (3)
Advanced tools and methods for developing large software systems. Topics include object-oriented modeling and design, component architectures, templates and generic programming, software configuration and revision control, static and dynamic analysis tools, model, checking, advanced testing, and verification. Students are expected to have knowledge of software engineering equivalent to CSCI 3710.
Learning Outcomes
1. Be able to explain modern software development process ideas.
2. Be able to apply agile software development techniques in a project.
3. Be able to specify, design, and develop a complex software system in a team.
4. Be able to properly utilize both black box and white box testing techniques.
5. Be able to explain how unsound and incomplete formal methods can aid in system verification and validation.
6. Be able to utilize sound and complete formal methods to prove properties of a system.

CSCI 5820. Database Management Systems II
3 Credits (3)
Advanced data models and abstractions, dependencies, implementations, languages, database machines, and other advanced topics. Students are expected to have knowledge of data base management systems equivalent to CSCI 4140.
Learning Outcomes
1. Analyze storage and file structures of an RDBMS.
2. Analyze and apply indexing techniques of an RDBMS.
3. Analyze query evaluation approaches of an RDBMS.
4. Analyze the mechanisms of transaction management in an RDBMS.

CSCI 5840. Computer Networks II
3 Credits (3)
Advanced topics in computer networks. Covers advanced topics in networking, with emphasis on wireless, and IP networks. Students are expected to have knowledge of computer networks equivalent to CSCI 4245 and statistics equivalent.
Learning Outcomes
1. Understand design of link layer protocols.
2. Understand challenges and implementations for multimedia streaming.
3. Be able to use basic security constructs in the networking context.
4. Understand the concepts of edge and cloud computing.
5. Understand the concepts and challenges of Internet of Things.
6. Learn concepts of distributed networking.
7. Learn and evaluate future internet architectures.

CSCI 5860. Algorithms in Systems Biology
3 Credits (3)
The course will introduce important algorithms and computational models used in systems biology to study molecular mechanisms for cellular dynamics, processes, and systems. Cellular processes, such as metabolism and signal transduction, are studied as systems and networks quantitatively from high throughput molecular measurements. The topics include molecular biological systems, network alignment,

model simulation, network inference, model optimization, and hybrid models. Students will be able to construct models and analyze their properties in the context of molecular biological systems. Students are expected to have knowledge of algorithms and data structures equivalent to CSCI 3720.

Learning Outcomes

1. Create mathematical representation of biological systems.
2. Infer biological network topology from observed omics data set.
3. Simulate the behavior of a biological system using a mathematical model.
4. Characterize behaviors of biological systems.
5. Estimate parameters in a biological system model.
6. Validate a model's statistical relevance given observed data.

CSCI 5991. Special Research Problems
1-6 Credits (1-6)
Faculty-supervised investigation, to culminate in a written report. Maximally 6 credits can be applied to the student program of study. Written agreement with faculty supervisor is the required consent. May be repeated up to 18 credits.

Learning Outcomes

1. Research experience for graduate student.

CSCI 5994. Master's Project
1-6 Credits
Project-oriented capstone course to be completed by Master of Science students under supervision of their advisor. Maximum of 6 credits may be applied toward Master of Science degree. Restricted to Computer Science majors. May be repeated up to 6 credits.

CSCI 5996. Special Topics
1-6 Credits
Topic announced in the Schedule of Classes. May be repeated up to 6 credits.

CSCI 5999. Master's Thesis
1-6 Credits (1-6)
Thesis to be developed by Master of Science Students under supervision of their advisor. May be repeated up to 6 credits.

Learning Outcomes

1. Varies.

CSCI 6991. Pre-dissertation Research
1-15 Credits
Pre-dissertation research. May be repeated up to 88 credits.

CSCI 7000. Doctoral Dissertation
1-15 Credits
Dissertation. May be repeated up to 88 credits.

CTEC - CYBER TECHNOLOGY

CTEC 152. JAVA Programming
1-3 Credits (1-3)
Introduction to concepts of programming in the Java language. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging code. This is a hands-on course that does not require students to have prior programming experience. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

CTEC 158. Visual Basic Programming
1-3 Credits (1-3)
Introduction to concepts of programming in the Visual Basic language. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging code. This is a hands-on course that does not require students to have prior programming experience. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

CTEC 245. Fundamentals of Cloud Based Data Systems
1-3 Credits (1-3)
Introduction to the techniques and tools required to develop database driven web applications. The course teaches students how to design, develop, and deploy efficient and responsive, database-driven web applications using Oracle Application Express. Restricted to Community Colleges campuses only. May be repeated up to 6 credits.
Prerequisite/Corequisite: CTEC 240.

CTFM-CLTHNG/TXTLS/FSHN MRCHDSG (CTFM)

CTFM 1110. Fundamentals of Fashion
3 Credits (3)
Survey of the fashion business from fiber to end product.

Learning Outcomes

1. Describe the roles and functions of industry jobs and sectors involved in the designing, production, marketing, and distribution of fashion brands within the global context.
2. Describe the business strategies of industry sectors involved in the designing, production, marketing, and distribution of fashion brands within the global context.
3. Describe the interrelationships among line planning, line development, and line presentation at manufacturing and retail levels.
4. Provide examples of the fashion industry's environmental and social impact.
5. Learn about all career tracks involved in the fashion industry and the global fashion supply chain.
6. Synthesize industry-relevant information on current issues in the fashion industry.

CTFM 2120. Fashion Illustration
3 Credits (1+4P)
This course explores aspects of fashion illustration, from drawing basic fashion figures to producing finished professional illustrations in color. This course provides the opportunity for students to integrate their fashion design development with computer-aided systems. The emphasis is on fashion innovation and concept design exploration enhanced by computer applications. May be repeated up to 3 credits.. Prerequisites: ARTS 1145G and CTFM 1110

Learning Outcomes

1. To learn Adobe Illustrator and Adobe Photoshop as drawing and design tools for electronic design and rendering.
2. To understand and utilize the computer as a tool for fashion design.
3. To understand methods of design input, including scanning, digitizing and resizing.
4. To develop customer profiles
5. To Understand Concept Style

CTFM 2130. Concepts in Apparel Construction
3 Credits (1+4P)
Students are introduced to professional standard sewing techniques and apparel construction. The techniques learned are applied to produce

finished garments. Restricted to: FCSE,CTFM majors. Restricted to Las Cruces campus only.

Learning Outcomes

1. Define sewing construction terminology, equipment and sewing machine parts.
2. Learn to select suitable patterns and fabrics for garments.
3. Learn to alter commercial patterns for different body types.
4. Identify fabric types, finishes, and labeling.
5. Perform standard operating procedures on sewing machines.
6. Perform clothing construction techniques for various garments.
7. Apply knowledge of industry sewing methods to recognition of garment workmanship.

CTFM 2990. Fashion Practicum
1-3 Credits (1-3)
Applied field experience in the related areas of apparel design, fashion merchandising, and textile science. May be repeated up to 3 credits. Restricted to: CTFM majors. Restricted to Las Cruces campus only.

Learning Outcomes

1. Gain hands-on knowledge of the fashion industry.
2. Demonstrate the ability to analyze the practices of management, as observed in the industry.
3. Demonstrate an attitude that is appropriate for a prospective manager in the industry.
4. Demonstrate the understanding of, and the ability to use research and problem solving methods to develop, analyze, and present a critical incident analysis.

DANC-DANCE (DANC)

DANC 1110G. Dance Appreciation
3 Credits (3)
This course introduces the student to the diverse elements that make up the world of dance, including a broad historic overview,roles of the dancer, choreographer and audience, and the evolution of the major genres. Students will learn the fundamentals of dance technique, dance history, and a variety of dance aesthetics. Restricted to: Main campus only. May be repeated up to 3 credits.

Learning Outcomes

1. Explain a range of ideas about the place of dance in our society.
2. Identify and apply critical analysis while looking at significant dance works in a range of styles.
3. Identify dance as an aesthetic and social practice and compare/contrast dances across a range of historical periods and locations.
4. Recognize dance as an embodied historical and cultural artifact, as well as a mode of nonverbal expression, within the human experience across historical periods and cultures.
5. Use dance to consider contemporary issues and modes of thought.

DANC 1130. Ballet I
1 Credit (1)
This course is the beginning level of ballet technique. Students learn the basic fundamentally and performance skills of ballet techniques, which may include flexibility, strength, body alignment, coordination, range of motion, vocabulary, and musicality. May be repeated up to 2 credits.

Learning Outcomes

1. Apply fundamental movements of ballet techniques.
2. Enhance flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, range of motion, and musicality.
3. Employ basic theories of classical ballet placement and proper alignment.
4. Develop basic ballet terminology, variations in timing and changes of facing, and barre and center combinations.

DANC 1131. Introduction to Ballroom Dance
1 Credit (1)
An introduction to ballroom dance at the beginning level. Students will learn the fundamentals of technique including carriage, common movement vocabulary, and partnering, and will be introduced to steps and dances from the Bronze Syllabus of American Smooth and International Standard dances. Offered every Fall. May be repeated up to 2 credits.

Learning Outcomes

1. Execute the basic figures of various Ballroom dances in American and International styles
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow
3. Develop the skills of style and performance quality within the dance
4. Demonstrate improved overall physical capability, musicality, and movement memory
5. Appreciate Ballroom dancing as an artform and a discipline

DANC 1135. Introduction to Argentine Tango
1 Credit (1)
An introduction to Argentine Tango at the beginning level. Students will learn the fundamentals of technique including carriage, common movement vocabulary, and partnering, as well as the history and culture of the form. Offered Spring of even years. May be repeated up to 2 credits.

Learning Outcomes

1. Execute the basic figures of Tango and Argentine Tango
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow
3. Develop the skills of style and performance quality within the dance
4. Articulate the cultural and historical underpinnings of these forms as World dances
5. Demonstrate improved overall physical capability, musicality, and movement memory
6. Appreciate Tango as an artform and a discipline

DANC 1140. Flamenco I
1 Credit (1)
This course introduces the student to the art of flamenco and its cultural features and significance. Students will learn the fundamentals of this art form and introductory techniques and skills, which may include handwork, footwork, postures, and specific dances. May be repeated up to 2 credits.

Learning Outcomes

1. Demonstrate a basic level of competency in the principles of alignment, anatomy, coordination, mobility, stability, and stamina.
2. Demonstrate fundamental flamenco techniques relative to spatial awareness, rhythm, phrasing, and sequencing.
3. Demonstrate competency with basic flamenco movement vocabulary.
4. Perform a variety of flamenco dances, poses, steps, hand movements, and combinations.

DANC 1150. Modern Dance I
1 Credit (1)
Modern Dance techniques and styles. Students are introduced to proper warm-up techniques, body alignment, control and flexibility. Students

work with various rhythms and combinations of movements. The course emphasizes dance technique and creative experience. The history, terminology and philosophy of Modern Dance are also discussed. May be repeated up to 2 credits.

Learning Outcomes

1. Use a more developed sense of muscle control and strength, stretch and balance, coordination.
2. Demonstrate and verbalize an increased awareness of Modern Dance techniques
3. Execute dance phrases,combining several movements and in more than one rhythm.
4. Demonstrate an increased awareness of musicality while dancing and use Modern Dance Techniques creatively.

DANC 1155. Introduction to Hip Hop Dance
1 Credit (1)

This course provides an engaging and energetic introduction to the foundational elements and cultural history of hip-hop dance. Students will learn basic techniques, rhythms, and movements inspired by various hip-hop styles, including breaking, popping, locking, and social dances. The course emphasizes musicality, body awareness, self-expression, and an understanding of hip-hop as a global cultural phenomenon. No prior dance experience is required.

Learning Outcomes

1. Identify and execute fundamental hip-hop dance movements and techniques.
2. Understand the historical context and cultural significance of hip-hop dance.
3. Develop a basic sense of rhythm, musicality, and timing in relation to hip-hop music.
4. Explore personal style and self-expression through freestyle and choreography.
5. Demonstrate improved body awareness, coordination, and spatial understanding.
6. Engage respectfully with the diverse origins and evolution of hip-hop culture.

DANC 1161. Tap Dance
1 Credit (1)

The theory and practice of tap dance technique at the beginning level. No previous dance experience is expected. Coursework includes vocabulary and movement exercises in both Buck & Wing and Rhythm styles. May be repeated once for a maximum of 2 credits. May be repeated up to 2 credits.

Learning Outcomes

1. Recognize and articulate the fundamentals of tap technique, vocabulary, and history.
2. Exhibit improved timing, dexterity, and style through the experience of various schools of tap dance technique, including Buck and Wing and Rhythm.
3. Define proper body alignment and control and understand basic mechanical concepts essential to efficient movement.
4. Demonstrate improved overall physical capability, musicality, and movement memory.
5. Appreciate tap dance as an artform and a discipline.

DANC 1185. Introduction to Country Western Dance
1 Credit (1)

An introduction to Country Western Dance at the beginning level. Students will learn the fundamentals of technique and several dances, including Country Western Two-Step, Nightclub Two-Step, Polka, and Line Dance. Offered Fall of odd years. May be repeated up to 2 credits.

Learning Outcomes

1. Execute the basic figures of various Country Western social dances.
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow.
3. Develop the skills of style and performance quality within the dance.
4. Demonstrate improved overall physical capability, musicality, and movement memory.
5. Appreciate Country Western dancing as an artform and a discipline.

DANC 1220. Introduction to Latin Social Dance
1 Credit (1)

An introduction to Latin social dance at the beginning level. Students will learn the fundamentals of technique including carriage, common movement vocabulary, and partnering, and will be introduced to steps and dances from the Bronze Syllabus of American Rhythm and International Latin dances. Offered every Spring. May be repeated up to 2 credits.

Learning Outcomes

1. Execute the basic figures of various Latin dances in American and International styles.
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow.
3. Develop the skills of style and performance quality within the dance.
4. Demonstrate improved overall physical capability, musicality, and movement memory.
5. Appreciate Latin dancing as an artform and a discipline.

DANC 1235. Introduction to West Coast Swing Dance
1 Credit (1)

An introduction to West Coast Swing dancing at the beginning level. Students will learn the fundamentals of technique of several Swing forms and the Hustle, including basic steps, partnering, and musical forms. Offered Fall of even years. May be repeated up to 2 credits.

Learning Outcomes

1. Execute the basic figures of both West Coast Swing and the Hustle.
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow.
3. Develop the skills of style and performance quality within the dance.
4. Demonstrate improved overall physical capability, musicality, and movement memory.
5. Appreciate Swing dancing as an artform and a discipline.

DANC 2130. Ballet II
2 Credits (2)

Intermediate level of ballet technique; Introduction of more advanced Ballet vocabulary at barre/center work; increase flexibility, strength, body alignment, and coordination for practice of steps/combinations with variations in timing and changes of facing. Restricted to Las Cruces campus only. May be repeated up to 8 credits.

Learning Outcomes

1. A successful student will be able to understand and execute with accuracy all the steps presented on the take home quizzes and are encouraged and expected to attend at least two semesters of each level in order to advance to the next level of ballet technique

DANC 2150. Modern Dance II
2 Credits (2)
Modern II is designed to further the student's abilities in modern dance technique, to enhance efficient use of weight and momentum, to release held patterns in the body's mechanics, to enrich spatial awareness, and to begin work on performance techniques. May be repeated up to 8 credits.
Learning Outcomes
1. Improve accuracy in alignment and shape
2. Improve precision in space, in timing and rhythm, and in focus/intent
3. Learn combinations and movement dynamics quickly
4. Begin to integrate performance techniques while working in the classroom setting
5. Use a concentrated attitude and an open, creative mind to approach the work in an artistic manner unique to your abilities
6. Listen, see and apply all the information given within one class period and over the semester
7. Self-awareness and mindfulness: how much space do you take in the class and why? How aware are you of those around you, and those you are dancing with?
8. Release of weight to create controlled momentum
9. Locating center and moving from there

DANC 2157. Hip-Hop Dance II
2 Credits (2)
This course covers hip hop dance and its relationship to other aspects of hip-hop culture, music, and media, with an emphasis on creativity, individuality, and expression. Coursework may include street styles, breaking, and various regional forms. This is an intermediate level dance course. May be repeated up to 6 credits.
Learning Outcomes
1. Recognize and articulate the fundamentals of various styles of hip hop dance technique and vocabulary.
2. Contextualize the history and cultural aspects of hip hop dance.
3. Examine the relationship between dance and other aspects of hip hop culture such as music and media representation.
4. Demonstrate improvement in overall physical capability, musicality, and movement memory.
5. Appreciate hip hop dance as an artform and a discipline.

DANC 2170. Commercial Dance
2 Credits (2)
This course delves into the dynamic world of commercial dance, focusing on the foundational techniques, stylistic nuances, and performance demands of commercial jazz and hip-hop. Students will explore the historical evolution, influential choreographers, and current trends within these vibrant dance forms as they apply to the entertainment industry (music videos, live concerts, film, television, and touring). Emphasis will be placed on developing versatility, adaptability, stage presence, and the ability to quickly learn and execute complex choreography.
Learning Outcomes
1. Demonstrate proficiency in core techniques and stylistic elements of commercial jazz and various hip-hop styles (breaking, popping, locking, house, new school).
2. Execute complex choreographic phrases with musicality, dynamics, and performance quality.
3. Analyze and articulate the historical and cultural contexts of commercial jazz and hip-hop.
4. Identify and apply strategies for quick retention and execution of choreography.
5. Develop a heightened sense of stage presence, adaptability, and versatility in performance.
6. Understand the professional expectations and demands of the commercial dance industry.
7. Work collaboratively in a studio setting, demonstrating professionalism and respect.

DANC 2270. Dance Improvisation
2 Credits (2)
An introduction to the practice of dance improvisation focusing on play and discovery as methods for generating movement and exploring the full potential of the communicative, authentic body in motion. Course content includes concepts in Body, Effort, Shape, Space, Kinesthetic Response, Scoring, and Contact. Offered Spring of even years.
Prerequisite: DANC 1150.
Learning Outcomes
1. Understand the core concepts of exploration and authenticity and the importance of these ideas to a modern dancer and choreographer.
2. Demonstrate immediacy of presence, both physically and mentally, in the way that they responding to both choices and instincts in the moment.
3. Connect the concepts learned in Modern dance technique to the study of dance improvisation and the concepts of this class to outside work as dancers, students, and citizens.
4. Access the constantly expanding movement vocabulary which will inform their work moving forward in dance technique and composition.
5. Improvise confidently both individually and as part of a group.

DANC 2310. Bronze American Rhythm
2 Credits (2)
Bronze level American Rhythm patterns, techniques, and partnering with emphasis on elements of dance. May be repeated up to 6 credits.
Learning Outcomes
1. Learn to dance the Bronze DIVIDA Manual in American Rhythm
2. Develop Bronze level dance technique
3. Gain deeper understanding of the Elements of Dance
4. Develop rhythmic accuracy in movement, ability to dance on time discover phrasing
5. Further develop lead follow skills that will enable you to dance at more advanced levels

DANC 2311. Bronze American Smooth
2 Credits (2)
Bronze level American Smooth patterns, technique, and partnering with an emphasis on the elements of dance. May be repeated up to 4 credits.
Learning Outcomes
1. Learn to dance the Bronze DIVIDA Manual in International Latin
2. Develop Bronze level dance technique
3. Gain deeper understanding of the Elements of Dance
4. Develop rhythmic accuracy in movement, ability to dance on time discover phrasing
5. Further develop lead follow skills that will enable you to dance at more advanced levels

DANC 2320. Bronze International Latin
2 Credits (2)
This is the style of Latin dance that is danced around the globe and is featured in the World DanceSport Championships. Students will learn the

Bronze Level figures and techniques in four (4) International Style dances: Rumba, Cha Cha, Samba & Jive. May be repeated up to 6 credits.

Learning Outcomes

1. Learn to dance the Bronze DIVIDA Material for the International Latin Syllabus
2. Develop Bronze level dance technique
3. Gain deeper understanding of the Elements of Dance
4. Develop Smooth accuracy in movement, ability to dance on time discover phrasing
5. Further develop lead follow skills that will enable you to dance more advanced levels

DANC 2321. Bronze International Standard
2 Credits (2)

This is the style of Ballroom dance that is performed around the globe and is featured in the World DanceSport Championships. Learn the Bronze Level figures and techniques in five (5) International Style dances: Waltz, Tango, Viennese Waltz, Foxtrot & Quickstep. Students will focus on understanding technical elements of dance, memorizing and performing routines. May be repeated up to 6 credits.

Learning Outcomes

1. Learn to dance the Bronze DIVIDA Manual in International Standard
2. Develop Bronze level dance technique
3. Gain deeper understanding of the Elements of Dance
4. Develop Smooth accuracy in movement, ability to dance on time discover phrasing
5. Further develop lead follow skills that will enable you to dance at more advanced levels

DANC 2460. Dance for Musical Theatre
2 Credits (2)

This course will supplement the dance technique curriculum specifically in support of the study of Musical Theatre. Students will practice various social, world, and theatrical dance forms, learn selections from iconic choreography, experience mock dance auditions, and explore the skill of dance composition for musical theatre repertory. Offered every Spring. May be repeated up to 4 credits.

Prerequisite: DANC 1130 or DANC 1160.

Learning Outcomes

1. Participate successfully in dance techniques and styles outside of the basic tap, jazz, ballet, and modern dance curriculum.
2. Recognize and contextualize musical theatre history and repertory through exposure to significant historical choreography and choreographers.
3. Understand and excel at the skill of taking part in a musical theatre dance audition.
4. Demonstrate improvement in overall physical capability, musicality, and movement memory.
5. Appreciate the practice of musical theatre dance as an artform and a discipline.

DAST-DENTAL ASSISTING

DAST 1111. Dental Materials
2 Credits (2)

Covers the composition, properties, classifications, uses, and manipulation of materials commonly used in dentistry. Topics also include legal, ethical, and safety issues related to the use of dental materials. May be repeated up to 2 credits.

Learning Outcomes

1. Explain the properties, composition, handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Describe the legal and ethical considerations for using dental materials in a safe and responsible manner.
3. Describe the role of the dental auxiliary in the selection, preparation, and placement of dental materials.

DAST 1111L. Dental Materials Laboratory
1 Credit (1P)

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.

Prerequisite: DAST 1111.

Learning Outcomes

1. Demonstrate the handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Demonstrate the role of the dental auxiliary in the legal, ethical, and safe use of dental materials.

DAST 1123. Dental Radiology
3 Credits (3)

This course focuses on the principles and techniques of dental radiography. Students will study radiation physics, hygiene, and safety protocols. Emphasis is placed on the fundamentals of intraoral and extraoral radiographic techniques, including exposure, quality assurance, and interpretation of radiographs. The course also covers patient selection criteria and explores other ancillary radiographic techniques.

Learning Outcomes

1. Explain the principles of radiation physics in the production of x-rays.
2. Discuss the effects of ionizing radiation on living tissues and implement appropriate safety measures.
3. Recognize appropriate receptors and exposure factors.
4. Differentiate intraoral and extraoral radiographic techniques including landmarks and interpretation.
5. Explain infection control protocols during all radiographic procedures.
6. Recognize legal and ethical considerations related to dental radiography.
7. Develop communication strategies as related to dental radiology.

DAST 1123L. Dental Radiology Laboratory
1 Credit (1P)

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.

Corequisite: DAST 1123.

Learning Outcomes

1. Produce high-quality dental radiographs in a safe, legal and ethical manner.
2. Effectively communicate with and manage patients during radiographic procedures.

DAST 1515. Bio-Dental Science III
4 Credits (4)

An introduction to biomedical and dental sciences with emphasis on head and neck anatomy and tooth morphology. Includes microbiology, general anatomy and physiology, histology and embryology of the oral cavity, pathology and pharmacology as they relate to dentistry.

Learning Outcomes

1. Demonstrate the ability to express the history of dentistry, important contributions of historical figures to dentistry, and the importance of professional organizations.
2. Discuss how the study of microbiology relates to dentistry.
3. Utilize and demonstrate the ability to use basic anatomic terms to describe and identify structures of general human anatomy and physiology.
4. Identify and describe the structures associated with head and neck anatomy.
5. Identify, locate, and describe bones muscles, and major vessels of head and neck.
6. Summarize function and location of bones, muscles, and major vessels of the head and neck.
7. Differentiate between primary and permanent dentition by nomenclature, development, eruption patterns, and crown/root morphology.
8. Explain location, function, and dysfunctions of major salivary glands.
9. Summarize normal and abnormal actions of the temporomandibular joint. 1
10. Identify major areas and function of lymph nodes in the head and neck region. 1
11. Differentiate extra oral and intra oral landmarks. 1
12. Describe normal prenatal, embryonic and histological development with emphasis on face, neck, oro-facial structures and dentition. 1
13. Demonstrate the ability to be able to distinguish between normal and pathological abnormalities of the oral structures. 1
14. Describe the use/effect of pharmacological agents in dentistry.

DAST 1519. Clinical Procedures I
3 Credits (3)
This foundational course introduces essential chairside assisting skills and knowledge including patient care, infection control, safety, legal and ethical considerations. May be repeated up to 5 credits.

Learning Outcomes

1. Describe essential chairside assisting skills.
2. Explain patient care procedures while considering infection control and safety protocols.
3. Outline the legal and ethical implications of expanded functions.
4. Interpret the ethical and professional standards of conduct.

DAST 1519L. Clinical Procedures I Laboratory
2 Credits (2P)
Application of essential chairside assisting skills and knowledge including patient care, infection control, safety, legal and ethical considerations.

Learning Outcomes

1. Perform essential chairside assisting skills.
2. Demonstrate patient care procedures while considering infection control and safety protocols.
3. Apply the legal and ethical implications of expanded functions.

DAST 2222. Community Dental Health
2 Credits (2)
This course introduces the principles and practices of dental public health. Students will explore epidemiology and biostatistics, disease prevention and control, health promotion, and healthcare delivery. May be repeated up to 2 credits.

Learning Outcomes

1. Define the purpose and scope of dental public health.
2. Discuss the epidemiology and biostatistics of oral diseases.
3. Identify and analyze factors influencing oral health within communities.
4. Develop and implement community-based oral health education programs.
5. Provide Oral Health Education and Counseling.
6. Analyze and apply principles of research as related to public health.

DAST 2990. Dental Assisting Practicum
6 Credits (2+4P)
This course is the clinical component of the program that combines general practice and experiences in the work place. Seminar topics focus on the practicum experiences and critique of performance. May be repeated up to 6 credits.

Learning Outcomes

1. Assist the dentist chairside in general and specialty practices with procedures such as oral evacuation, instrument transfer, dental material preparation, various infection control procedures, and charting.
2. Perform various chairside, lab, and front office duties.
3. Work independently, but with direct supervision from licensed/certified dental assistant, hygienist or dentist in placement of rubber dam, coronal polishing, pit and fissure sealants, and topical fluoride and receive dental/medical information and take vital signs.
4. Expose, process, and duplicate radiographs in accordance with New Mexico Dental Regulations.
5. Educate patients about dental disease, plaque control, oral hygiene and the role of proper nutrition in managing dental disease and organize and participate a community project included in this objective.
6. Identify and manage medical emergencies in the dental environment.
7. Create study models, temporary crowns, custom trays, and mix a wide variety of dental materials.
8. Maintain aseptic and safe environment through proper disinfection and sterilization techniques with adherence to safety and OSHA guidelines.
9. Recognize and Adhere to HIPAA. 1
10. Manage the business/financial aspects of a dental practice (preparing insurance forms, appointment scheduling, answering telephone, bookkeeping, and inventory control). 1
11. Demonstrate ethical and professional behavior in the clinical setting. 1
12. Demonstrate competency in skills needed to function as a dental assistant, to include confidence in patient management, positive attitude about self, members of the dental team, and the dental profession. 1
13. Display professional dependability and ability to promote teamwork. 1
14. Demonstrate ethical decision making processes. 1
15. Define oral pathology and identify the dental assistant's role in this specialty.

DHYG - DENTAL HYGIENE/HYGIENIST (DHYG)

DHYG 2210. Preclinical Dental Hygiene Seminar
3 Credits (3)

This foundational course provides dental hygiene students with the introductory knowledge, skills, and attitudes essential for success in the clinical setting emphasizing scientific principles, current theory, prevention of disease transmission, ethical and professional patient treatment and clinical preparation for comprehensive patient care.

Learning Outcomes

1. Describe infection control protocols for safe dental hygiene practice.
2. Identify equipment and materials for sterilization and disinfection.
3. Explain ergonomics and positioning strategies for safe patient and operator interaction.
4. Discuss time and motion management principles for clinical efficiency.
5. Describe protocols for medical emergency prevention and management.
6. Demonstrate the ability to obtain and record a comprehensive health history.
7. Identify key anatomical landmarks for patient assessment and charting.
8. Describe the properties and applications of preventive pharmacological agents.
9. List diagnostic and screening tools used in clinical examinations. 1
10. Recognize the importance of consistent patient assessment based on professional standards.

DHYG 2212. Preclinical Dental Hygiene
3 Credits (3P)

The Preclinical Dental Hygiene course introduces students to the fundamental principles of patient care, infection control, and clinical techniques. Students will develop foundational skills in instrumentation, patient assessment, and treatment planning, preparing them for direct patient care in future clinical courses. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Learning Outcomes

1. Demonstrate universal precautions in clinical practice.
2. Apply methods of sterilization and disinfection.
3. Show proper patient/operator positioning techniques.
4. Demonstrate basic strategies for preventing medical emergencies.
5. Perform comprehensive patient assessments.
6. Apply fundamental principles of treatment planning.
7. Demonstrate proper instrumentation techniques for clinical care.
8. Practice ethical and professional behavior in patient interactions.

DHYG 2213. Oral Histology and Embryology
2 Credits (2)

This course provides a comprehensive introduction to the microscopic structures of the oral tissues and their embryological formation.

Learning Outcomes

1. Define and explain the concepts of dental histology and embryology.
2. Describe the embryological development, morphology, and histology of the human dentition and its associated structures.

DHYG 2214. Head and Neck Anatomy
3 Credits (3)

This course provides a comprehensive study of the anatomy and physiology of the head and neck regions with a specific emphasis on oral structures and their functions.

Learning Outcomes

1. Discuss the clinical applications of the study of head and neck anatomy by dental professionals.
2. Identify the anatomical structures of the head and neck.
3. Discuss normal anatomic variation and how it applies to different structures of the head and neck.
4. Identify deviations from normal, and how it applies to different structures of the head and neck.
5. Integrate the knowledge of head and neck anatomy into clinical practice of patient examination, dental radiology, and the future use of local anesthetics.

DHYG 2215. Tooth Anatomy and Morphology
2 Credits (2+1P)

This course provides a comprehensive study of human dentition, including their development and relationships within the oral cavity. Key areas of focus include universal charting, numbering systems, cavity classification, and laboratory activities enhance observational and clinical skills. May be repeated up to 2 credits.

Learning Outcomes

1. Describe the anatomy, physiology and stages of the human dentitions.
2. Explain the concept of occlusion and malocclusion.
3. Describe dental numbering systems and tooth identification.
4. Explain the eruption process and the eruption schedule for primary and permanent dentitions.

DHYG 2216. Dental Radiology
3 Credits (3)

This course focuses on the principles and techniques of dental radiography. Students will study radiation physics, hygiene, and safety protocols. Emphasis is placed on the fundamentals of intraoral and extraoral radiographic techniques, including exposure, quality assurance, and interpretation of radiographs. The course also covers patient selection criteria and explores other ancillary radiographic techniques.

Learning Outcomes

1. Explain the principles of radiation physics in the production of x-rays.
2. Discuss the effects of ionizing radiation on living tissues and implement appropriate safety measures.
3. Recognize appropriate receptors and exposure factors.
4. Differentiate intraoral and extraoral radiographic techniques including landmarks and interpretation.
5. Explain infection control protocols during all radiographic procedures.
6. Recognize legal and ethical considerations related to dental radiography.
7. Develop communication strategies as related to dental radiology.

DHYG 2216L. Dental Radiology Lab
1 Credit (1P)

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course. May be repeated up to 1 credit.

Learning Outcomes

1. Produce high-quality dental radiographs in a safe, legal and ethical manner.
2. Effectively communicate with and manage patients during radiographic procedures.

DHYG 2220. Clinical Dental Hygiene Seminar I
3 Credits (3)

A continuation of clinical skills, patient assessment, treatment, scheduling, preventive techniques and application of dental hygiene procedures at the intermediate level. Work-based instruction that

helps students synthesize new knowledge, apply previous knowledge or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical faculty.

Learning Outcomes

1. Explain fundamental principles of infection control and patient safety.
2. Describe methods for assessing oral health conditions.
3. Discuss strategies for ensuring efficiency and safety in clinical practice.
4. Analyze techniques used in preventive dental care.
5. Identify factors that influence patient health and treatment considerations.
6. Interpret patient assessment data for informed decision-making.
7. Discuss protocols for referrals and emergency management.
8. Evaluate approaches to patient education and communication.
9. Examine ethical and professional responsibilities in dental care. 1
10. Integrate evidence-based concepts into dental hygiene practice.

DHYG 2222. Clinical Dental Hygiene I
4 Credits (4P)

Building upon the foundational skills acquired in Preclinical Dental Hygiene, this course transitions students into the clinical setting where they begin providing care to patients. Emphasis is placed on applying infection control protocols, conducting comprehensive assessments, and implementing basic treatment plans with close faculty supervision. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Learning Outcomes

1. Apply universal precautions in clinical care.
2. Perform effective sterilization and disinfection procedures.
3. Show proper patient/operator positioning during treatment.
4. Demonstrate emergency prevention strategies in patient care.
5. Conduct thorough patient assessments.
6. Implement treatment plans based on patient assessment.
7. Apply instrumentation techniques to remove deposits effectively.
8. Demonstrate ethical reasoning in clinical decision-making.

DHYG 2223. General and Oral Pathology
3 Credits (3)

Introduction to general pathology with focused study of diseases and disorders of the oral cavity and their interrelationship with body systems; developmental anomalies of the teeth and jaws; manifestations of disease in the oral cavity, head and neck.

Learning Outcomes

1. Describe pathological processes and their effects on the immune system and body organ systems.
2. Differentiate oral conditions based on clinical and radiographic characteristics for accurate diagnosis.
3. Assess oral lesions to determine their significance and the need for referral.
4. Communicate effectively about oral disease manifestations with healthcare professionals and patients.
5. Integrate oral pathology knowledge into treatment planning, patient education, and evidence-based care.

DHYG 2224. Periodontology
3 Credits (3)

Study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, evaluation of disease, treatment modalities, and therapeutic and preventative periodontics relative to the hygienist's role as a co-therapist in a contemporary practice setting.

Learning Outcomes

1. Describe the characteristics of healthy and diseased periodontium to support accurate diagnosis.
2. Classify periodontal diseases to guide treatment planning.
3. Explain the causes and progression of periodontal diseases and their impact on the periodontium.
4. Identify key considerations for periodontal surgical and nonsurgical treatments.
5. Discuss the influence of systemic health factors on periodontal disease progression and management.

DHYG 2225. Dental Materials
2 Credits (2)

Covers the composition, properties, classifications, uses, and manipulation of materials commonly used in dentistry. Topics also include legal, ethical, and safety issues related to the use of dental materials. May be repeated up to 2 credits.

Learning Outcomes

1. Explain the properties, composition, handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Describe the legal and ethical considerations for using dental materials in a safe and responsible manner.
3. Describe the role of the dental auxiliary in the selection, preparation, and placement of dental materials.

DHYG 2225L. Dental Materials Laboratory
1 Credit (1P)

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course. May be repeated up to 1 credit.

Learning Outcomes

1. Demonstrate the handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Demonstrate the role of the dental auxiliary in the legal, ethical, and safe use of dental materials.

DHYG 2226. Medical and Dental Emergencies
2 Credits (2)

This course provides an overview of medical and dental emergencies encountered most frequently in the dental setting. The course also focuses on the recognition, prevention, preparation and management of these emergencies. It also provides the student with knowledge and techniques on how to address those emergencies should they occur.

Learning Outcomes

1. Describe the components and purpose of an emergency kit in managing medical emergencies in a dental setting.
2. Apply treatment protocols for managing medical emergencies during dental care.
3. Recognize abnormal vital signs and their implications for emergency intervention.
4. Explain the key steps in preparing a dental office for effective emergency management.
5. Demonstrate techniques for managing airway obstructions and foreign body aspirations in emergencies.

DHYG 2227. Clinical Dental Hygiene II
2 Credits (2)

Clinic II advances students' clinical competencies by refining their instrumentation techniques, treatment planning, and patient management skills. With increased independence, students will provide care for patients with varying oral health needs while learning to evaluate treatment effectiveness and make appropriate modifications. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Learning Outcomes

1. Maintain universal precautions in all patient interactions.
2. Demonstrate adherence to sterilization and disinfection standards.
3. Apply patient/operator positioning to optimize clinical efficiency.
4. Assess patient risk factors to prevent medical emergencies.
5. Perform individualized treatment procedures.
6. Demonstrate precision in instrumentation techniques.
7. Evaluate patient responses and adjust treatment accordingly.
8. Apply ethical and professional standards to clinical practice.

DHYG 2228. Pain and Anxiety Management
2 Credits (2)

Study of the application of various physical, chemical, and psychological modalities to the prevention and treatment of preoperative and postoperative patient anxiety and pain. Emphasis on administration of local anesthesia and nitrous oxide.

Learning Outcomes

1. Explain the anatomy and physiology of nerve conduction, including pain transmission mechanisms and how they are influenced by local anesthetics.
2. Discuss the pharmacological properties, actions, contraindications, and potential adverse reactions of local anesthetic agents, vasoconstrictors, and nitrous oxide.
3. Evaluate the effects of local anesthetics on the central nervous system (CNS) and cardiovascular system (CVS), including recognition and management of adverse reactions.
4. Describe the biotransformation processes of esters and amides, the concept of drug half-life, and the clinical relevance of pKa and pH in anesthesia.
5. Identify clinical signs and symptoms of adverse reactions to local anesthetics and vasoconstrictors, and describe appropriate management protocols for these reactions.
6. List and explain the maximum recommended doses for local anesthetics and vasoconstrictors, and discuss dose modifications for children, adults, and patients with compromised health
7. Describe the steps to recognize and manage medical emergencies related to anesthesia administration, including syncope, allergic reactions, and cardiovascular complications.
8. Evaluate patient medical and dental histories to identify risk factors that may influence the selection of anesthetic agents and necessitate medical consultation.
9. Discuss proper protocols for handling sharps, preventing cross-contamination, and managing equipment used in local anesthesia. 1
10. Explain the importance of emergency preparedness in the dental office, including recognizing symptoms of undiagnosed medical conditions, responding to adverse drug reactions, and implementing emergency protocols to ensure patient safety.

DHYG 2228L. Pain and Anxiety Management Clinical
1 Credit (1P)

Clinical application of concepts learned in Pain and Anxiety Management. Emphasis on the administration and techniques of local anesthesia and monitoring nitrous oxide.

Prerequisite: C or better in DHYG 2228.

Learning Outcomes

1. Demonstrate the proper technique for administering local anesthetic injections, including infiltrations and nerve blocks, to ensure effective pain control and patient comfort.
2. Apply knowledge of intraoral landmarks to accurately and safely perform various local anesthetic injections, such as the ASA, PSA, IA, and mental nerve blocks.
3. Evaluate a patient's medical and dental history to identify contraindications and determine the appropriate anesthetic agents, vasoconstrictors, and techniques for treatment.
4. Administer nitrous oxide-oxygen sedation safely and effectively, monitoring the patient's physiological and psychological responses throughout the procedure.
5. Identify and manage adverse reactions or medical emergencies associated with the administration of local anesthetics, vasoconstrictors, or nitrous oxide, including syncope, allergic reactions, or toxicity.
6. Calculate and adjust dosages of local anesthetics, vasoconstrictors, and nitrous oxide based on patient factors such as age, weight, medical history, and health status.
7. Ensure proper handling and disposal of sharps and other equipment to maintain infection control and safety during anesthetic administration.
8. Educate patients about the procedure, expected outcomes, dosage safety, and post-operative considerations associated with local anesthesia and nitrous oxide sedation.

DHYG 2230. Clinical Dental Hygiene Seminar III
2 Credits (2)

Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on special needs patients. May be repeated up to 2 credits.

Learning Outcomes

1. Discuss advanced concepts in periodontal therapy and patient care.
2. Apply pharmacological principles to dental hygiene treatment.
3. Evaluate patient outcomes to guide treatment decisions.
4. Explore interdisciplinary approaches to comprehensive patient care.
5. Develop strategies for managing medical emergencies in a clinical setting.
6. Assess risk factors affecting oral and systemic health.
7. Discuss approaches to patient education and disease prevention.
8. Analyze patient documentation and follow-up care planning.
9. Examine strategies for long-term patient management and referrals. 1
10. Recognize the importance of self-assessment and ongoing professional development.

DHYG 2232. Clinical Dental Hygiene III
5 Credits (5P)

Clinic III, students manage more complex cases, requiring advanced critical thinking and problem-solving skills. They will integrate diagnostic tools, adapt treatment strategies, and demonstrate greater autonomy in decision-making. Emphasis is placed on professional judgment,

ethical considerations, and comprehensive patient care. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Learning Outcomes

1. Implement universal precautions.
2. Evaluate sterilization and disinfection protocols for effectiveness.
3. Demonstrate advanced patient/operator positioning techniques.
4. Develop strategies for managing medical emergencies.
5. Integrate diagnostic and assessment techniques into treatment planning.
6. Demonstrate critical thinking in managing complex patient cases.
7. Assess the effectiveness of treatment outcomes.
8. Apply ethical reasoning and professionalism in clinical decision-making.

DHYG 2233. Pharmacology
3 Credits (3)

Study of the pharmacologic aspects of drugs and drug groups with which the dentist and dental hygienist are directly and indirectly concerned. Emphasis is placed on nomenclature, origin, physical and chemical properties, preparation, modes of administration and effects of drugs upon the body systems.

Learning Outcomes

1. Identify the effects of commonly used drugs on dental treatment.
2. Describe strategies for managing drug interactions, medical emergencies, and oral manifestations related to drug use in dental practice.
3. Apply pharmacological principles to the management of patient care in a clinical dental setting.
4. Explain approaches to ensuring safe dental care for patients with complex medical histories.
5. Incorporate pharmacological knowledge and ethical considerations into dental care practices.

DHYG 2234. Research Methodology
2 Credits (2)

This course provides an introduction to the principles and application of research methods in social, behavioral and medical research.

Learning Outcomes

1. Explain how oral health research and the process of scientific inquiry knowledge development and daily practice.
2. Explain how an evidence-based decision-making approach enhances critical thinking and professional decision-making regarding patient care.
3. Describe the scientific method and research process.
4. Use the Internet and electronic resources in research and understand how they relate to dental hygiene education, practice and research.
5. Conduct an effective literature search using electronic databases (such as PubMed, MEDLINE, and CINAHL), professional journals, government documents, product literature and other print publications, video and other forms of multimedia.
6. Develop a PICO (or equivalent) research question to address an identified practice problem.
7. Discuss different research designs and when each is appropriate to use.
8. Explain the elements necessary to obtain valid and reliable results for observational, exploratory and experimental research.
9. Evaluate oral health research articles applying concepts of research design and methodology. 1
10. Interpret oral health data by proper application of statistical principles and tests. 1
11. Critically analyze different print and electronic information sources and apply to the practice of dental hygiene. 1
12. Gain an appreciation for the role of research in evidence-based dental hygiene practice.

DHYG 2240. Clinical Dental Hygiene Seminar IV
3 Credits (3)

A continuation of information to prepare the student for advanced clinical practice. Provides an in-depth study of dental hygiene care for diverse patient populations and provides a forum for evaluation of the service project from Dental Public Health, and synthesis of all dental hygiene knowledge, skills and attitudes into a case presentation.

Learning Outcomes

1. Explore advanced concepts in dental hygiene care and patient management.
2. Discuss strategies for handling medical emergencies in a clinical setting.
3. Analyze patient assessment data to support interdisciplinary treatment planning.
4. Evaluate the effectiveness of dental hygiene interventions for long-term patient outcomes.
5. Examine professional responsibilities in mentoring and education within the field.
6. Develop strategies for addressing barriers to oral health care in diverse populations.
7. Explore approaches to collaborative, patient-centered care in dental hygiene practice.
8. Assess clinical practices using evidence-based research to support continuous improvement.
9. Discuss the legal, ethical, and professional considerations in patient documentation. 1
10. Recognize the role of dental hygienists in leadership, research, and advocacy for oral health.

DHYG 2242. Clinical Dental Hygiene IV
5 Credits (16P)

As the final clinical course, Clinic 4 prepares students for professional practice by refining their ability to manage diverse and complex patient cases with confidence and competence. Students will demonstrate mastery of clinical skills, collaborate with healthcare professionals, and develop strategies for lifelong learning and ethical practice in dental hygiene. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Learning Outcomes

1. Implement universal precautions across all clinical settings.
2. Develop an evidence-based approach to sterilization and disinfection.
3. Demonstrate mastery of patient/operator positioning.
4. Create a risk management plan for emergency prevention and response.
5. Synthesize patient data to develop comprehensive treatment plans.
6. Lead interprofessional collaboration to enhance patient care.
7. Design a system for evaluating treatment effectiveness.
8. Advocate for ethical and professional excellence in clinical practice.

DHYG 2243. Principles of Practice
2 Credits (2)

Examination of the dental hygienist's role in both traditional and non-traditional employment settings. Career planning, resume preparation and interviewing are practices. An understanding of the law, professional ethics of dental hygiene and the need for lifelong learning are emphasized. Future roles of the dental hygienist and emerging issues in dental hygiene will be explored.

Learning Outcomes

1. Analyze the core values found in the Codes of Ethics of professional dental organizations and their application to dental hygiene practice.
2. Compare the ethical theories.
3. Demonstrate an ethical decision-making framework by applying it to case-based scenarios and defending the chosen course of action.
4. Evaluate the differences between different legal frameworks for the licensing and practice of dental hygienists.
5. Create a protocol for addressing cultural competence and sensitivity in patient care delivery, including strategies to overcome health literacy challenges.

DHYG 2244. Dental Public Health Education
3 Credits (3)

Study of principles and concepts of community public health and dental health education. Emphasis on dental epidemiology and statistical methods, community assessment, educational planning, implementation, and evaluation, scientific review of literature, and classroom presentation.

Learning Outcomes

1. Participate in community programs to prevent oral diseases and promote health.
2. Deliver evidence-based oral health care and education to diverse populations.
3. Develop strategies for implementing and evaluating oral health programs.
4. Advocate for oral health promotion through collaboration with various stakeholders.
5. Apply scientific research to evaluate dental products, techniques, and policies for informed decision-making.

DHYG 2996. Special Topics in Dental Hygiene
1 Credit (4P)

Varies. May be repeated up to 2 credits.

Learning Outcomes

1. Varies.

DMSO-DIAGNOSTIC MEDICAL SONOGRAPHY

DMSO 1110. Introduction to Clinical Practicum
1 Credit (1)

Introduction to working in the medical environment. Includes preparation for clinical internship and observation hours in the ultrasound department. Restricted to: DMS majors.

Learning Outcomes

1. Recognize sonographic anatomy on observed sonographic procedures.
2. Identify and adhere to clinical site practices and policies.
3. Describe aspects of the clinical experience.
4. Demonstrate effective communication skills with patients and healthcare team members.

DMSO 1111. Introduction Sonography/Patient Care
2 Credits (2)

Introduction to the careers in sonography, terminology, medical ethics, scanning planes, applications of ultrasound, professional standards and patient care.

Learning Outcomes

1. Describe essential functions of the sonographer in the health care setting.
2. Distinguish key patient care differences based on patient demographics.
3. Develop and apply professional ethics in line with industry standards.
4. Describe best practices for infection control in the medical setting.

DMSO 1114. Introduction to Clinical Practicum II
1 Credit (1P)

Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.

Learning Outcomes

1. Demonstrate proficiency in patient care skills.
2. Recognize sonographic anatomy.
3. Assist with basic sonographic procedures in the clinical setting.
4. Describe aspects of the clinical experience.

DMSO 1116. Vascular Technology I
2 Credits (2)

Review of basic ultrasound physics and principles, peripheral vascular anatomy, hemodynamics, Doppler evaluation, peripheral vascular scanning techniques, physiologic testing and the carotid arteries and the peripheral vascular system.

Learning Outcomes

1. Describe peripheral and cerebrovascular anatomy and physiology.
2. Identify normal anatomy and waveforms on sonographic images and correlative imaging procedures.
3. Correlate Doppler waveforms to hemodynamic principles.
4. Differentiate venous and arterial hemodynamic principles.

DMSO 1116L. Vascular Technology I Lab
1 Credit (2P)

Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the carotid arteries and peripheral vasculature utilizing real-time sonographic equipment including Doppler.

Learning Outcomes

1. Recognize and document peripheral and cerebrovascular anatomy on sonographic examinations.
2. Develop protocols for thorough imaging of peripheral and cerebrovascular sonographic imaging.
3. Describe Doppler waveforms and correlate findings with hemodynamic principles.

DMSO 1131. Pelvic Sonography
2 Credits (2)

Includes the anatomy, sectional anatomy and normal physiology of the pelvic structures; including the uterus, ovaries, prostate, pelvic muscles, lower GI, appendix and vessels as well as scanning techniques, sonographic appearance and Doppler evaluation of the pelvis.

Learning Outcomes

1. Describe the relational anatomy of the pelvic organs.
2. Distinguish the sonographic appearance of male and female pelvic anatomy.
3. Discuss the physiology of pelvic organ systems.
4. Correlate the physiologic cycles of pelvic organs with the appropriate sonographic appearances.

DMSO 1131L. Pelvic Sonography Laboratory
1 Credit (2P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the pelvic structures including the uterus, ovaries, prostate, lower gastrointestinal system, appendix and pelvic muscles utilizing real-time sonographic equipment including Doppler.
Learning Outcomes

1. Identify normal anatomy of the male and female pelvis on sonographic images.
2. Produce diagnostic sonographic images of pelvic organs.
3. Develop protocols for thorough sonographic evaluation of the pelvic organs.
4. Correlate sonographic findings with the normal physiologic processes of the female pelvic organs.

DMSO 1140. Abdominal Sonography
2 Credits (2)
Includes the anatomy, sectional anatomy and normal physiology of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys, adrenals, and spleen as well as scanning techniques, sonographic appearance and Doppler evaluation of the deep abdominal organs.
Learning Outcomes

1. Identify the normal anatomy of the abdominal organs.
2. Describe the physiology of abdominal organs and how it relates to sonographic appearances.
3. Describe the relational anatomy of abdominal organ systems.

DMSO 1140L. Abdominal Sonography Laboratory
1 Credit (3P)
Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys and spleen utilizing real-time sonographic equipment including Doppler.
Learning Outcomes

1. Identify the abdominal organs on sonographic images.
2. Produce diagnostic quality sonographic images of the abdominal organs.
3. Correlate sonographic appearances with the normal physiology of abdominal organs.
4. Develop protocols for thorough and efficient imaging of the abdominal organs.

DMSO 1150. Sonographic Principles and Instrumentation I
2 Credits (2)
Includes the fundamental properties and mathematical relationships between variables of wave parameters, acoustic variables, attenuation, pulsed wave operation, transducers, system operation, Doppler, and artifacts utilizing real-time sonographic equipment.

Learning Outcomes

1. Describe the physics principles related to sonographic imaging.
2. Correlate physics principles to technical factor adjustments on sonographic equipment.
3. Solve mathematical equations related to sonographic physics principles.

DMSO 1170. Clinical Practicum I
1 Credit (8-10P)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.
Learning Outcomes

1. Develop professional skills necessary in the clinical environment.
2. Perform basic sonographic procedures with minimal assistance from preceptors.
3. Assist with complex/advanced sonographic procedures under the guidance of preceptors.

DMSO 1180. Clinical Practicum II
4 Credits (4)
Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the beginner level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continue observation, assistance and performance of patient care and sonographic duties under direct supervision.
Prerequisite: DMSO 1170.
Learning Outcomes

1. Demonstrate general and sonographic knowledge to function as a member of the healthcare team.
2. Identify and interpret data from patient charts.
3. Perform a broad range of general sonographic examinations with minimal to moderate assistance.
4. Demonstrate effective oral and written communication skills.

DMSO 1526. 1st Trimester Obstetric Sonography
1 Credit (1)
Includes the embryology, anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 1st trimester fetus, placenta, uterus and adnexa as well as scanning techniques according to recognized protocols.
Learning Outcomes

1. Describe the embryology and normal development of the 1st trimester pregnancy.
2. Recognize the sonographic anatomy of normal 1st trimester pregnancy.
3. Relate the gestational age with sonographic findings to recognize normal development of the 1st trimester pregnancy.

DMSO 1527. 2nd/3rd Trimester Obstetric Sonography
1 Credit (1)
Includes the anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 2nd and 3rd trimester fetus, placenta, uterus, and adnexa as well as scanning techniques according to recognized protocols.

Learning Outcomes

1. Describe the normal anatomy and physiology of the 2nd and 3rd trimester pregnancy.
2. Correlate the sonographic appearance of the pregnancy with the gestational age to identify appropriate growth and development of the fetus.
3. Develop protocols for efficient and thorough scanning of the pregnancy.
4. Describe best practices for imaging the pregnancy in accordance with ALARA principles.

DMSO 1528. High Risk Obstetric Sonography
3 Credits (3)
Includes congenital malformations of the developing fetus, high risk pregnancies, multiple gestation, maternal conditions and invasive procedures. Restricted to: DMS majors.
Learning Outcomes

1. Describe the sonographic signs of fetal anomalies.
2. Identify the risk factors for congenital anomalies to correlate with clinical history.
3. Describe the process for imaging multiple gestations.
4. Identify best practices for safe imaging in the high risk pregnancy.

DMSO 2020. Pediatric Sonography
2 Credits (2)
Ultrasound evaluation relating to the pediatric population. Includes scanning techniques, transducer selection, and scanning protocols relating to normal and pathologic conditions that affect the premature infant, newborn and pediatric population across a variety of body systems.
Learning Outcomes

1. Identify anatomy, relational anatomy, anatomic variants, and sonographic appearances of normal anatomical structures related to the pediatric population.
2. Demonstrate knowledge of the physiology, pathophysiology, sonographic technique, measurements, sonographic appearances, and Doppler patterns, where applicable, in both normal and abnormal pediatric structures.
3. Demonstrate knowledge in scanning technique, protocol and modifications based on sonographic findings.
4. Demonstrate knowledge and application of patient care as it pertains to the pediatric population.

DMSO 2216. Vascular Technology II
2 Credits (2)
Includes the pathology and pathophysiology of the vascular system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the carotid arteries, deep and peripheral vascular systems.
Learning Outcomes

1. Describe risk factors for vascular pathology.
2. Correlate Doppler waveforms with hemodynamic principles in the presence of pathology.
3. Describe the sonographic appearance of pathology in peripheral and cerebrovascular systems.
4. Identify modifications to sonographic techniques when pathology is identified.

DMSO 2226. Sonographic Case Studies I
1 Credit (1)
Includes integration of didactic knowledge, clinical presentation, laboratory values, sonographic appearance and related medical imaging of a variety of pathological conditions through a variety of case analysis and presentations.
Learning Outcomes

1. Utilize the Sonographic Reasoning Method to correlate clinical history with imaging findings.
2. Summarize the sonographic findings of case studies and analyze the technical factors utilized.
3. Recall knowledge of pathologies to apply to their evaluation of sonographic images.
4. Devise and defend a diagnostic hypothesis based on the clinical history and sonographic findings.

DMSO 2227. Sonographic Case Studies II
1 Credit (1)
Continuation of Sonographic Case Studies I, integration of didactic knowledge, clinical presentation, laboratory values, sonographic appearance and related medical imaging of a variety of pathological conditions through a variety of case analysis and presentations.
Learning Outcomes

1. Utilize the Sonographic Reasoning Method to correlate clinical history with imaging findings.
2. Summarize the sonographic findings of case studies and analyze the technical factors utilized.
3. Recall knowledge of pathologies to apply to their evaluation of sonographic images.
4. Devise and defend a diagnostic hypothesis based on the clinical history and sonographic findings.

DMSO 2230. Gynecologic Pathology
2 Credits (2)
Includes the pathology and pathophysiology of the female reproductive system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the uterus, ovaries, and adnexa.
Learning Outcomes

1. Recall the normal gynecological anatomy to identify variations or the presence of pathology.
2. Describe risk factors, clinical findings, and the sonographic appearance of gynecological pathologies.
3. Identify diagnostic differentials based on the sonographic appearance of gynecological pathologies.

DMSO 2240. Abdominal Pathology I
2 Credits (2)
Includes the pathology and pathophysiology of abdominal structures of the prevertebral vessels, liver, biliary system, pancreas, spleen and gastrointestinal system; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions.
Learning Outcomes

1. Recall the normal anatomy and physiology of the abdominal organs to recognize variations on sonographic images.
2. Describe modifications to the sonographic technique based when pathology is identified.
3. Correlate sonographic findings with clinical information to identify diagnostic differentials.

DMSO 2245. Abdominal Pathology II
2 Credits (2)

Includes the pathology and pathophysiology of abdominal structures of the genitourinary system, spleen, retroperitoneum, adrenal glands, abdominal wall and prostate; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions.

Learning Outcomes

1. Recall the normal anatomy and physiology of the abdominal organs to recognize variations on sonographic images.
2. Describe modifications to the sonographic technique when pathology is identified.
3. Correlate sonographic findings with clinical information to identify diagnostic differentials.

DMSO 2250. Sonographic Principles and Instrumentation II
3 Credits (3)

Includes properties of sound and its use in diagnostic imaging, artifacts, system operation, Doppler, basic hemodynamics, image optimization, bio effects, quality assurance, and new technologies in ultrasound imaging.

Learning Outcomes

1. Explain the physics principles associated with sonographic imaging.
2. Describe how physics principles modify the sonographic image.
3. Relate ultrasound physics to bio effects and best practices for safe sonographic imaging.

DMSO 2270. Clinical Practicum III
3 Credits (3P)

Continued development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at an intermediate level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision.

Learning Outcomes

1. Consistently demonstrate professional skills and etiquette in the clinical setting.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMSO 2280. Clinical Practicum IV
5 Credits (20P)

Application of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at a proficient level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision.

Learning Outcomes

1. Demonstrate professional communication with patients and healthcare team members.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMSO 2291. Registry Preparation: OB/GYN
1 Credit (1)

Registry preparation mock examinations over materials covered in Obstetric and Gynecological ultrasound. Students must pass this course with a 74% or better OR pass national certification in OB/GYN Sonography.

Learning Outcomes

1. Recall knowledge of normal anatomy, physiology, and pathology of obstetric and gynecological structures.
2. Evaluate sonographic images and patient history to identify likely pathologies.
3. Self-reflect on tested concepts to identify concepts that require further studying.

DMSO 2292. Registry Preparation: Abdomen
1 Credit (1)

Registry preparation mock examinations over materials covered in abdominal ultrasound including small parts and superficial structures. Students must pass this course with a 74% or better OR pass ARDMS national certification exam in Abdominal Sonography.

Learning Outcomes

1. Recall knowledge of normal anatomy, physiology, and pathology of abdominal and superficial structures.
2. Evaluate sonographic images and patient history to identify likely pathologies.
3. Self-reflect on tested concepts to identify concepts that require further studying.

DMSO 2293. Registry Preparation: Vascular
1 Credit (1)

Registry preparation mock examinations over materials covered in vascular ultrasound. Students must pass this course with a 74% or better OR pass national certification in Vascular Technology.

Learning Outcomes

1. Identify and describe vascular anatomy.
2. Recognize vascular pathology based on sonographic images.
3. Describe hemodynamic changes associated with vascular pathology.
4. Demonstrate understanding of patient care, exam protocols, and department procedures.

DMSO 2295. Small Parts and Superficial Structures
2 Credits (2)

Includes anatomy, pathology and pathophysiology, protocol development, scanning techniques, recognition of anatomical structures and the normal and pathological ultrasound appearance of the breast, thyroid, neck, scrotum, non-cardiac chest and musculoskeletal ultrasound.

Learning Outcomes

1. Describe the anatomy and physiology of small parts and superficial structures.
2. Identify normal anatomy, anatomical variants, and pathology on sonographic images of superficial structures.
3. Correlate sonographic appearances of pathologies with clinical history to develop diagnostic differentials of superficial structures.

DRFT-DRAFTING (DRFT)

DRFT 100. Introduction to Architecture, Engineering, & Construction
3 Credits (3)

Introduction to and exploration of careers in the fields of architecture, engineering, and construction. Specific fields to include: architecture, civil engineering, mechanical engineering, structural engineering, engineering technology, residential construction, commercial construction,

geographical information systems (GIS), surveying, sustainable design, and green building

Learning Outcomes

1. Prepare accurate written technical documents,
2. Produce drawing documents that are technically sound,
3. Develop and practice productive work skills, and
4. Upgrade technical knowledge and skills to keep pace with real-world changes
5. Describe different career options in architecture, engineering, and construction,
6. Define the roles of different design professionals and support staff,
7. Explain related educational and professional licensing requirements,
8. Articulate employer expectations,
9. Explore related courses and programs of study at DACC and NMSU, and 1
10. Develop good workplace skills and professional, productive work habits.

DRFT 105. Technical Drawing for Industry
3 Credits (2+2P)

Technical sketching, basic CAD, and interpretation of drawings with visualization, speed and accuracy highly emphasized. Areas of focus include various trades such as machine parts, welding, heating and cooling, and general building sketches/plan interpretation.

DRFT 108. Drafting Concepts/Descriptive Geometry
2 Credits (1+2P)

Basic manual drafting skills, sketching, terminology and visualization. Graphical solutions utilizing applied concepts of space, planar, linear and point analyses. Metric and S.I. units introduced. May be repeated up to 2 credits.

Learning Outcomes

1. Analyze the parallels and distinctions between drafting and design within the Engineering and Architectural domains.
2. Outline the attributes of linear, two-dimensional, and three-dimensional graphic portrayal.
3. Sketch fundamental geometric shapes in linear, two-dimensional, and three-dimensional formats.
4. Explain the characteristics of an Architectural and Engineering Scale.
5. Apply appropriate Architectural or Engineering Scale to dimension drawings accurately.
6. Identify and expound upon the following concepts: a) Plan view, b) Elevation view, c) Section view.
7. Generate precise, readable, and meticulous drawings in Plan, Elevation, and Section views.

DRFT 109. Computer Drafting Fundamentals
3 Credits (2+2P)

Introduction to principles and fundamentals of drafting using both manual drawing techniques and computer-aided drafting (CAD) applications. Crosslisted with: E T 109 and C E 109. May be repeated up to 3 credits.

Learning Outcomes

1. Describe related career options/pathways.
2. Explain and apply common drafting terms, concepts, and conventions.
3. Utilize various AutoCAD commands and Coordinate Entry methods to produce accurate and precise Two-Dimensional drawings.
4. Setup AutoCAD working environment, drawings, styles, and applicable settings.
5. Navigate the AutoCAD user interface efficiently.
6. Apply different drafting methods, strategies, and processes.
7. Utilize AutoCAD to produce basic 2D CAD working drawings.
8. Measure utilizing scales accurately.
9. Create drawings with different scales and units. 1
10. Plot drawings produced in AutoCAD at various scales and on various sheet sizes. 1
11. Utilize the two Drawing Environments: Paper Space and Model Space. 1
12. Manage AutoCAD drawing files.

DRFT 112. Drafting Concepts/Computer Drafting Fundamentals I
4 Credits (2+4P)

Basic drafting skills, terminology, and visualization. Introduction to principles and fundamentals of computer-aided drafting. Same as E T 106.

Prerequisites: OECS 207, OECS 125 or consent of instructor.

DRFT 113. Drafting Concepts/Computer Drafting Fundamentals II
4 Credits (2+4P)

Drafting for mechanical/industrial applications; machine part detailing, assemblies in orthographic, isometric, auxiliary, oblique, and sectional views. Two-dimensional AutoCAD with introduction to 3-D AutoCAD. Same as E T 216. Restricted to: Community Colleges only.

Prerequisite: DRFT 112.

DRFT 114. Introduction to Solid Modeling
3 Credits (2+2P)

Introduction to 3D mechanical parametric solid modeling and basic assembly creation utilizing Autodesk Inventor as well as other applicable solid modeling software packages. Creation of 2D working drawings from 3D solid models and 3D models for machining/manufacturing purposes will be emphasized. Application of Geometric Dimensioning and Tolerancing (GD&T), material properties, and industry standard fastening and manufacturing practices methods will be introduced. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Create 3D solid models.
2. Read and interpret 2D technical drawings.
3. Read and interpret 3D technical drawings.
4. Define and sketch the standard, sectional, and auxiliary views of a given object.
5. Annotate working mechanical drawings following industry standards.
6. Dimension working mechanical drawings following industry standards.
7. Identify standard threads callouts.
8. Identify standard fasteners callouts.
9. Identify standard metal shapes and sizes. 1
10. Produce sheet and assembly drawings. 1
11. Manage Electronic files.

DRFT 115. General Construction Safety
3 Credits (3)

Overview of general construction safety related to building, highway and road construction, and surveying field work for entry-level individuals. Students will also have the opportunity to earn a 10-hour construction industry OSHA card.

Learning Outcomes

1. Discuss the general history of OSHA.
2. Discuss the general history of the U.S. safety movement.
3. Utilize the OSHA web site as a basic safety resource.
4. Utilize the Call Before You Dig website as a basic safety resource.
5. Recognize construction site hazards.
6. Identify construction site hazards.
7. Avoid construction site hazards.
8. Follow proper basic first aid procedures in an emergency.
9. Avoid exposure to blood-borne pathogens in an emergency situation. 1
10. Interpret hazard communication. 1
11. Recognize proper lifting techniques. 1
12. Recognize personal protective equipment.

DRFT 124. Introduction to Geometric Dimensioning and Tolerancing
3 Credits (2+2P)

Introduction to geometric dimensioning and tolerancing (GD&T) for mechanical and print reading in mechanical engineering technology and manufacturing industries. Related industry standards will also be introduced and explored. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Analyze and interpret mechanical engineering drawings and associated information accurately.
2. Apply and utilize terminology related to Geometric Dimensioning and Tolerancing (GDT) effectively.
3. Interpret and explain dimensioning symbols used in engineering drawings, ensuring clear understanding of their representation and significance.
4. Interpret and explain GDT modifiers and symbols, comprehending their purpose and impact on the design and manufacturing process.
5. Apply GDT rules and concepts to engineering drawings, ensuring adherence to industry standards and specifications.
6. Apply datum system concepts appropriately, understanding their role in establishing reference points for dimensional control.
7. Explain the characteristics and key features of different types of tolerances, such as bilateral, unilateral, and geometric tolerances, comprehending their implications on part functionality and manufacturing processes.

DRFT 130. General Building Codes
3 Credits (2+2P)

Interpretation of the Building Code, local zoning codes, A.D.A. Standards and the Model Energy Code to study construction and design requirements and perform basic plan checking. Restricted to: Community Colleges only.

Learning Outcomes

1. Navigate, interpret, and apply Codes as necessary to meet different agency or governmental entities' requirements for their approval.
2. Develop critical thinking strategies to develop a preliminary design and plan to check for code compliance.
3. Classify occupancy classification of buildings and structures.
4. Determine "Location on Property" requirements of buildings and structures.
5. Classify occupant loads of buildings and structures.
6. Calculate exit requirements of buildings and structures.
7. Determine fire rating of building elements.
8. Define specific construction requirements based on types of construction and materials.
9. Determine the number of plumbing fixture counts based on occupancy group and occupant load. 1
10. Determine accessibility requirements of buildings and structures.

DRFT 135. Electronics Drafting I
3 Credits (2+2P)

Drafting as it relates to device symbols; wiring, cabling, harness diagrams and assembly drawings; integrated circuits and printed circuit boards; schematic, flow and logic diagrams; industrial controls and electric power fields. Drawings produced using various CAD software packages.
Prerequisites: DRFT 108 and DRFT 109.

DRFT 143. Civil Drafting Fundamentals
3 Credits (2+2P)

Introduction to drafting in the field of Civil Engineering. Drawings, projects, and terminologies related to topographic, contour drawings, plan and profiles, and street/highway layout. Restricted to Community Colleges only. Taught with E T 143 and SUR 143.
Prerequisite: DRFT 109.

Learning Outcomes

1. Use appropriate drafting/technical terminology.
2. Identify of the different types of Civil Engineering work drawing plan sets.
3. Understanding and the use of the terminologies used in the industry.
4. Use AutoCAD Civil 3D.
5. Enter appropriate data into AutoCAD software in order to retrieve necessary outcomes.
6. Plot/Print different types of civil engineering working plans.
7. Read, interpret and understand engineering drawings.
8. Define and understand the different types of engineering drawings.

DRFT 151. Construction Principles and Print Reading
3 Credits (2+2P)

Introduction to construction materials, methods, and basic cost estimating and print reading applicable in today's residential, commercial, and public works industry. Instruction by print reading and interpretation, field trips, and actual job-site visits and progress evaluation.

Learning Outcomes

1. Read, Interpret, and Reference Construction Working Drawings and Construction Specifications.
2. Perform basic sketches related to construction details, plans, etc.
3. Apply standard working drawing/drafting practices including appropriate scale, units, linetypes, text, dimensions, etc.
4. Differentiate among the various construction/design disciplines including Civil/Survey, Structural, Architectural, Mechanical, Plumbing, Electrical, etc.
5. Know the basic principles related to the following processes: Construction Document Development, Bidding, Permitting, and Construction.
6. Identify common construction materials and quality control practices associated with the various construction disciplines listed above.
7. Know basic construction methods associated with the various construction disciplines listed above.
8. Conduct safe construction observations for the sole purpose of documenting construction materials, methods, and progress.
9. Utilize proper, technical construction terminology. 1

10. Conduct material research, and utilize the organization standards of the Construction Specifications Institute. 1
11. Document construction phases by visiting construction sites and developing a digital, construction project portfolio.

DRFT 153. Survey Drafting Applications
3 Credits (2+2P)
Introduction to drafting in the field of survey engineering. Drawings, projects and terminologies related to Point Data, topography, land/boundary surveys, legal descriptions and plat surveys. Using the current Autodesk software. Taught with SUR 143. Restricted to: Community Colleges only.
Prerequisite: DRFT 109.
Learning Outcomes
1. Use appropriate drafting/technical terminology.
2. Identify different types of survey work drawings.
3. Understand and use terminologies used in the industry.
4. Use AutoCAD Civil 3D.
5. Enter appropriate data into AutoCAD software in order to retrieve necessary outcomes.
6. Plot/Print different types of civil engineering working plans
7. Read, interpret and understand surveying drawings.

DRFT 163. Civil Infrastructure Detailing
3 Credits (2+2P)
Infrastructure detailing related to civil engineering projects including: ponding, roadway, sewer, and storm-water structures; concrete foundations; and related utility details. Restricted to Community Colleges campuses
Prerequisite(s): DRFT 109.
Learning Outcomes
1. l. Prepare accurate written technical documents,
2. Produce drawing documents that are technically sound,
3. Develop and practice productive work skills, and
4. Upgrade technical knowledge and skills to keep pace with real-world changes DRFT 163 Course Competencies l. Create applicable details utilizing AutoCAD and other software packages,
5. Interpret local design standards, applicable codes, and industry practices,
6. Apply local design standards,
7. Apply applicable codes,
8. Follow standards industry practices,
9. Design applicable details within given parameters, and
10. Develop good workplace skills and professional, productive work habits.

DRFT 164. Intermediate Mechanical Drafting/Solid Modeling
3 Credits (2+2P)
Intermediate 3D mechanical parametric solid modeling and assembly creation utilizing Solidworks as well as other applicable parametric modeling software packages. Creation of 2D working drawings from 3D solid models, 3D models for machining/manufacturing, and assemblies will be emphasized. Geometric Dimensioning and Tolerancing (GD&T), material properties, and industry standards and manufacturing practices and methods will be further explored. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Recognize standard views, auxiliary views and sectional views of a given object.
2. Dimension working mechanical drawings following appropriate industry standards.
3. Apply Geometric Dimensioning and Tolerancing (GDT) practices and standards to working drawings.
4. Identify standard thread and fastener callouts.
5. Apply standard thread and fastener specifications.
6. Create 3D solid models.
7. Produce sheet and assembly drawings.
8. Manage Electronic files.

DRFT 165. Introduction to Building Information Modeling
3 Credits (2+2P)
Introduction to Building Information Modeling (BIM) in the development of virtual 3D building models, construction documents, renderings and basic animations related to architectural, structural, and mechanical/electrical/plumbing building components. Utilizes the latest BIM technologies in the integration one, parametric BIM. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Demonstrate proficiency in creating comprehensive 3D architectural project models using Revit Architecture, through guided tutorials and independent work.
2. Transform architectural project models into functional working drawings, ensuring accurate representation of design elements and documentation standards.
3. Develop a solid understanding of the essential tools and features commonly used in Revit Architecture, enabling efficient and effective modeling and documentation.
4. Cultivate project file management skills, including organizing, naming, and version control, to maintain a structured and easily navigable digital workspace.

DRFT 180. Residential Drafting
3 Credits (2+2P)
Basic residential drafting including, floor plans, foundation plans, sections, roof plans, exterior and interior elevations, and site plans. Applicable residential building and zoning codes, construction methods and materials, adaptable residential design, and drawing and sheet layout for architectural drafting will be introduced. Restricted to Community Colleges campuses only.
Prerequisite: A C- or better in DRFT 109.
Learning Outcomes
1. Establish AutoCAD drawings for Architectural projects, ensuring appropriate settings, units, and templates are utilized.
2. Apply relevant building codes to residential drafting projects, ensuring compliance with safety and regulatory requirements.
3. Apply design standards specific to residential drafting projects, incorporating principles of functionality, aesthetics, and spatial planning.
4. Generate a comprehensive residential floor plan working drawing, accurately representing the layout and dimensions of interior spaces.
5. Produce residential foundation plan working drawings, depicting the structural elements and dimensions of the foundation system for a residential project.
6. Create a detailed residential wall section working drawing, illustrating the construction and composition of walls in a residential structure.
7. Develop residential exterior elevation working drawings, showcasing the external appearance, materials, and architectural features of a residential building.

8. Generate a residential interior elevation working drawing, highlighting the vertical surfaces, materials, and design elements within the interior spaces of a residential project.
9. Produce a residential site plan working drawing, depicting the placement of buildings, landscape features, and utilities within the property boundaries. 1
10. Coordinate details and references consistently throughout a set of residential working drawings, ensuring accuracy and clarity in the documentation. 1
11. Set drawings to scale, including the layout of multiple scaled drawings on one sheet, allowing for efficient presentation and communication of design information.

DRFT 181. Commercial Drafting
3 Credits (2+2P)
Drafting principles, plan coordination, and code analysis applicable in the development of working drawings for commercial, public, and industrial building projects. Students will utilize National Cad Standards, ADA Standards, and will be introduced to modern office practice. Restricted to Community Colleges campuses.
Prerequisite: DRFT 109.
Learning Outcomes
1. Setup AutoCAD drawings for architectural projects.
2. Apply building code to residential drafting projects.
3. Apply design standards to residential drafting projects.
4. Produce a residential floor plan working drawing.
5. Produce residential foundation plan working drawings.
6. Produce a residential wall section working drawing.
7. Produce residential exterior elevation working drawings.
8. Produce a residential interior elevation working drawing.
9. Produce a residential site plan working drawing. 1
10. Coordinate details and referencing throughout a set of residential working drawings. 1
11. Set drawings to scale, including multiple scaled drawing on one sheet layout.

DRFT 190. Finding and Maintaining Employment
2 Credits (2)
Techniques in self-evaluations, resume writing, application completion, job interviewing, and job retention. Exposure to work ethics, employee attitudes, and employer expectations. May be repeated up to 2 credits.
Learning Outcomes
1. Develop an understanding of utilizing online tools for effective self-promotion in professional contexts.
2. Gather relevant documents to enhance employability, including resumes, cover letters, and supporting materials.
3. Create a comprehensive portfolio that encompasses a print-ready resume, video resume, and well-crafted cover letter.
4. Demonstrate the ability to set realistic and meaningful professional and personal goals, aligning them with career aspirations.
5. Exhibit positive interview techniques, showcasing effective communication skills, professionalism, and confidence.
6. Display a thorough comprehension of workplace ethics, including principles of integrity, accountability, and respect.
7. Evaluate personal performance as an employee, analyzing strengths, areas for improvement, and opportunities for growth.

DRFT 204. Geographic Information Systems Technology
3 Credits (2+2P)
The use of digital information for which various digitized data creation methods are captured. Users will capture, store, analyze and manage spatially referenced data in a modeled mapping procedure.
Learning Outcomes
1. Present projects and critiques using visual, oral, and written communication skills.
2. Prepare written technical documents use appropriate drafting/technical terminology.
3. Produce documents that are technically sound.
4. Analyze information to develop solutions to technical aspects of a problem/situation.
5. Upgrade knowledge and skills to keep pace with real-world changes.
6. Produce projects that respect the intellectual property of others.
7. Participate in activities of professional organization and community service.
8. Demonstrate professionalism with regard to attendance, punctuality and contribution to course.
9. Demonstrate professional demeanor. 1
10. Practice productive work skills. 1
11. Create an employment portfolio.

DRFT 214. Advanced Plans and Sheet Sets from 3D Models
3 Credits (2+2P)
Using 3D mechanical parametric solid modeling and assemblies that utilizes Inventor, Solidworks, and/or other applicable solid modeling and parametric modeling software packages to create advanced drawings and sheet sets. Creation of complete working drawing sets and/or sheet sets, PDF documents, and assembly drawings will be emphasized. Developing and designing parts and assemblies to meet client needs will be introduced and explored. Restricted to Community Colleges campuses only.
Prerequisite/Corequisite: A minimum grade of C- in DRFT 114 or DRFT 164.
Learning Outcomes
1. Recognize standard views, auxiliary views and sectional vies of a given object.
2. Evaluate shop drawings and hand drawings.
3. Create PDFs and 3D PDFs from Three-Dimensional models and assemblies.
4. Dimension working mechanical drawings following appropriate industry standards.
5. Apply Geometric Dimensioning and Tolerancing (GDT) practices and standards to working drawings.
6. Identify standard callouts.
7. Apply standard thread and fastener specifications.
8. Produce assembly drawings.
9. Produce working drawing sets and/or sheet sets. 1
10. Interpret client needs/instructions.

DRFT 222. Introduction to Geomatics
3 Credits (2+3P)
Theory and practice of geomatics as applied to plane surveying in the areas of linear measurements, angle measurements, area determination, differential and trigonometric leveling, and topographic mapping. Crosslisted with: SUR 222.
Prerequisite: MATH 1250G or MATH 1430G.
Learning Outcomes
1. Various

DRFT 230. Building Systems Drafting
3 Credits (2+2P)
Development of working drawings for electrical, plumbing, and HVAC systems, for residential and commercial building through the applications of both 2D Drafting and 3D Building Information Modeling (BIM) techniques. Basics of project setup, National CAD Standards, ADA Standards, modern office practice, code analysis, as well as Sustainability and LEED for new construction. Restricted to: Community Colleges only.
Prerequisite: DRFT 180 or DRFT 181.
Learning Outcomes
1. Differentiate between three phases of electrical installation: temporary, rough-in, and finish.
2. Define basic electrical terms.
3. Cite basic rules of electrical circuit design.
4. Specify methods of wiring a home with energy conservation techniques.
5. Draft basic electrical symbols, including switches, duplex receptacle outlets, ceiling and wall-mounted lights, and circuit lines.
6. Identify basic service specification requirements, including service capacity, service entrance, meter base, and distribution panel locations.
7. Create and utilize symbols legends and schedules used in preparing electrical plans.
8. Identify plumbing fixtures and materials typically included in residential and commercial plans.
9. Cite sizing standards of plumbing piping. 1
10. Specify methods to conserve energy in the plumbing installation. 1
11. Draft plumbing lines and symbols with proper line weights and abbreviations. 1
12. Describe drainage and vent systems. 1
13. Differentiate between public and private sewage disposal systems, and identify basic component of each system. 1
14. Create and utilize symbols legends and schedules used in preparing plumbing plans. 1
15. Identify code requirements related to heating and cooling equipment and duct systems. 1
16. Explain how differing heating and cooling systems work. 1
17. Contrast zonal and central heating systems and list the advantages and disadvantages of each. 1
18. List the code requirements for HVAC systems. 1
19. Define basic HVAC terminology and identify basic HVAC symbols. 2
20. Describe how schedules are used in HVAC drawings, and cite the kind of information included in schedules. 2
21. Create and utilize symbols legends and schedules used in preparing HVAC plans.

DRFT 240. Structural Systems Drafting
3 Credits (2+2P)
Study of foundations, wall systems, floor systems and roof systems in residential, commercial and industrial design/construction. Produce structural drawings including foundation plans, wall and building sections, floor and roof framing plans, shop drawings and details; schedules, materials lists and specifications. Use of various software.
Prerequisite/Corequisite: DRFT 180 or DRFT 181. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Have a basic understanding of Structural Systems.
2. Have a knowledge of the different types of materials used in Structural Design.
3. Understand the complete lifecycle of a project as it pertains the Structural Systems.
4. Be able to take basic hand sketches and turn them into usable construction documents.
5. Project File management skills.

DRFT 242. Roadway Development Drafting
3 Credits (2+2P)
Advanced civil/survey technology and drafting related to roadway development. Emphasis is on relevant terminology, codes/standards, and the production of complex working drawings such as topographical/ grading, drainage, master utilities, roadway P P/details/etc., according to agency standards. Restricted to Community Colleges campuses only.
Prerequisite: DRFT 143.
Learning Outcomes
1. Become familiar with industry terminology.
2. Utilize file management.
3. Configure AutoCAD for the civil drafting environment.
4. Recognize and utilize line types associated with Civil Drafting.
5. Create a standardized layering system for duplication of drawings.
6. Understand industry standards and conventions for roadway development.
7. Utilize design standards in the creation of roadway development drawings.
8. Generate roadway alignments.
9. Generate existing ground profiles. 1
10. Generate proposed finish ground roadway profiles while adhering to design standards. 1
11. Create utility plans that incorporate main lines, service lines, and all associated fittings. 1
12. Understand utility terminology and standards. 1
13. Determine flow line, BOC elevations, etc. 1
14. Understand the concepts of super elevated roadways roadway transitions. 1
15. Generate finish grade surfaces.

DRFT 243. Land Development Drafting
3 Credits (2+2P)
Advanced civil/survey technology and drafting related to land development. Emphasis is on relevant terminology codes/standards, and the production of complex working drawings such as subdivision plats, local utility and drainage plans, construction details roadway P P, etc., according to local development/ agency standards.
Prerequisite: DRFT 143 and DRFT 153.
Learning Outcomes
1. Use appropriate drafting/technical terminology.
2. Produce documents that are technically sound.
3. Analyze information to develop solutions to technical aspects of a problem/situation.
4. Upgrade knowledge and skills to keep pace with real-world changes.
5. Demonstrate professionalism.
6. Practice productive work skills.
7. Read engineering drawings.

8. Produce complex engineering drawings.
9. Read and interpret design standards related to land development and subdivision design. 1
10. Plot or print to industry size sheets of paper.

DRFT 250. Principles of Detailing and Design
3 Credits (2+2P)
Advanced practice in construction documentation in the development and coordination of working drawings & specifications. In particular, will utilize Architectural Graphic Standards, National CAD Standards, and ADA standards to develop detail drawings related to Architectural, Civil, Structural and Building Mechanical systems. Will also be introduced to basic principles, factors, and process of building design such as space planning, site analysis, and basic architectural programming.
Prerequisite/Corequisite: DRFT 180 or DRFT 181. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Experience producing the various types of detailed working drawings and related information for Civil, Residential Commercial Projects.
2. Industry Standards: Architectural Graphic Standards, National CAD Standards, Building, and Land Development Codes, etc.
3. Internet Research methods for construction materials/methods, construction documents, CAD details, etc.
4. Architectural design process, including programming, schematic design documents, design development documents, and construction documents.
5. Sustainability and LEED in architecture.
6. AutoCAD software for 2-D Drafting.
7. Revit software for Building Information Modeling (BIM).
8. Accuracy, legibility, neatness, and professional appearance of drawings.
9. Drafting skills and speed. 1
10. Work ethics, professionalism, and productive work habits. 1
11. Teamwork and presentations.

DRFT 254. Spatial Data Processing
3 Credits (2+2P)
Utilizes the tools and technologies of GIS, processing volumes of geodata identifying a numerical, coded or listed map. Involves the analysis of spatial data from various diverse applications and place in a descriptive mapping process. Restricted to Community Colleges campuses only.
Prerequisite: DRFT 204.
Learning Outcomes
1. Present projects and critiques using visual, oral, and written communication skills.
2. Prepare written technical documents use appropriate drafting/ technical terminology.
3. Produce documents that are technically sound.
4. Analyze information to develop solutions to technical aspects of a problem/situation.
5. Upgrade knowledge and skills to keep pace with real-world changes.
6. Produce projects that respect the intellectual property of others.
7. Participate in activities of professional organization and community service.
8. Demonstrate professionalism with regard to attendance, punctuality and contribution to course.
9. Demonstrate professional demeanor. 1
10. Practice productive work skills. 1
11. Create an employment portfolio.

DRFT 255. Independent Study
1-3 Credits (1-3)
Instructor-approved projects in drafting or related topics specific to the student's individual areas of interest and relevant to the drafting and graphics technology curriculum. Consent of instructor required. May be repeated for a maximum of 6 credits.

DRFT 258. Introduction to Infraworks
3 Credits (2+2P)
Introduction to the utilization of Infraworks software for the conceptualization, optimization, and visualization of infrastructure projects in the context of the built and natural environment. Restricted to Community Colleges campuses
Prerequisite(s): DRFT 143.
Learning Outcomes
1. Prepare accurate written technical documents,
2. Produce drawing documents that are technically sound,
3. Develop and practice productive work skills, and
4. Upgrade technical knowledge and skills to keep pace with real-world changes DRFT 253 Course Competencies I. Navigate within a 3D drawing/modeling space,
5. Connect drawings to data sources,
6. Stylize data sources,
7. Create models elements,
8. Analyze models,
9. Collaborate on a project with others,
10. Communicate design, and
11. Develop good workplace skills and professional, productive work habits.

DRFT 265. Advanced Building Information Modeling Applications
3 Credits (2+2P)
Advanced applications of Building Information Modeling (BIM) including the creation of, and practice in collaborative work sets, data and design analyses, energy modeling and analysis, preliminary LEED analysis, construction take-offs & estimation, and construction animation, through use of various BIM and related software. Restricted to: Community Colleges only.
Prerequisite: DRFT 165.
Learning Outcomes
1. Create full 3D Structural project model by “converting” Revit Architectural model.
2. Perform advanced Revit tasks including Family Editing Creation, Phasing, and Work-sharing.
3. Have a working knowledge of the tools that the majority of users will use to work with Revit and Navisworks.
4. Perform basic Navisworks tasks including Clash Detection and Timeliner.
5. Improve Project File management skills in particular.
6. Improve efficiency in use of Revit.

DRFT 274. GIS Theory and Analysis
3 Credits (2+2P)
Analyzes the hypothesis in which location and spatial data sufficiently quantifies the appropriate statistical methodology. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): DRFT 254.

DRFT 276. Computer Rendering and Animation I
3 Credits (2+2P)
Introduction to technical applications of computer generated renderings and animations for the architecture and engineering fields. 3D models, photo-realistic renderings, and basic animation movie files will be produced utilizing industry standard modeling and animation software.

DRFT 288. Portfolio Development
3 Credits (2+2P)
Production of a portfolio consisting of previously produced student work related to the student's individualized degree option. Process shall include the compilation and organization of working and presentation drawings, construction documents, BIM Models, and renderings/ animations. Students will learn the basics of design layout and online portfolio documentation. Job search and resume preparation activities will also be required. Production of new material and content may also be required. This course is designed as a last semester course in the Drafting & Design curricula. Consent of Instructor. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Produce a professional quality portfolio.
2. Produce working drawings (if required).
3. Prepare a professional resume.
4. Prepare for a job interview.
5. Conduct a job search.
6. Work independently.
7. Practice professional networking skills.

DRFT 290. Special Topics
1-4 Credits (1-4)
Topics subtitled in the Schedule of Classes. May be repeated for a maximum of 12 credits.

DRFT 291. Cooperative Experience
1-6 Credits (1-6)
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student meets with advisor weekly. Graded S/U.
Prerequisite: consent of instructor.

DRFT 295. Professional Development and Leadership DAGA
1 Credit (1)
Students gain experience in leadership, team building, performing community service, and membership and/or leadership in a student organization. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

E E-ELECTRICAL ENGINEERING (E E)

E E 200. Linear Algebra, Probability and Statistics Applications
4 Credits (3+3P)
The theory of linear algebra (vectors and matrices) and probability (random variables and random processes) with application to electrical engineering. Computer programming to solve problems in linear algebra and probability.
Prerequisite: C- or better in (ENGR 140 or CSCI 2210) and (MATH 1521G or MATH 1521H or ENGR 190).
Learning Outcomes
1. Perform vector and matrix operations, including matrix inversion, eigen analysis, finding basis and dimension of vector spaces and rank of a matrix, and solving a set of linear equations.
2. Calculate probabilities using probability mass, density, and cumulative distribution functions for single and multiple, discrete and continuous random variables, and relate them to electrical engineering applications.
3. Perform simple parameter estimation, such as finding sample mean and variance, and relate to confidence intervals.
4. Describe random processes in the context of signal processing and communications systems problems.
5. Use MATLAB to solve problems involving linear algebra and probability, including designing and performing simple numerical experiments.

E E 240. Multivariate and Vector Calculus Applications
3 Credits (3)
Vector algebra, cylindrical and spherical coordinates, partial derivatives, multiple integrals. Calculus of vector functions through electrostatic applications. Divergence, gradient, curl, divergence theorem, Stokes's theorem, Coulomb's Law, Gauss's Law, electric field, electric potential. Applications in Matlab.
Prerequisite: C- or better in (MATH 1521G or MATH 1521H or ENGR 190) and ENGR 140.
Learning Outcomes
1. Students will demonstrate conceptual understanding of the fundamental principles and theories in vector calculus
2. Students will analyze and solve problems using vector calculus in three coordinate systems

E T-ENGINEERING TECHNOLOGY (E T)

E T 101. Introduction to Engineering Technology and Geomatics
1 Credit (1)
An introduction to geomatics and the various engineering technology disciplines, the engineering approach to problem solving, and the design process. Projects emphasize the importance of teamwork, written & oral communication skills, as well as ethical responsibilities.
Learning Outcomes
1. Develop a basic understanding of all programs in the Engineering Technology and Surveying Engineering Department.
2. Create a solid curriculum plan for their degree program.
3. Describe the Engineering Design Process.
4. Define and visit campus support programs and student engineering programs.
5. Describe and discuss communication skills in the engineering profession.

E T 104. Soldering Techniques
1 Credit (3P)
Fundamentals of soldering, desoldering, and quality inspection of printed circuit boards.

E T 109. Computer Drafting Fundamentals
3 Credits (2+2P)
Introduction to principles and fundamentals of drafting using both manual drawing techniques and computer-aided drafting (CAD) applications. Crosslisted with: DRFT 109 and C E 109. May be repeated up to 3 credits.
Learning Outcomes
1. Describe related career options/pathways.
2. Explain and apply common drafting terms, concepts, and conventions.
3. Utilize various AutoCAD commands and Coordinate Entry methods to produce accurate and precise Two-Dimensional drawings.

4. Setup AutoCAD working environment, drawings, styles, and applicable settings.
5. Navigate the AutoCAD user interface efficiently.
6. Apply different drafting methods, strategies, and processes.
7. Utilize AutoCAD to produce basic 2D CAD working drawings.
8. Measure utilizing scales accurately.
9. Create drawings with different scales and units. 1
10. Plot drawings produced in AutoCAD at various scales and on various sheet sizes. 1
11. Utilize the two Drawing Environments: Paper Space and Model Space. 1
12. Manage AutoCAD drawing files.

E T 110. Introduction to 3-D Modeling (Solid Works)
3 Credits (2+3P)
Introduction to SolidWorks, a 3-D modeling software. The foundation for designing mechanical parts and assemblies.

E T 120. Computation Software
2-3 Credits (2-3)
The use of spreadsheet software in the field of engineering technology.

E T 125. Introduction to Renewable Energy
3 Credits (3)
Renewable energy systems, including topics in thermal-solar photovoltaic, wind, geothermal systems, and other current topics. Theory, practical applications, safety considerations and the economics of alternative renewable energy systems compared to conventional systems.

E T 143. Civil Drafting Fundamentals
3 Credits (2+2P)
Introduction to drafting in the field of Civil Engineering. Drawings, projects, and terminologies related to topographic, contour drawings, plan and profiles, and street/highway layout. Restricted to Community Colleges only. Taught with DRFT 143 and SUR 143.
Prerequisite: DRFT 109.
Learning Outcomes
1. Use appropriate drafting/technical terminology.
2. Identify of the different types of Civil Engineering work drawing plan sets.
3. Understanding and the use of the terminologies used in the industry.
4. Use AutoCAD Civil 3D.
5. Enter appropriate data into AutoCAD software in order to retrieve necessary outcomes.
6. Plot/Print different types of civil engineering working plans.
7. Read, interpret and understand engineering drawings.
8. Define and understand the different types of engineering drawings.

E T 153. Fundamentals of Networking Communications
3 Credits (3)
Introduction to networking basics, including computer hardware and software, electricity, networking terminology, protocols, LANs, WANs, OSI model, IP addressing, and design and documentation of basic network and structure cabling.
Learning Outcomes
1. Students will identify network types/protocols utilizing the OSI reference model and compute numbering system network problems.
2. Students will explain issues related to managing and documenting network environments.
3. Students will list, compare, and discuss industry standards for addressing computers on a network.
4. Students will list and distinguish between computer networking historical milestones.
5. Students will identify, compare, and evaluate networking data transport techniques.
6. Students will identify and compare network transmission media and build/evaluate network cabling.
7. Students will discuss IT industry certifications and summarize current technology trends.

E T 154. Construction Methods and Communications
3 Credits (3)
Blueprint reading, specifications, and introduction to materials used in construction. May be repeated up to 3 credits.
Learning Outcomes
1. Students will develop a basic knowledge of AutoCad Civil Three-Dimensional software as they relate to the civil drafting process.
2. Students will become familiar with a basic understanding of computers, drafting, and trigonometry as required.
3. Use of long-term projects will be utilized to simulate real-world work environments to aid the understanding and applying vocabulary on surveying drafting plans.
4. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.

E T 155. Network Operating Systems I
3 Credits (3+1P)
Introduction to a computer network operating system. May not be used as part of an E T degree program on main campus. Restricted to: Community Colleges only.
Prerequisite(s): E T 120 or E T 122.

E T 156. Introduction to Information Security
2 Credits (2)
This course introduces information security terminology, historical evolution of digital security, types of PC and network system vulnerabilities and types of information loss. In addition, methods of information protection and integrity, intrusion detection, and recovery of data are introduced.
Prerequisite(s)/Corequisite(s): E T 120. Restricted to Community Colleges campuses only.

E T 160. Windows Fundamentals for IET
3 Credits (3)
Fundamental review of the Windows operating system including installation and upgrades as well as managing applications, files, folders, devices and maintenance.
Learning Outcomes
1. Properly deploy the Windows OS.
2. Manage Windows OS data and devices.
3. Apply network and connection configurations.
4. Provide Windows OS maintenance.

E T 182. Introduction to Digital Logic
2 Credits (1.5+1.5P)
An introduction to logic design and the basic building blocks of digital systems. Topics include numbering systems, Boolean algebra, digital logic theory, combinational logic, and applications such as adders. Includes hands-on laboratory
Prerequisite: A grade of C- or better in MATH 1220G or higher.

Learning Outcomes

1. Demonstrate ability to convert numerical values to commonly-used digital representations and their use for arithmetic and logical functions.
2. Demonstrate understanding of Boolean logic functions and truth tables.
3. Demonstrate ability to simplify logic expressions.
4. Demonstrate understanding of combinational logic functions, and the ability to build digital circuits using breadboards.

E T 183. Applied DC Circuits
3 Credits (2+2P)
Application of Ohm's law, Kirchhoff's laws, Thevenin's, and Norton's theorems to the analysis of DC passive circuits. Embedded Lab.
Prerequisite(s)/Corequisite(s): MATH 1220G.

E T 183 L. Applied DC Circuits Lab
1 Credit (2P)
DC applied circuits lab.
Corequisite(s): E T 183.

E T 184. Applied AC Circuits
2-3 Credits (1-2+2P)
Application of circuit laws and theorems to analysis of AC passive circuits. Resonant circuit, polyphase circuit and magnetic circuit topics are introduced. Embedded Lab.
Prerequisite: A grade of C- or better in ENGR 120.
Learning Outcomes

1. Analyze and design AC circuits, including ideal op-amps, using concepts of voltage, current, power, Kirchhoff's laws, and network theorems.
2. Design simple systems involving AC circuits.

E T 190. Applied Circuits
4 Credits (3+2P)
Application of Ohm's law, Kirchhoff's laws, and Thevenin's theorems to the analysis of AC and DC passive circuits. Electronic circuit topics are introduced. Embedded lab. May be repeated up to 4 credits.
Prerequisite/Corequisite: MATH 1250G or higher.
Learning Outcomes

1. Analyze and design DC and AC circuits, including ideal op-amps, using concepts of voltage, current, power, Kirchhoff's laws, and network theorems.
2. Design simple systems involving DC and AC circuits.

E T 191. Applied Circuits Laboratory
1 Credit (2P)
Applied Circuits Lab

E T 200. Special Topics
1-3 Credits
Directed study or project. May be repeated for a maximum of 6 credits.
Prerequisite: consent of department head.

E T 210. Advanced 3-D Modeling (Solid Works)
3 Credits (3)
Advanced 3-D modeling techniques to prepare for the Certification of SolidWorks Associate (CSWA) exam.
Prerequisite: A grade of C- or better in ENGR 110.
Learning Outcomes

1. Properly operate a CAD system in the most efficient manner.
2. Generate and easily update Part models.
3. Ability to create complex assembly models.
4. Create usable production drawings from Three-Dimensional CAD models.
5. Understand the basic fundamentals of available add-in software compatible with SolidWorks (FEA, CAM, PDM).
6. Work in a group and operate effectively on a team.
7. Use creative and technical thinking skills in design.

E T 217. Manufacturing Processes
3 Credits (2+3P)
Introduction to manufacturing and processing, including: casting, forming, and machining. Emphasis on creating products with the appropriate techniques. Crosslisted with: I E 217.
Prerequisite(s): A grade of C- or better in either E T 110 or ENGR 110 and C- or better in MATH 1220G.
Learning Outcomes

1. Identify the different manufacturing processes and their applications.
2. Use, set up, and calibrate measuring tools.
3. Apply geometric tolerances to engineering drawings.
4. Demonstrate basic knowledge of materials and material properties.
5. Demonstrate basic knowledge of GM codes and their application.
6. Proficiently use CAM packages such as SolidWorks CAM.
7. Identify different tooling, their use, and manufacturing application.

E T 217 L. Manufacturing Processes Lab
1 Credit (3P)
Hands-on laboratory in machine shop to apply topics from E T 217, including: casting, forming, and machining.
Corequisite: E T 217.
Learning Outcomes

1. Various

E T 220. Internship
1-6 Credits
Internship requiring an approved number of hours of varied and progressive experience in the field of study. The scope and other requirements of the internship are stated in an individualized syllabus and through a memorandum of understanding between the faculty mentor and the industry partner. May be repeated up to 6 credits. Consent of Instructor required.
Prerequisite(s): E T 283.

E T 240. Applied Statics
3 Credits (3)
Fundamental topics of applied statics, including force system analysis, equilibrium, free body diagrams, methods of joints and sections, distributed loads, friction, centroids, area moments, and shear and moment diagrams.
Prerequisite(s)/Corequisite(s): MATH 1430G or MATH 1511G.
Prerequisite(s): PHYS 1230G or PHYS 1310G.

E T 241. Applied Dynamics
3 Credits (3)
The foundation for understanding particles and bodies in motion and the forces involved, including: projectile motion, Newton's Laws of Motion, conservation of energy, and impulse and momentum.
Prerequisite: A grade of C- or better in either E T 240 or ENGR 233.
Prerequisite/Corequisite: (MATH 1440 or MATH 1521G or MATH 1521H).
Learning Outcomes

1. Various

E T 246. Electronic Devices I
4 Credits (3+3P)

Solid-state devices including diodes, bipolar-transistors, and field effect transistors. Use of these devices in rectifier circuits, small signal and power amplifiers.
Prerequisite: A grade of C- or better in one of the following: E T 190 or E T 183 or ENGR 120.
Prerequisite/Corequisite: E T 184 or ENGR 230.
Learning Outcomes

1. Describe semiconductor devices and their properties.
2. Apply the characteristics of diodes to analyze diode rectifier and regulator circuits.
3. Apply the characteristics of bipolar junction transistors (BJTs) to analyze BJT amplifier circuits.
4. Apply the characteristics of metal-oxide-semiconductor field-effect transistors (MOSFETs) to analyze MOSFET amplifier circuits.
5. Describe and analyze complementary MOS (CMOS) digital circuits.
6. Learn to solder and layout printed-circuit boards (PCBs).
7. Design, simulate, and test diode and transistor-amplifier circuits.

E T 253. Networking Operating Systems II
3 Credits (3+1P)
Introduction to a computer network operating system. May not be used as part of an E T degree program on main campus. Restricted to Community Colleges campuses only.
Prerequisite: E T 120 and E T 153.
Learning Outcomes

1. Identify Linux utilities and terminology.
2. Use the Linux filesystem.
3. Install, administer, and manage a Linux system.
4. Utilize Linux user/group management.
5. Install software packages.
6. Apply data management skills.

E T 254. Concrete Technology
3 Credits (2+2P)
Fundamentals of aggregates, Portland cement, and asphalt used in design and construction. May be repeated up to 3 credits.
Learning Outcomes

1. Define the fundamentals of aggregates and their use in construction including concrete and asphalt.
2. Define the types of concrete and their uses.
3. Prepare and test concrete mix designs.
4. Executing tests for AASHTO Certification.

E T 255. Linux System Administration
3 Credits (3)
Operating systems applications and interfacing with an introduction to systems administration. Topics include Shell Programming, Programming Tools, Database Management, System Backups, Security, Setup and Maintenance of Linux Servers.
Learning Outcomes

1. Describe the key features of the Linux operating system.
2. Plan the Linux Filesystem to match system requirements.
3. Design BASH scripts to optimize common Linux operations.
4. Interpret Linux performance data to solve hardware and software issues.
5. Students will demonstrate the Core Linux System Administration.
6. Students will be able to link the use of shell commands to managing Linux server daemons and software.
7. Students will apply these concepts to build application servers running Linux, Apache, MySQL, and PHP (LAMP); Tomcat, CUPS print servers; and create backup solutions.
8. Students will apply problem analysis, object-oriented structured logic, and development concepts.
9. Students will demonstrate an understanding of theory and hands-on experience administrating a Linux Based server.

E T 256. Networking Operating Systems III
3 Credits (3+1P)
Introduction to a computer network operating system. May not be used as part of an E T degree program on main campus. Restricted to Community Colleges campuses only.
Prerequisite(s): E T 253.

E T 262. Software Technology I
3 Credits (2+2P)
An introduction to computer programming concepts as applied to engineering technology. Includes basic logic design, algorithm development, debugging and documentation. History and use of computers and their impact on society.
Prerequisite/Corequisite: (E T 182 or ENGR 130) or (MATH 1250G or MATH 1430G).
Learning Outcomes

1. Set up and use a rich programming environment for programming with C
2. Analyze existing code
3. Employ effective use of basic programming and basic troubleshooting
4. Write, debug and test code given software requirements
5. Apply testing and documentation best practices
6. Transfer programming knowledge and apply coding knowledge

E T 272. Electronic Devices II
4 Credits (3+3P)
Operational amplifiers, positive and negative feedback, computer aided circuit analysis. In addition circuits include integrator, differentiators and phase shift networks.
Prerequisite: A grade of C- or better in E T 246.
Learning Outcomes

1. Design ideal operational amplifier (opamp) circuits.
2. Determine the frequency response of BJT and MOSFET amplifier circuits.
3. Predict the impact of non-ideal properties of opamps on opamp circuits.
4. Design opamp integrator and differentiator circuits.
5. Implement electronic wave-generating and wave-shaping circuits.
6. Solder and layout surface-mount printed-circuit boards (PCBs).
7. Simulate and test opamp and transistor-amplifier circuits.

E T 273. Advanced Networking Communications
4 Credits (2+4P)
Explores advanced networking communications to include Wireless Networking, Virtualization and Cloud Computing, Subnets and VLANs, Network Risk Management, Network Security Design, Network Performance, and WANS. The course covers the examination objectives and detailed preparation for students to take the CompTIA Network+ exam.
Prerequisite: E T 153.

Learning Outcomes

1. Identify, describe, and apply wireless transmission characteristics and standards.
2. Explain the benefits of cloud virtualization and cloud computing.
3. Explain the purpose of network segmentation and describe how VLANs work and how they are used.
4. Identify basic concepts of network risk management and configure devices for increased security.
5. Identify network design security features and discuss options in network access control.
6. Use tools to evaluate network performance and discuss best practices for incident response and disaster recovery.
7. Explain characteristics of WAN technology and troubleshoot connection methods.

E T 276. Electronic Communications
3 Credits (2+2P)
Antennas, transmission devices, A-M and F-M transmission and detection, pulse systems, microwave systems.
Prerequisite(s): E T 246.

E T 280. Web Design and Multimedia
3 Credits (3)
Introduction to front-end web development including webpage design, structure, layout, positioning, responsiveness, and foundational layers of how the web works. Video, audio, and other digital presentation tools are covered.
Learning Outcomes

1. Create multiple frontend development micro-components.
2. Create single and multi-page websites.
3. Use flexbox, grid, and media queries and different design patterns.
4. Employ effective use of web development and basic troubleshooting.
5. Build small web site projects.

E T 282. Digital Electronics
4 Credits (3+3P)
Applications of digital integrated circuits, multiplexers, counters, arithmetic circuits, and microprocessors.
Prerequisite(s)/Corequisite(s): (E T 190 or E T 184). Prerequisite(s): E T 182.

E T 283. Hardware PC Maintenance
3 Credits (3+1P)
Installing, configuring, troubleshooting, and maintaining personal computer hardware components.
Prerequisite(s): E T 120 or E T 122.

E T 284. Software PC Maintenance
3 Credits (3+1P)
Installing, configuring, troubleshooting, and maintaining personal computer operating systems.
Prerequisite(s): E T 120 or E T 122.

E T 285. Advanced Information Security
3 Credits (3)
The course covers detailed analysis of network security, including security operations and policy adherence; internal and external vulnerabilities; methods of identifying, controlling and managing system access, and the protection of system information.
Prerequisite(s)/Corequisite(s): E T 283. Prerequisite(s): E T 156.

E T 286. Information Security Certification Preparation
4 Credits (4)
The course covers the examination objectives and detailed preparation for a certification in information security.
Prerequisite(s): E T 285.

E T 291. PC Forensics and Investigation
3 Credits (3)
Introduction to computer forensics and investigative fundamentals. Topics include understanding computer forensic and investigation law and requirements, processing crime and incident scenes, and the extraction, preservation, analysis and presentation of computer-related evidence.
Prerequisite(s): E T 120 or E T 122.

ECED-EARLY CHILDHOOD EDUCATION (ECED)

ECED 1110. Child Growth, Development, and Learning
3 Credits (3)
This basic course in the growth, development, and learning of young children, prenatal through age eight, provides students with the theoretical foundation for becoming competent early childhood professionals. The course includes knowledge of how young children grow, develop and learn. Major theories of child development are integrated with all domains of development, including biological-physical, social, cultural, emotional, cognitive and language. The adult's role in supporting each child's growth, development and learning is emphasized. May be repeated up to 3 credits.
Learning Outcomes

1. Incorporate understanding of developmental stages, processes, and theories of growth, development, and learning into developmentally appropriate practice. A.one
2. Demonstrate knowledge of the interaction between maturation and environmental factors that influence physical, social, emotional, cognitive, and cultural domains in the healthy development of each child. A.two
3. Demonstrate knowledge of the significance of individual differences in development and learning.
4. Demonstrate knowledge of how certain differences may be associated with rate of development and developmental patterns associated with developmental delays and/or specific disabilities. A.three
5. Demonstrate knowledge of the similarities between children who are developing typically and those with diverse abilities. A.four
6. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.seven
7. Demonstrate knowledge of the developmental sequence of language and literacy, including the influence of culture and home factors. A.eight
8. Demonstrate knowledge of how children acquire and use verbal, non-verbal, and alternative means of communication. A.nine
9. Demonstrate knowledge of the relationship among emotions, behaviors, and communication skills to assist children in identifying and expressing their feelings in appropriate ways. A.ten 1
10. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.eleven

ECED 1115. Health, Safety, and Nutrition
2 Credits (2)

This course provides information related to standards and practices that promote children's physical and mental well-being sound nutritional practices, and maintenance of safe learning environments. It includes information for developing sound health and safety management procedures for indoor and outdoor learning environments for young children. The course examines the many scheduling factors that are important for children's total development, healthy nutrition, physical activity, and rest. May be repeated up to 2 credits.

Learning Outcomes

1. Recognize and respond to each child's physical health, intellectual and emotional well-being, and nutritional and safety needs. B.one
2. Articulate an understanding of indoor and outdoor learning environments that provide opportunities for children to put into practice healthy behaviors (physically, socially and emotionally). B.two
3. Use appropriate health appraisal and management procedures and makes referrals when necessary. B.three
4. Recognize signs of emotional distress, child abuse, and neglect in young children and use procedures appropriate to the situation, such as initiating discussions with families, referring to appropriate professionals,and, in cases of suspected abuse or neglect, reporting to designated authorities. B.four
5. Establish an environment that provides opportunities and reinforcement for children's practice of healthy behaviors that promote appropriate nutrition and physical and psychological well-being. B.five
6. Provide a consistent daily schedule for rest/sleep, as developmentally appropriate. B.six
7. Implement health care and educational activities for children and families based on health and a.nutritional information that is responsive to diverse cultures. B.seven
8. Assist young children and their families, as individually appropriate, in developing decision-making and interpersonal skills that enable them to make healthy choices and establish health-promoting behaviors. B.eight

ECED 1120. Guiding Young Children
3 Credits (3)

This course explores various theories of child guidance and the practical applications of each. It provides developmentally appropriate methods for guiding children and effective strategies and suggestions for facilitating positive social interactions. Strategies for preventing challenging behaviors through the use of environment, routines and schedule will be presented Emphasis is placed on helping children become self- responsible, competent, independent, and cooperative learners and including families as part of the guidance approach. May be repeated up to 3 credits.

Learning Outcomes

1. Apply knowledge of cultural and linguistic diversity and the significance of socio-cultural and political contexts for development and learning and recognize that children are best understood in the contexts of family, culture and society. A.six
2. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.seven
3. Demonstrate knowledge of the relationship among emotions, behaviors, and communication skills to assist children in identifying and expressing their feelings in appropriate ways. A.ten
4. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.eleven
5. Recognize and respond to each child's physical health, intellectual and emotional well-being, and nutritional and safety needs. B.one
6. Demonstrate knowledge and skill in building positive, reciprocal relationships with families. C.one
7. Demonstrate knowledge of and respect for variations across cultures, in terms of family strengths,expectations, values, and child-rearing practices. C.four
8. Demonstrate the ability to incorporate the families' desires and goals for their children into classroom or intervention strategies. C.seven
9. Demonstrate knowledge and skills in developmentally appropriate guidance techniques and strategies that provide opportunities to assist children in development positive thoughts and feelings about themselves and others through cooperative interaction with peers and adults. E.three 1
10. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.seven 1
11. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this

ECED 1125. Assessment of Children and Evaluation of Programs
3 Credits (3)

This basic course familiarizes students with a variety of culturally appropriate assessment methods and instruments, including systematic observation of typically and non-typically developing children. The course addresses the development and use of formative and summative assessment and evaluation instruments to ensure comprehensive quality of the total environment for children, families, and the community. Students will develop skills for evaluating the assessment process and involving other teachers, professionals and families in the process. May be repeated up to 3 credits.

Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).

Learning Outcomes

1. Demonstrate ability to choose valid tools that are developmentally, culturally, and linguistically appropriate; use the tools correctly; make appropriate referrals; and interpret assessment results, with the goal of obtaining valid, useful information to inform practice and decision making. F.one
2. Demonstrate knowledge of maintaining appropriate records of children's development and behavior that safeguard confidentiality and privacy. F.two
3. Demonstrate knowledge of the educator's role as a participating member of the assessment process as described and mandated by state and federal regulations for Individual family service plans (IFSP) and individual education plans (IEP). F.three
4. Demonstrate understanding of the influences of environmental factors, cultural/linguistic differences, and diverse ways of learning on assessment outcomes. F.four
5. Involve the family and, as appropriate, other team members in assessing the child's development, strengths, and needs in order to set goals for the child. F.five
6. Articulate an understanding of the distinctions and definitions of assessment concepts (e.g., screening, diagnostic assessment, standardized, testing, accountability assessment). F.six
7. Apply understanding of assessment concepts toward selection of appropriate formal assessment measures, critiquing the limitations of inappropriate measures, and discussing assessment issues as part of interdisciplinary teams. F.seven

8. Articulate an understanding that responsible assessment is legally and ethically grounded and guided by sound professional. It standards is collaborative and open with the goal of supporting diverse children and families. F.eight
9. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the Application of this data to curriculum development and/or intervention planning. F.nine 1
10. Demonstrate knowledge of a variety of techniques and procedures to evaluate and modify program goals for young children and their families. F.ten 1
11. Demonstrate knowledge and use of program evaluation to ensure comprehensive quality of the total Environment for children, families, and the community. F.eleven 1
12. Use both self and collaborative evaluations as part of ongoing program evaluations. F.twelve

ECED 1130. Family and Community Collaboration
3 Credits (3)
This beginning course examines the involvement of families and communities from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establishes collaborative relationships with families in early childhood settings is discussed. Families' goals and desires for their children will be supported through culturally responsive strategies. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Learning Outcomes
1. Demonstrate knowledge and skill in building positive, reciprocal relationships with families. C.one
2. Articulate an understanding of a safe and welcoming environment for families and community members. C.two
3. Develop and maintain ongoing contact with families through a variety of communication strategies. C.three
4. Demonstrate knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and child-rearing practices. C.four
5. Articulate understanding of the complexity and dynamics of family systems. C.five
6. Demonstrate understanding of the importance of families as the primary educator of their child. C.six
7. Involve families and community members in contributing to the learning environment. C.nine
8. Demonstrate ability to communicate to families the program's policies, procedures, and those procedural safeguards that are mandated by state and federal regulations. C.eleven
9. Apply knowledge of family theory and research to understand family and community characteristics including socioeconomic conditions; family structures, relationships, stressors, and supports (including the impact of having a child with diverse abilities); home language and ethnicity. C.twelve 1
10. Demonstrate knowledge of and skill to access community resources that assist families and contribute directly or indirectly to children's positive development such as mental health services, health care, adult education, English language instruction, and economic assistance. C.thirteen 1
11. Demonstrate effective written and oral communication skills when working with children, families, and early care, education, and family support professionals. E.fourteen 1
12. Demonstrate a commitment to leadership and advocacy for excellence in programs and services for young children and their families. G.six

ECED 2110. Professionalism
2 Credits (2)
This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced. Basic principles of early childhood systems are explored. Multiple perspectives on early care and education are introduced. Professional responsibilities such as cultural responsiveness and reflective practice are examined. May be repeated up to 2 credits.
Learning Outcomes
1. Recognize signs of emotional distress, child abuse, and neglect in young children and use procedures appropriate to the situation, such as initiating discussions with families, referring to appropriate professionals, and, in cases of suspected abuse or neglect, reporting to designated authorities. B.four
2. Demonstrate ability to communicate to families the program's policies, procedures, and those procedural safeguards that are mandated by state and federal regulations. C.eleven
3. Use both self and collaborative evaluations as part of ongoing program evaluations. F.twelve
4. Demonstrate ability to adhere to early childhood professional codes of ethical conduct and issues of confidentiality. G.one
5. Demonstrate awareness of federal, state, and local regulations, and public policies regarding programs and services for children birth through eight years of age. G.two
6. Demonstrate understanding of conditions of children, families, and professionals; the historical and current issues and trends; legal issues; and legislation and other public policies affecting children, families, and programs for young children and the early childhood profession. G.three
7. Demonstrate critical reflection of one's own professional and educational practices from community, state, national, and global perspectives. G.four
8. Demonstrate understanding of the early childhood profession, its multiple historical, philosophical, and social foundations, and how these foundations influence current thought and practice. G.five
9. Demonstrate knowledge in technology resources to engage in ongoing professional development. G.seven

ECED 2115. Introduction to Language, Literacy, and Reading
3 Credits (3)
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. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H, or ENGL 1110M).

Learning Outcomes

1. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.seven
2. Demonstrate knowledge of the developmental sequence of language and literacy, including the influence of culture and home factors. A.eight
3. Demonstrate knowledge of how children acquire and use verbal, non-verbal, and alternative means of communication. A.nine
4. Develop partnerships with family members to promote early literacy in the home. C.eight
5. Establish partnerships with community members in promoting literacy. C.ten
6. Demonstrate knowledge of the reading and writing components of emergent literacy at each developmental level. D.four
7. Provide and use anti-bias materials/literature and experiences in all content areas of the curriculum. D.seven
8. Create and manage a literacy-rich environment that is responsive to each child's unique path of development. E.nine
9. Use a variety of strategies during adult-child and child-child interactions and facilitate communication and dialogue of expressive language and thought. E.ten 1
10. Demonstrate a variety of developmentally appropriate instructional strategies that facilitate the development of literacy skills. E.eleven

ECED 2120. Curriculum Development through Play Birth through Age 4 (PreK)
3 Credits (3)
The beginning curriculum course places play at the center of curriculum in developmentally appropriate early childhood programs. It addresses content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized. Consent of instructor required. May be repeated up to 3 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Corequisite: ECED 2121.
Learning Outcomes

1. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.eleven
2. Demonstrate knowledge of relevant content for young children and developmentally appropriate ways of integrating content into teaching and learning experiences for children from birth to four years of age. D.one
3. Demonstrate the integration of knowledge of how young children develop and learn with knowledge of the concepts, inquiry tools, and structure of content areas appropriate for different developmental levels. D.two
4. Adapt content to meet the needs of each child, including the development of individualized family service plans (IFSP) or individualized education plans (IEP) for children with diverse abilities through the team process with families and other team members. D.six
5. Demonstrate knowledge of varying program models and learning environments that meet the individual needs of all young children, including those with diverse abilities. E.one
6. Create environments that encourage active involvement, initiative, responsibility, and a growing sense of autonomy through the selection and use of materials and equipment that are suitable to individual learning, developmental levels, diverse abilities, and the language and cultures in New Mexico. E.two
7. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.four
8. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.five
9. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.six 1
10. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.seven 1
11. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.eight 1
12. Demonstrate a variety of developmentally appropriate instructional strategies that facilitate the development of emergent literacy skills. E.eleven 1
13. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this data to curriculum development of intervention planning. F.

ECED 2121. Curriculum Development through Play Birth through Age 4 (PreK) Practicum
2 Credits (2)
The beginning practicum course is a co-requisite with the course Curriculum Development through Play – Birth through Age 4. The field based component of this course will provide experiences that address curriculum content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized. Consent of instructor required. May be repeated up to 2 credits.
Prerequisite: ECED 1110 and (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Corequisite: ECED 2120.
Learning Outcomes

1. Provide a variety of activities that facilitate development of the whole child in the following areas: Physical/motor, social/emotional, language/cognitive and adaptive/living skills. A.five
2. Develop, implement and evaluate an integrated curriculum that focuses on children's development and interests, using their language, home experiences, and cultural values. D.five
3. Provides and uses anti-bias materials and literature, and experiences in all content areas of the curriculum. D.seven

4. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.four
5. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.five
6. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.six
7. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.seven
8. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.eight

ECED 2130. Curriculum Development and Implementation Age 3 (PreK) through Grade 3
3 Credits (3)
The curriculum course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills, is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEP's is included. Consent of instructor required. May be repeated up to 3 credits.
Prerequisite: ECED 1110, ECED 2120 and ECED 2121 (ENGL 1110G or ENGL 1110H or ENGL 1110M).
Corequisite: ECED 2131.
Learning Outcomes
1. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.Eleven
2. Demonstrate the integration of knowledge of how young children develop and learn with knowledge of the concepts, inquiry tools, and structure of content areas appropriate for different developmental levels. D.Two
3. Demonstrate knowledge of what is important in each content area, why it is of value, and how it links with early and later understandings within and across areas. D.Three
4. Demonstrate knowledge of the language, reading and writing components of emergent literacy at each developmental level. D.Four
5. Adapt content to meet the needs of each child, including the development of individualized family service plans (IFSP) or individualized education plans (IEP) for children with diverse abilities through the team process with families and other team members. D.Six
6. Demonstrate knowledge of varying program models and learning environments that meet the individual needs of all young children, including those with diverse abilities. E.One
7. Create environments that encourage active involvement, initiative, responsibility, and a growing sense of autonomy through the selection and use of materials and equipment that are suitable to individual learning, developmental levels, diverse abilities, and the language and cultures in New Mexico. E.Two
8. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.Four
9. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.Five 1
10. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.Six 1
11. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.Seven 1
12. Demonstrate knowledge of developmentally appropriate uses of technology, including assistive technology. E.Twelve 1
13. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this data to curriculum development of intervention planning. F.Nine

ECED 2131. Curriculum Development and Implementation Age 3 (PreK) through Grade 3 Practicum
2 Credits (2)
The beginning practicum course is a co-requisite with the course Curriculum Development and Implementation: Age 3 through Grade 3. The field based component of this course will provide experiences that address developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEPs is included. Consent of instructor required. May be repeated up to 2 credits.
Prerequisite: ECED 1110 (ENGL 1110G or ENGL 1110H or ENGL 1110M), ECED 2120, and ECED 2121.
Corequisite: ECED 2130.
Learning Outcomes
1. Provide a variety of activities that facilitate development of the whole child in the following areas: Physical/motor, social/emotional, language/cognitive and adaptive/living skills. A.Five
2. Develop, implement and evaluate an integrated curriculum that focuses on children's development and interests, using their language, home experiences, and cultural values. D.Five
3. Provides and uses anti-bias materials and literature, and experiences in all content areas of the curriculum. D.Seven
4. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.Four
5. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.Five
6. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.Six
7. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.Seven
8. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning

and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.Eight

ECED 2140. Effective Program Development for Diverse Learners and their Families
3 Credits (3)
This course 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. May be repeated up to 3 credits.
Learning Outcomes
1. Describe important aspects of leadership that an administrator in an early childhood setting must demonstrate.
2. Identify and describe ways in which classrooms can have a multicultural environment.
3. Observe a classroom and identify, using photographs good practice with classroom environment.
4. Describe important aspects of a good early childhood curriculum
5. Describe how culture and socioeconomic factors influence classroom environment.

ECED 2141. Effective Program Development for Diverse Learners and their Families Practicum
2 Credits (2)
Provides opportunities for students to apply knowledge gained from Curriculum for Diverse Learners and their Families in a practicum setting. Consent of instructor required. Restricted to ECED majors. May be repeated up to 2 credits.
Corequisite: ECED 2140.
Learning Outcomes
1. Describe the requirements to maintain and enhance the physical and mental health, safety, and nutrition components of a program: Demonstrate knowledge of facility management to include evaluation, maintenance, security, and meeting applicable codes; Demonstrate knowledge of planning for appropriate indoor and outdoor environments; Identify ways to support early childhood educators in the selection of appropriate materials and equipment for the environment; Demonstrate knowledge of the impact of the environment on children's learning and development.
2. Demonstrate knowledge of early care and education curriculum that is individually, culturally, linguistically, and developmentally responsive: Describe a variety of curriculum goals and teaching strategies; Describe the importance of ongoing curriculum assessment and planning, and collaboration with teachers, families and community entities; Identify ways to support early childhood educators in curriculum assessment and planning.
3. Demonstrate knowledge of family/community involvement in effective program development: Describe the importance of supporting families as partners in early care and education program development; Describe both informal and formal communication systems with families that encourage information sharing and joint decision making; Identify strategies for resolving conflicts and supporting families with diverse backgrounds and parenting expectations; Identify the range of family needs including transitional periods; Identify within the community the network to support families with their special needs; Describe a "family friendly" inclusive philosophy
4. Demonstrate knowledge of a director's role as an educational leader in an inclusive setting: Describe what a director does in supporting the instructional component of the program for children, staff, and families; Identify resources that a director might use to keep current with information relating to the instructional component of the program; Describe ways to involve teachers in instructional decision making.

ECED 2215. Program Management
3 Credits (3)
This course emphasizes the technical knowledge necessary to develop and maintain an effective early care and education program. It focuses on sound financial management and vision, the laws and legal issues that affect programs, and state and national standards such as accreditation. Consent of instructor required. May be repeated up to 3 credits.
Learning Outcomes
1. Develop a comprehensive program philosophy.
2. Demonstrate the ability to develop systems that are effective for quality program operation.
3. Create a program budget and understand the Income and Expense sides and what affects each part.
4. Model best practices that integrate various leadership styles.

ECED 2280. Professional Relationships
3 Credits (3)
This course addresses staff relations that will foster diverse professional relationships with families, communities and boards. Topics of staff recruitment, retention, support and supervision will lay the foundation for positive personnel, family and community relationships. Consent of instructor required. May be repeated up to 3 credits.
Corequisite: ECED 2281.
Learning Outcomes
1. Interview an administrator and write a paper describing personnel management, staff support, supervision, and professional development.
2. Identify and describe ethical and legal requirements in maintaining a professional relationship with subordinates, the community, clients, and fellow administrators.
3. Identify and describe technologies which may be used in an early childhood setting.
4. Identify and describe legal and ethical considerations in the employment of others.

ECED 2281. Professional Relationships Practicum
2 Credits (2)
Practical experience in the development of staff relationship that will foster professional relationships with families, communities and boards. Issues of staff recruitment, retention, support and supervision will lay a foundation for positive personnel management. Consent of instructor required. Restricted to ECED majors.
Corequisite(s): ECED 2280.
Learning Outcomes
1. Demonstrate knowledge of personnel management, staff support, supervision, and professional development within a diverse and inclusive organization: Describe methods for recruiting and retaining a diverse staff; Describe job descriptions for each position; Review a sampling of personnel policies and procedures; Review a variety of staff handbooks; Explain why on-going system of supervision should include regular meetings for professional goal setting, self-assessment, and feedback; Review program needs to effectively manage the work of the program including scheduling, covering ratios, initial orientation, in-service, staff meeting, etc.
2. Demonstrate an awareness of appropriate communication and collaboration skills: Improve written and oral communication skills;

Describe strategies for resolving conflicts; Explain how to promote consensus building as a decision making process.

3. Demonstrate knowledge that promotes effective professional relationships with families, communities, and board members: Describe methods for demonstrating respect, understanding, and appreciation for all people; Identify the aspects of culture that facilitate relationship building among people; Describe how to build a common vision and develop long range program plans with parents, staff, board, and the community; Communicate program goals to visitors, prospective parents, volunteers, and board members; Describe how public relations and marketing strategies can impact programs; Review assessment tools that identify needs for early care, education and family support; Develop a personal professional development plan; Describe methods to work effectively with a board and advisory group.
4. Demonstrate knowledge of technology uses and skill acquisition: Describe how to use technology resources to engage in ongoing professional development and lifelong learning; Describe how you will use technology to communicate and collaborate in your leadership role

ECON-ECONOMICS (ECON)

ECON 1110G. Survey of Economics
3 Credits (3)
This course will develop students' economics literacy and teaches students how economics relates to the everyday life of individuals, businesses and society in general. The course will also introduce students to the roles different levels of governments play in influencing the economy. At the conclusion of the course, students will be able to identify economic causes for various political and social problems at national and international levels, and have a better understanding of everyday economic issues that are reported in media and public forums.
Learning Outcomes
1. Gain and demonstrate a contextual understanding of economic terms and concepts.
2. Recognize and analyze common economic issues which relate to individual markets and the aggregate economy.
3. Learn basic economic principles that influence global trading and challenges relating to globalization.
4. Outline the implications of various economic policies on individuals and on economies.
5. Demonstrate ability to use diagrams and graphs to explain economic principles, policies and their applications.
6. Appreciate and understand how individual decisions and actions, as a member of society, affect economies locally, nationally and internationally.
7. Explain the roles of governments in influencing buyer and seller behavior in the market and how government failure occurs when intervention fails to improve or actually worsens economic outcomes.
8. Be able to apply course concepts to interpret, evaluate and think critically about economic events and policies, especially as regularly reported in the media and other public forums.

ECON 2110G. Macroeconomic Principles
3 Credits (3)
Macroeconomics is the study of national and global economies. Topics include output, unemployment and inflation; and how they are affected by financial systems, fiscal and monetary policies.
Learning Outcomes
1. Explain the concepts of opportunity cost, comparative advantage and exchange.
2. Demonstrate knowledge of the laws of supply and demand and equilibrium and use supply and demand curves to analyze responses of markets to external events.
3. Explain the circular flow model and use the concepts of aggregate demand and aggregate supply to analyze the response of the economy to disturbances.
4. Explain the concepts of gross domestic product, inflation and unemployment and how they are measured.
5. Describe the determinants of the demand for money, the supply of money and interest rates and the role of financial institutions in the economy.
6. Define fiscal policy and monetary policies and how these affect the economy.
7. Students will be able to identify the causes of prosperity, growth, and economic change over time and explain the mechanisms through which these causes operate in the economy.

ECON 2120G. Microeconomics Principles
3 Credits (3)
This course will provide a broad overview of microeconomics. Microeconomics is the study of issues specific to households, firms, or industries with an emphasis on the role of markets. Topics discussed will include household and firm behavior, demand and supply,government intervention, market structures, and the efficient allocation of resources.
Learning Outcomes
1. Explain the concept of opportunity cost.
2. Demonstrate knowledge of the laws of supply and demand and equilibrium.
3. Use supply and demand curves to analyze responses of markets to external events.
4. Use supply and demand analysis to examine the impact of government intervention.
5. Explain and calculate price elasticity of demand and other elasticities.
6. Demonstrate an understanding of producer choice, including cost and break-even analysis.
7. Compare and contrast the following market structures: perfect competition, monopoly, monopolistic competition, and oligopoly.

ECON 2120H. Principles of Microeconomics Honors
3 Credits (3)
Microeconomic theory and public policy: supply and demand, theory of the firm, market allocation of resources, income distribution, competition and monopoly, governmental regulation of businesses and unions. Must be a Crimson Scholar.
Learning Outcomes
1. Explain the concept of opportunity cost.
2. Demonstrate knowledge of the laws of supply and demand and equilibrium.
3. Use supply and demand curves to analyze responses of markets to external events.
4. Use supply and demand analysis to examine the impact of government intervention.
5. Explain and calculate price elasticity of demand and other elasticities.

6. Demonstrate an understanding of producer choice, including cost and break-even analysis.
7. Compare and contrast the following market structures: perfect competition, monopoly, monopolistic competition, and oligopoly.

EDLT-EDUCATIONAL TECHNOLOGY

EDLT 2110. Integrating Technology with Teaching
3 Credits (3)
Considers impact of technology on communication and knowledge development; engages students in the design of technology-integrated lessons with a constructivist approach.
Prerequisite: ENGL 1110G.
Learning Outcomes
1. Students will demonstrate a sound understanding of technology operations and concepts.
2. Students will plan and design effective learning environments and experiences supported by technology.
3. Students will implement curriculum plans that include methods and strategies for applying technology to maximize learning.
4. Students will apply technology to facilitate a variety of effective assessment and evaluation strategies.
5. Students will use technology to enhance their productivity and professional practice.
6. Students will better understand the social, ethical, legal, and human issues surrounding the use of technology on PreK-12 schools and apply that knowledge into future practice.

EDUC-EDUCATION (EDUC)

EDUC 1110. Freshman Orientation
1 Credit (1)
Introduction to the university and to the College of Education. Discussion of planning for individualized education program and field experience. Restricted to Las Cruces campus only. May be repeated up to 1 credit.
Learning Outcomes
1. Demonstrates knowledge of and uses theories, approaches, methods, and techniques for teaching, reading, writing, and other academic skills in English and the native language.
2. Demonstrates knowledge of and applies management techniques appropriate to classrooms containing students who have varying levels of proficiency and academic experience in both languages.
3. Community/Family Involvement- The bilingual teacher: (a)Recognizes the importance of parental and community involvement for facilitating the learner's successful integration to his/her school environment. (b) Demonstrates knowledge of the teaching and learning patterns of the students' home environment and incorporates these into the instructional areas of program.
4. Assessment- The bilingual teacher: (a) Assesses oral and written language proficiency in academic areas in both languages utilizing the results for instructional placement, prescription, and evaluation. (b) Evaluates the growth of the learner's native and second language in the context of the curriculum. (c) Continuously assesses and adjusts her or his own language use in the classroom in order to maximize learner comprehension and verbal participation

EDUC 1120. Introduction to Education
2 Credits (2)
Introduction to the historical, philosophical, sociological foundations of education, current trends, and issues in education; especially as it relates to a multicultural environment. Students will use those foundations to develop effective strategies related to problems, issues and responsibilities in the field of education. Restricted to Las Cruces campus only. May be repeated up to 2 credits.
Learning Outcomes
1. Describe the teaching and learning of various American education settings including early childhood, elementary, middle school, high school, and special education.
2. Describe how teachers use educational theory and the results of research of students' learning.
3. Explain the techniques for establishing a positive and supportive environment in the classroom
4. Identify and describe instructional strategies supported by current research to promote thinking skills of all learners.
5. Recognize the teachers' role and responsibilities in an increasingly diverse, multicultural society.

EDUC 1140. Math for Paraprofessionals
3 Credits (3)
Applied math skills for paraprofessionals working with children. May be repeated up to 3 credits.
Prerequisite: CCDM 103 N.
Learning Outcomes
1. Students will plan developmentally appropriate math activities for young children.
2. Students will plan adaptations to math activities for children with diverse abilities.
3. Students will demonstrate understanding of recent research in methods of teaching mathematics.
4. Students will demonstrate understanding of early childhood theories as they relate to the teaching of mathematics.
5. Students will demonstrate understanding of unique needs of children from diverse economic or cultural backgrounds.

EDUC 1150. Math for Paraprofessionals II
3 Credits (3)
Applied math skills for paraprofessionals working under the direction of a teacher. May be repeated up to 3 credits.
Prerequisite: EDUC 1140.
Learning Outcomes
1. Students will plan developmentally appropriate math activities for young children.
2. Students will plan adaptations to math activities for children with diverse abilities.
3. Students will demonstrate understanding of recent research in methods of teaching mathematics.
4. Students will demonstrate understanding of early childhood theories as they relate to the teaching of mathematics.
5. Students will demonstrate understanding of unique needs of children from diverse economic or cultural backgrounds.

EDUC 1185. Introduction to Secondary Education and Youth
3 Credits (3)
Introductory course for students considering a career in secondary education. Includes historical, philosophical, and sociological foundations, program organization, critical dispositions, and understanding the context of schools and youth. Practicum required. Restricted to: Secondary Ed majors. Traditional Grading with RR.

Learning Outcomes

1. Articulate the attributes of an education professional entering the field.
2. Differentiate and summarize the major educational philosophies and historical events that have influenced the progression of educational practice.
3. Describe the role of law in education with emphasis on the rights and responsibilities of teachers and learners.
4. Develop a preliminary personal philosophy of teaching and learning.
5. Discuss the characteristics and roles of the teacher, the student, and the school in today's education.
6. Identify effective teaching methods, instructional strategies and learning styles.
7. Evaluate the Lesson Planning Process using various lesson planning templates, formats, and rubrics.
8. Explain classroom management techniques.
9. Identify different types of diversity in the classroom environment, particularly in high-needs schools. 1
10. Describe how learning differences are manifested in schools, particularly in high-needs schools. 1
11. Describe how teachers use multiple methods of assessment to engage learners in their own growth, to monitor learner progress. 1
12. Describe how teachers use multiple methods of assessment to modify instruction and inform decision making. 1
13. Identify the role of Standards and High Stakes Testing in the life of an educational professional. 1
14. Complete 24 hours internship in a classroom, preferably a bilingual classroom in a high-needs school. 1
15. Document and reflect on your observations throughout your internship. 1
16. Construct an individualized map to teacher licensure in the State of New Mexico.

EDUC 1995. Field Experience I
1 Credit (1)
Introduction to public school teaching, school visits, classroom observations and discussion seminar. May be repeated up to 1 credit.
Learning Outcomes

1. Demonstrate an understanding of personal attitudes and motivations for entering the field of education.
2. Identify effective teaching strategies that enhance student learning outcomes.
3. Identify classroom management techniques and learning styles.
4. Develop observational skills and reflective thinking skills.
5. Evaluate instructional methods that enhance upper level thinking skills in children.

EDUC 1996. Special Topics in Education
1 Credit (1)
Supervised study in a specific area of interest. Each course shall be designated by a qualifying subtitle. May be repeated up to 9 credits.
Learning Outcomes

1. Varies

EDUC 1998. Internship I
3 Credits (3)
Supervised experience in elementary education settings. May be repeated up to 3 credits.
Learning Outcomes

1. Varies

EDUC 2710. Pre-Teacher Preparation
3 Credits (3)
Assists students in developing the necessary competencies needed for acceptance to the Teacher Education Program. Course content includes basic skill development, test taking skills, and completion of teacher preparation packet. May be repeated up to 6 credits.
Learning Outcomes

1. Investigate the process and requirements of the Teacher Education Program
2. Read critically about teacher's experiences and write brief reactions
3. Discuss philosophies of education and draft a written personal philosophy of education
4. Discuss the nature of education for students with diverse languages, cultures and abilities
5. Draft personal position statements concerning education for students with disabilities and diverse cultures

EDUC 2998. Internship II
3 Credits (3)
Supervised experience in junior high settings. May be repeated up to 3 credits.
Prerequisite: must be a co-op student.
Learning Outcomes

1. Varies

ELAD-EDUCATIONAL LEADERSHIP ADMINISTRATION

ELAD 2210. Leadership and Change in Education
3 Credits (3)
This course will introduce students to the challenges and key strategies in initiating, implementing, and sustaining educational change and reform. In the first part of the course, participants will learn about the challenges of educational change in the United States and the role that they as school leaders play in facilitating change and reform. The course continues with an examination of how culture, micro-politics, and power structures support or impede national and global change initiatives. The last part of the course offers suggestions for change agents including community organizing, culture building, and embracing sustainable leadership practices. Participants will learn how to apply the change theories and concepts introduced in the course to practice through course readings, online discussions with the instructor and colleagues, group work, active examination of daily practice in schools, and personal reflection. May be repeated up to 3 credits.
Learning Outcomes

1. Students will be able to communicate in clear manners that articulate, convey and deepen the understandings others have of issues affecting their communities.
2. Students will be able to collaborate on democratic processes.
3. Students will be able to communicate engage in critical social analysis and how the status quo fits into a larger movement for social change.

ELAD 2340. Multicultural Leadership in Education
3 Credits (3)
Introduction to the social and cultural constructions of gender, class, and race. Students will critically apply theoretical constructs to everyday

life and discuss the intersection of gender and race with class inequality in national and global contexts. Using a social justice framework, readings, and assignments integrate a variety of racial/ethnic groups while considering the effects of historically uneven resource distribution, unearned privilege, forms of domination and subordination, immigration status, and cultural representation and ideologies. Participants will learn how to apply the change theories and concepts introduced in the course to practice through course readings, online discussions with the instructor and colleagues, group work, active examination of daily practice in schools, and personal reflection. May be repeated up to 3 credits.

Learning Outcomes

1. Students will develop awareness of their own social identities.
2. Students will recognize differences among various communities, perspectives, and world-views.
3. Students will describe how privilege and biases impact our communities and systems.
4. Students will create meaningful peer-to-peer relationships.
5. Students will understand the impact of their actions on community members.
6. Students will identify their leadership skills to shape social change on and off campus.
7. Students will act on opportunities to promote social change.
8. Students will use academic resources including advising, computers, printing, library, and space.

ELAD 2996. Special Topics in Educational Leadership
1-3 Credits (1-3)
Special topics course in education for undergraduate students. Course will be identified by a subtitle. May be repeated up to 12 credits.

Learning Outcomes

1. Students will be able to engage in systems thinking which aids in seeing how individual situations are shaped by a broader contexts
2. Students will be able to understand how to apply theoretical frameworks for understanding social problems.
3. Students will be able to help develop leadership capacity in others.
4. Students will be able to gain an understanding of cultural competence, which recognizes that diverse perspectives strengthen the dialogue and approaches to solving social problems.

ELT - ELECTRONICS TECHNOLOGY (ELT)

ELT 103. Math Study Skills for Electronics
1 Credit (1)
Covers specific math study skills and critical thinking processes to reinforce practical applications of math and its use with electronics. The student will be introduced to electronic mathematical formulas during the problem-solving steps required for circuit analysis. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): E T 183 OR E T 184. Restricted to Community Colleges only.

ELT 105. Basic Electricity and Electronics
3 Credits (2+2P)
Fundamentals of electricity and electronics, basic circuit devices, meters, transistors, integrated circuits and other solid state devices, computers, fiber optics, and industrial application topics. Minimum math proficiency of CCDM 103 or CCDM 104 required or math placement into CCDM 114 or higher. Restricted to: Community Colleges only. Crosslisted with: AERT 111 May be repeated up to 3 credits.

Learning Outcomes

1. Recall and state Ohm's Law and its components (current, resistance, voltage).
2. Demonstrate an understanding of the distinctions between formulas, equations, and expressions, and identify appropriate usage for each in different situations.
3. Apply knowledge and skills to solve problems in series and parallel electronic circuits.
4. Analyze graphs related to electronic circuits and evaluate values derived from those graphs.
5. Evaluate basic principles, formulas, the superposition theorem, and the Thevenin theorem to solve simple problems in electronics and general engineering.
6. Synthesize knowledge and skills to design and develop solutions for complex problems in electronics and engineering, incorporating the principles and theorems learned.

ELT 110. Electronics I
4 Credits (3+3P)
Fundamentals of electronics including: components, schematics, Ohm's law, Thevenin's and Norton's theorems, and series/parallel circuits incorporating passive, active and magnetic elements. Introduction to AC circuits. Crosslisted with: AERT123. Restricted to: Community Colleges only.

Learning Outcomes

1. Describe Ohm's Law and its components (current, resistance, voltage).
2. Cite the differences between formulas, equations, and expressions, and determine appropriate usage for each in various situations.
3. Apply acquired knowledge and skills to solve problems involving series and parallel electronic circuits.
4. Evaluate fundamental principles, formulas, the superposition theorem, and the Thevenin theorem to solve straightforward problems in electronics and general engineering.
5. Analyze graphs pertaining to electronic circuits and interpret values obtained from those graphs.
6. Integrate knowledge and skills to design and develop solutions for intricate problems in electronics and engineering, incorporating learned principles and theorems.
7. Apply acquired knowledge and skills to solve problems involving series and parallel electronic circuits.

ELT 120. Mathematics for Electronics
4 Credits (4)
Includes fundamental mathematics, algebra, sine, cosine, and other elementary functions as they specifically apply to the operation, manipulation, and evaluation of direct current (DC) and alternating current (AC) circuits. Minimum math proficiency of CCDM 114 required or math placement into MATH 1215 or higher. Restricted to: Community Colleges only. Crosslisted with: AERT 124

Learning Outcomes

1. Calculate and find solutions for linear and quadratic equations.
2. Evaluate logarithmic and exponential functions to solve problems in electronics and general engineering.
3. Analyze given trigonometric problems and determine which trigonometric function is appropriate to solve them.

4. Demonstrate an understanding of the distinctions between formulas, equations, and expressions, and will work through examples of each type to determine their appropriate usage in different situations.
5. Solve problems pertaining to both series and parallel electronic circuits.

ELT 135. Electronics II
4 Credits (3+3P)
Analysis of AC circuits, filters, and resonance. Introduction to solid state fundamentals including diodes and rectifier circuits, voltage regulators, various transistors and transistor characteristics, amplification and amplifiers, photoelectric effects, gates and timing circuits. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 110 and ELT 120.
Learning Outcomes
1. Identify and solve alternating current and voltage circuits and do analysis of AC circuits.
2. Demonstrate by drawing series and parallel RC circuits, measure power in RC circuits, and trouble shoot for applications.
3. Recognize types of inductors, inductors in series and parallel, inductors in DC and AC circuits and select correct inductors for their applications.
4. Measure voltages, currents in series and parallel RL circuits, power in RL circuits, and find troubleshooting faults for basic applications.
5. Test RLC circuits for series and parallel designs and solve RLC resonance circuits and filters and their applications.
6. Identify self and mutual inductance; recognize types of transformers and their characteristics, test loading a transformer, do impedance matching in transformer applications and troubleshooting.
7. Apply, identify and solve time response of RC and RL integrators and differentiators for wave pulses, troubleshooting and applications.

ELT 155. Electronics CAD and PCB Design
3 Credits (2+2P)
Introduction to and the use of commercially available CAD software covering schematic representation of electronic components and circuits. Printed circuit board layout techniques including proper schematic capture, netlist generation, design rule checking and manual routing covered.
Learning Outcomes
1. Design and develop a schematic using the specified software.
2. Generate a schematic symbol for a component.
3. Develop a PCB footprint for a component.
4. Produce a board outline based on given design guidelines.
5. Create a netlist from a schematic.

ELT 160. Digital Electronics I
4 Credits (3+3P)
Number systems, codes, Boolean algebra, logic gates, Karnaugh maps, combination circuits, flip-flops, and digital troubleshooting techniques. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 110 and (ELT 120 or MATH 1215).
Learning Outcomes
1. Explan why the binary, binary-coded decimal (BCD), and hexadecimal number systems are used in electronics.
2. Convert between the decimal, binary, binary-coded decimal (BCD), and hexadecimal number systems.
3. Identify each of the six basic logic gating symbols, their truth tables, and their logic expressions.
4. Constuct a truth table and logic expression for each of the six basic gating symbols.
5. Draw a parallel adder circuit and solve for the binary outputs when given binary input values.
6. Formulate using Boolean algebra, Demorgan's theorem or Karnaugh Mapping to minimize a digital logic circuit.
7. Design, Construct and test simple logic gate circuits.
8. Construct and test a simple R-S (Latch) and "D" type flip-flop.

ELT 175. Soldering Practices
3 Credits (2+2P)
Methods and techniques of hand soldering in the production of high quality and reliable soldering connections. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate the correct techniques for tinning and maintaining a soldering iron.
2. Compare and contrast the advantages and disadvantages of different proper soldering techniques.
3. Define the different types of mechanical strippers and how they should be used.
4. Install a wire into a turret terminal, a cup terminal, and a pierced tab terminal in accordance with established criteria.
5. Express three types of terminations used for surface mount components.
6. Describe the types of terminations normally used for making repairs.

ELT 205. Semiconductor Devices
4 Credits (3+3P)
Analysis and trouble shooting of linear electronic circuits including amplifiers, op-amps, power supplies, and oscillators. Restricted to Community College Campuses Only. May be repeated up to 4 credits.
Prerequisite: A grade of C- or better in ELT 110 and ELT 135.
Learning Outcomes
1. Explain the conditions which exist at the PN junction of an unbiased diode, a forward-biased diode, and reverse biased diode.
2. Diagram a half-wave, full-wave, and bridge rectifier circuits and explain how they function.
3. Define the characteristics of amplifiers, including classes of operation and efficiencies.
4. Describe several JFET and MOSFET applications.
5. Explain the difference between passive and active filters.
6. Practice a positive attitude and the soft skills necessary for successful employment in the electronics industry.

ELT 215. Microprocessor Applications I
4 Credits (3+2P)
Fundamentals of microprocessor architecture and assembly language with an emphasis on hardware interfacing applications.
Prerequisite(s)/Corequisite(s): ELT 235. Prerequisite(s): ELT 160. Restricted to: Community Colleges only.

ELT 220. Electronic Communication Systems
4 Credits (3+2P)
Principles and applications of circuits and devices used in the transmission, reception, and processing of RF, microwave, digital and telecommunications systems. Restricted to Community College Campuses Only. May be repeated up to 4 credits.

Prerequisite: A grade of C- or better in ELT 135.
Prerequisite/Corequisite: ELT 205.

Learning Outcomes

1. Analyze the relationship between current, resistance, and voltage to compute values for filters and filter gains.
2. Demonstrate an understanding of the distinctions between formulas, equations, and expressions, and their respective applications in different situations.
3. Employ the necessary skills to solve problems modulation/demolition processes and circuits.
4. Evaluate the effectiveness and efficiency of communication circuits.
5. Apply fundamental principles and formulas to solve straightforward problems in communication.

ELT 221. Cooperative Experience I
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U.
Prerequisite: consent of instructor.

ELT 222. Cooperative Experience II
1-6 Credits
Continuation of ELT 221. Maximum of 6 credits. Graded S/U.
Prerequisite: consent of instructor.

ELT 225. Computer Applications for Technicians
3 Credits (2+2P)
An overview of computer hardware, software applications, operating systems, high level programming languages and networking systems. May be repeated up to 3 credits.

Learning Outcomes

1. Evaluate network security measures, identify potential vulnerabilities, and reflect on the importance of implementing appropriate security protocols to protect network systems from unauthorized access and potential threats.
2. Design and configure network infrastructures that meet specific requirements and performance criteria.
3. Identify and interpret network management and administration principles, troubleshoot network issues, and provide appropriate support to ensure the smooth operation of computer networks.
4. Evaluate and compare different network protocols, IP addressing schemes, and network reference models and standards, and synthesize this information to design efficient and secure network systems.
5. Apply their knowledge of computer hardware, software applications, operating systems, high-level programming languages, and networking systems to solve practical problems and analyze different network topologies and technologies.
6. Define and explain the fundamental concepts of computer hardware, software applications, operating systems, high-level programming languages,and networking systems.

ELT 230. Microprocessor Applications II
4 Credits (3+2P)
Advanced microprocessor interfacing techniques. Topics in A/D and D/A conversion, I/O port address decoding, direct memory accessing, and peripheral device interfacing applications.
Prerequisite: ELT 215.

ELT 235. Digital Electronics II
3 Credits (2+2P)
Sequential logic circuits, latches, counters, shift-registers, fault analysis and troubleshooting of digital IC s, multiplexers, timers, encoders/decoders, arithmetic circuits, pulse shaping, and memory devices. Restricted to: Community Colleges only. May be repeated up to 3 credits.
Prerequisite: A grade of C- for better in ELT 160.

Learning Outcomes

1. Describe the operations of different types of Flip-Flops and data registers, and explain the practical timing limitations of sequential logic circuits.
2. Produce timing measurements and apply practical circuits to solve switch debouncing and noise issues.
3. Analyze timing waveforms using test equipment and draw digital timing diagrams. They will also understand how multivibrators and oscillators function as timing sources, and be able to interface common devices to digital systems for control and data acquisition.
4. Describe the major types of memory devices and storage media, and recognize the fundamental use of microprocessors and microcontrollers.
5. Illustrate how multivibrators and oscillators function as timing sources, and interface common devices to digital systems for control and data acquisition.
6. Develop positive work habits necessary for success in the workplace.

ELT 240. Introduction to Photonics
4 Credits (3+2P)
Nature of light, light emitters, lasers, detectors, fiber optics communications systems, and other applications of light to electronics. May be repeated up to 4 credits.
Prerequisite: A C- or better in ELT 135 or consent of instructor.

Learning Outcomes

1. Analyze different scenarios and effectively apply appropriate techniques and methodologies to address challenges in fiber optic communication.
2. Express the differences between light detectors used in fiber optic communication compared to detectors used in electronics communication.
3. Interpret and solve problems related to signal attenuation, gain, and noise using logarithmic and exponential functions.
4. Evaluate and compare various types of detectors used in fiber optic communication systems.
5. Classify the characteristics and advantages of different detectors and make informed decisions on selecting the best detectors for specific applications.

ELT 245. Radar: Principles and Applications
3 Credits (3)
Explores the principles of operation for microwave radar applications and supporting subsystems.
Prerequisite: E T 246.

Learning Outcomes

1. Students will analyze the various factors that comprise the Radar Equation and apply the equation in calculations for various scenarios.
2. Students will explain the principles of Moving Target Indication, Pulse Doppler, Phased Array, and Synthetic Aperture Radars, and their advantages and disadvantages.
3. Students will analyze and calculate the effects of clutter and environmental noise, earth surface scattering, and atmospheric attenuation, diffraction, and refraction on radar propagation.

4. Students will analyze the performance of supporting radar subsystems, including transmitters, receivers, antennas, tracking servos, and signal processing.
5. Students will explain the kinds of information that can be obtained from radar signals and perform calculations associated with range determination, target motion resolution, and error.
6. Students will explain the use of telemetry, and correlate test radar and telemetry measurements.
7. Students will explain and compare radar countermeasures and analyze their effect on radar return cross-sections.

ELT 250. Electronics Systems Analysis
2 Credits (1+3P)
Capstone course emphasizing a systems approach to troubleshooting and maintaining complex electronics systems. Includes program review in preparation for technician certification. May be repeated up to 2 credits.
Learning Outcomes
1. Develop an understanding of the fundamental concepts and principles related to measurement, conversions, and control temperature as it relates to strain, pressure, motion, and power.
2. Interpret and analyze electrical instrumentation circuits and systems, as well as the principles and methodologies involved in process control.
3. Analyze the characteristics and advantages of different control systems and synthesize their understanding to select the most suitable control system for a given application.
4. Correlate different scenarios and select appropriate measurement and control techniques to address engineering challenges.

ELT 260. Instrumentation Control and Signal Conditioning
4 Credits (3+2P)
Introduction to sensors and transducers, signal conditioning and transmission for measuring and process control systems. Includes AD, DA converter, small servos and actuators. Prerequisite:ELT 205.

ELT 265. Special Topics
1-6 Credits
Topic to be announced in the Schedule of Classes.

ELT 270. Biomedical Equipment Instrumentation
4 Credits (3+2P)
Principles and applications of electronic circuits and devices used in biomedical equipment. Skills taught to include evaluating, troubleshooting and repairing various types of medical equipment.
Prerequisite(s)/Corequisite(s): ELT 260. Prerequisite(s): ELT 205. Restricted to: Community Colleges only.

ELTR-ELECTRICAL

ELTR 1115. National Electric Code
3 Credits (3)
Provides students with a basic understanding of the National Electrical Codes and how they apply to residential, commercial, and renewable energy systems such as photovoltaic electrical generating systems. How the NEC Codes apply to a Industrial Setting.
Prerequisite: ELTR 1120.
Learning Outcomes
1. Be able to navigate and interpret the various Sections and Articles found within the National Electric Code.
2. Demonstrate the NEC in the system design of the code.
3. Demonstrate how to apply the NEC Code to Solar Installations.
4. Demonstrate how to load wiring calculations to comply with NEC regulations for both Commercial and Residential.
5. Apply knowledge of the NEC Codes to commercial and industrial applications.

ELTR 1120. Electrical Theory I
4 Credits (3+3P)
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. Upon successful completion of this course the student will define the following concepts and demonstrate her/his ability to apply them to the electrical trade by means of written examinations and assignments, with a minimum accuracy of 71%.
Learning Outcomes
1. Describe the components of an electrical circuit, electron theory, structure of an atom, properties of conductors, semiconductors, and insulators, sources of electricity, and the conversion of electrical energy.
2. Demonstrate and identify the characteristics of DC circuits, units of electrical measurement, characteristics of current, resistance, and voltage in a circuit, characteristics of a combination circuit, electrical components.
3. Apply the National Electrical Code, definitions and division of articles in the NEC.
4. Interpret NEC applications to residential wiring and the NEC enforcement on electrical codes, selection and calculation of conductor maximum ampacity including correction for ambient temperature of Branch circuit conductors, production of a sinusoidal wave.
5. Know key differences between AC and DC current, applications and theory of electrical components such as inductors, capacitors and transformers.

ELTR 1130. Introduction to Electrical Power Systems
2 Credits (2)
An overview of electrical power systems, equipment, safety practices, first aid and CPR. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Corequisite: ELTR 1120.
Learning Outcomes
1. List and discuss the major components of the electrical power grid and their operating functions.
2. Work as a team member with strong work ethics and a commitment to quality.
3. Adhere to OSHA ANSI working safety standards.

ELTR 1140. Basic Motor Controls
5 Credits (2+6P)
Developing schematics and wiring simple manual and electromechanical control devices.
Prerequisite: ELTR 1120 or consent of instructor.
Learning Outcomes
1. Describe the results of problems solving either orally or in writing.
2. Memorize and recall facts, procedures, and vocabulary pertaining to a motor and its characteristics.
3. Solve application problems using the appropriate design approach as a tool.

4. Express symbols and schematics designs as quantities in meaningful circuit analysis.
5. Evaluate current flow from a variety of electrical systems, utilizing rules for ladder diagrams.
6. Estimate the circuit response; compare estimated and actual responses for consistency.
7. Simplify, solve, evaluate and design various circuits and utilize needed learned interpretations.
8. Describe the results of problems solving either orally or in writing.
9. Explain sequential logic processes. 1
10. Simplify, solve, evaluate and graph various types of AC/DC electrical motor design circuits. 1
11. Simplify, solve, evaluate and programs various electrical installations. 1
12. Describe the results of problems solving either orally or in writing. 1
13. Explain sequential analysis processes as they relate to electrical systems and installation of motors. 1
14. Integrate various strategies and techniques from different areas of motor controls to application problems. 1
15. Express ladder diagrams in meaningful design interpretation.

ELTR 1160. Electrical Lineworker Lab I
6 Credits (12P)
Climbing and work on utility poles using ropes and rigging, pole setting and an introduction to transmission and distribution line construction. Maintenance and troubleshooting to include the use of hot sticks. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Corequisite: ELTR 1120.
Learning Outcomes
1. List and discuss the major components of the electrical power grid and their operating functions.
2. Work as a team member with strong work ethics and a commitment to quality.
3. Adhere to OSHA ANSI working safety standards.

ELTR 1165. Electrical Lineworker II
6 Credits (12P)
Practice in the installation of electrical power lines including transformers, voltage regulators, and surge arrestors. Also advanced hot sticking procedures, troubleshooting, underground systems procedures, and pole-top rescue. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform electrical related calculations and interpret results for the purpose of repair or installation of electrical power systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose electrical power systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of electrical power and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of electrical power lines and associated equipment.
7. Demonstrate understanding of basic electrical principals as they relate to the installation and maintenance of electrical power systems.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Demonstrate the ability to perform lineworker duties in a safe manner.

ELTR 1220. Introduction to Wiring Lab
3 Credits (2+3P)
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. Analyze Blueprint applications as it applies to electrical installations. NEC requirements for light commercial applications.
Learning Outcomes
1. Demonstrate and describe jobsite safety procedures.
2. Demonstrate the ability to install electrical circuits such as single-pole, three and four way lighting circuits, heating and cooling system circuits, door chime circuits, and residential and light commercial branch-circuits.
3. Demonstrate and/or describe the function of Overcurrent Protection in an electrical system.
4. Demonstrate the ability to analyze blueprint applications as it applies to electrical installations.
5. Demonstrate the ability to analyze the National Electrical Code as it applies to electrical installations.

ELTR 1230. Residential Wiring II
3 Credits (2+3P)
Introduction to electrical raceways and fittings; electrical conductors and cables; basic electrical construction drawings, residential electrical services, and electrical test equipment.
Prerequisite: C- or better in ELTR 1220.
Learning Outcomes
1. Demonstrate Hand Bending.
2. Demonstrate Raceway and fittings.
3. Identify Conductors and Cables.
4. Interpret Basic Electrical Construction Drawings.
5. Define Residential Electrical Services.
6. Demonstrate Electrical Test Equipment.

ELTR 1996. Topics in Electricity
1-6 Credits
Varies. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

ELTR 2120. Electrical Power Systems II
3 Credits (2+2P)
Theory of power generation and distribution with emphasis on three phase systems to include transformers, voltage regulators, surge arrestors. Includes troubleshooting. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform electrical related calculations and interpret results for the purpose of repair or installation of electrical power systems.

4. Demonstrate the use of current industry techniques and equipment to diagnose electrical power systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of electrical power and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of electrical power lines and associated equipment.
7. Demonstrate understanding of basic electrical principals as they relate to the installation and maintenance of electrical power systems.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Demonstrate the ability to perform lineworker duties in a safe manner.

ELTR 2891. Electrical Apprenticeship V
6 Credits (6)
Commercial/industrial applications for electricians. Blueprint interpretation, commercial construction types and processes, wiring methods, wiring materials, and motor controls.
Learning Outcomes
1. Varies.

ELTR 2892. Electrical Apprenticeship VI
6 Credits (6)
In-depth commercial applications to include commercial/industrial service calculations, mobile home parks, multi-family dwellings, and commercial fire/security systems.
Prerequisite: ELTR 2891 and consent of instructor.
Learning Outcomes
1. Varies.

ELTR 2893. Electrical Apprenticeship VII
6 Credits (6)
Control devices in commercial/industrial applications; emphasis on logic in-line diagrams, time delay starters, reversing starters, and manual/magnetic solenoids.
Prerequisite: ELTR 2892 and consent of instructor.
Learning Outcomes
1. Varies.

ELTR 2894. Electrical Apprenticeship VIII
6 Credits (6)
Miscellaneous topics for the journeyperson electrician to include power distribution/transmission, solid state controls and relays, photoelectric and proximity controls and programmable controllers.
Prerequisite: ELTR 2893.
Learning Outcomes
1. Varies.

ELTR 2995. Electrical Cooperative Experience
1-4 Credits (1-4)
Supervised cooperative work program. Student is employed in an approved occupation and is supervised and rated by the employer and instructor. Student will meet in a weekly class.
Learning Outcomes
1. Varies.

EMSS-EMERGENCY MEDICAL SERVICES

EMSS 1110. Emergency Medical Responder Lab/Lecture
3 Credits (3)
An entry level course which prepares students to respond to and provide care for ill or injured patients. It includes an overview of the human body, specified basic life support, airway management, trauma, medical and environmental emergencies, medical/legal, emergency operations and other related topics. Requires a C or better to pass.
Corequisite: EMSS 1116.
Learning Outcomes
1. Successfully pass the National Registry EMR certification exam and obtain New Mexico First Responder licensure.
2. Demonstrate competence as an entry-level EMR in the cognitive and affective domains.
3. Demonstrate competence as an entry-level EMR in airway management.
4. Demonstrate competence as an entry-level EMR in medical emergencies.
5. Demonstrate competence as an entry-level EMR in cardiac emergencies.
6. Demonstrate competence as an entry-level EMR in trauma emergencies.
7. Demonstrate competence as an entry level EMR in EMS operations.

EMSS 1110L. Emergency Medical Responder Laboratory
2 Credits (2P)
An entry level course which focuses on EMR and NM First Responder skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment. Requires a C or better to pass.
Prerequisite: EMSS 1116.
Corequisite: EMR Lecture.
Learning Outcomes
1. Successfully pass a NM JOE approved psychomotor exam.
2. Demonstrate competence as an entry-level EMR in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level EMR in airway management.
4. Demonstrate competence as an entry-level EMR in medical emergencies.
5. Demonstrate competence as an entry-level EMR in cardiac emergencies.
6. Demonstrate competence as an entry-level EMR in trauma emergencies.
7. Demonstrate competence as an entry-level EMR in EMS operations.

EMSS 1116. BLS Clinical Preparations
1 Credit (1)
Prepares students in health science programs for their clinical and field rotations. This course will provide training in CPR (AHA BLS Healthcare Provider), blood borne pathogens, HIPAA, and fire safety. May be repeated up to 99 credits.
Learning Outcomes
1. CPR Techniques: You will learn principles and techniques of basic cardiac life support (BLS), including CPR.
2. Airway and Breathing Management: Training includes the use of adjuncts for airway management and breathing support.

3. Defibrillator Use: You will be trained to use an automatic external defibrillator (AED), essential for cardiac emergencies.
4. Initial Trauma Response: The course prepares students to handle life-threatening situations at a basic level, equipping them with the skills needed for initial patient management.
5. NIMS (National Incident Management System) classes 100,200,700,800 are included in this class, the student will understand Incident Management for emergency scenes and be able to effectively manage a scene as a first responder until higher trained personnel arrive: this will include recognizing hazards, mitigating some hazardous situations, managing other personnel, requesting additional and specialized resources and more.
6. Fire Extinguisher Safety: Students will learn how to safely operate a fire extinguisher in the case of a fire.
7. HIPPA Training (Health Insurance Portability and Accountability Act): Students will understand the importance of this act to include: patient privacy and confidentiality, penalties and other federal regulations that protect health information.
8. Blood Borne Pathogens: Students will learn and demonstrate how to safely handle all situations involving blood and contaminated items.
9. Initiate the chain of survival by demonstrating and verbalizing the American Heart Association's chain of survival for Adult and Pediatric victims. 1
10. Relieve a choking victim as exhibited by describing the technique for the relief of foreign-body airway obstruction for the adult, child, and infant. 1
11. Perform prompt, high-quality chest compressions for adult, child, and infant. 1
12. Initiate early use of an AED. 1
13. Initiate the emergency response system and retrieve an AED if available, while working collaboratively to provide compressions and ventilations at a rate of 30:2 while switching roles every 2 minutes.

EMSS 1120. Emergency Medical Technician Lecture
6 Credits (6)
An entry level course which prepares students to respond to and provide care for ill or injured patients. It includes an overview of the human body, basic life support, airway management, trauma, medical and environmental emergencies, medical/legal, emergency operations and other related topics.
Corequisite: OEEM 101,EMSS 1120L,EMSS 1121.
Prerequisite/Corequisite: EMSS 1153. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Successfully pass the National Registry EMT certification exam and obtain New Mexico EMT licensure.
2. Demonstrate competence as an entry-level EMT in the cognitive and affective domains.
3. Demonstrate competence as an entry-level EMT in airway management.
4. Demonstrate competence as an entry-level EMT in medical emergencies.
5. Demonstrate competence as an entry-level EMT in cardiac emergencies.
6. Demonstrate competence as an entry-level EMT in trauma emergencies.
7. Demonstrate competence as an entry-level EMT in EMS operations.

EMSS 1120L. Emergency Medical Technician Laboratory
2 Credits (6P)
An entry level course which focuses on EMT and NM EMT-Basic skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.
Corequisite: OEEM 101, EMSS 1120, EMSS 1121.
Prerequisite/Corequisite: EMSS 1153. Restricted to: OEEM majors.
Learning Outcomes
1. Successfully pass a NM JOE approved EMT psychomotor exam.
2. Demonstrate competence as an entry-level EMT in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level EMT in airway management.
4. Demonstrate competence as an entry-level EMT in medical emergencies.
5. Demonstrate competence as an entry-level EMT in cardiac emergencies.
6. Demonstrate competence as an entry-level EMT in trauma emergencies.
7. Demonstrate competence as an entry-level EMT in EMS operations.

EMSS 1121. Emergency Medical Technician Clinical
1 Credit (3P)
A course for EMT students to complete patient contact and clinical care requirements. Students rotate through various healthcare settings, refining clinical competencies required as an entry-level EMT. May be repeated up to 1 credit.
Prerequisite/Corequisite: OEEM 101, EMSS 1120, EMSS 1120L, EMSS 1153.
Learning Outcomes
1. Function as an entry-level EMT as part of a healthcare team.
2. Demonstrate professionalism and cultural sensitivity healthcare settings.
3. Demonstrate appropriate documentation and record keeping.
4. Function as an entry-level EMT, providing emergency care to the sick and injured.
5. Perform an appropriate patient assessment.

EMSS 1153. Introduction to Anatomy and Physiology for the EMS Provider
3 Credits (3)
To properly assess and manage a patient, a prehospital provider must have a solid foundation in human anatomy and physiology. This course provides a systematic approach to building this foundation. Grade of "C" or better is required to pass the course. Consent of Instructor required. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Apply anatomical and medical terms and abbreviations in written and oral communication.
2. Uses simple knowledge of the anatomy and function of the upper airway, heart, vessels, blood, lungs, skin, muscles, and bones as the foundation of emergency care.
3. Apply fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
4. Integrates complex knowledge of the anatomy and physiology of the airway, respiratory and circulatory systems to the practice of EMS.
5. Integrates a complex depth and comprehensive breadth of knowledge of the anatomy and physiology of all human systems.

EMSS 2120. Advanced EMT Lecture
5 Credits (5)
A course which prepares students to respond to and provide specified advanced emergency care for ill or injured patients. It includes an overview of the human body, advanced life support, airway management, trauma, medical and environmental emergencies, medical legal issues, emergency operations, intravenous therapy, vascular access, advanced pharmacology and other related topics. Restricted to: OEEM majors.
Prerequisite: Current EMT-basic license, pretest and consent of instructor.
Learning Outcomes
1. Successfully pass the National Registry AEMT certification exam and obtain New Mexico AEMT licensure.
2. Demonstrate competence as an entry-level AEMT in the cognitive and affective domains.
3. Demonstrate competence as an entry-level AEMT in airway management.
4. Demonstrate competence as an entry-level AEMT in medical emergencies.
5. Demonstrate competence as an entry-level AEMT in cardiac emergencies.
6. Demonstrate competence as an entry-level AEMT in trauma emergencies.
7. Demonstrate competence as an entry-level AEMT in EMS operations.

EMSS 2120L. Advanced EMT Laboratory
2 Credits (6P)
An advanced laboratory course which focuses on AEMT and NM EMT-Intermediate skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.
Prerequisite/Corequisite: EMSS 2120, EMSS 2121. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Successfully pass a National Registry AEMT psychomotor exam.
2. Demonstrate competence as an entry-level AEMT in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level AEMT in airway management.
4. Demonstrate competence as an entry-level AEMT in medical emergencies.
5. Demonstrate competence as an entry-level AEMT in cardiac emergencies.
6. Demonstrate competence as an entry-level AEMT in trauma emergencies.
7. Demonstrate competence as an entry-level AEMT in EMS operations.

EMSS 2121. Advanced EMT Clinical
2 Credits (6P)
A course for AEMT students to complete patient contact and clinical care requirements. Students rotate through various healthcare settings, refining clinical competencies required as an entry-level AEMT.
Prerequisite/Corequisite: EMSS 2120, EMSS 2120L. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Function as an entry-level AEMT as part of a healthcare team.
2. Demonstrate team leadership on an emergency call.
3. Demonstrate professionalism and cultural sensitivity healthcare settings.
4. Demonstrate appropriate documentation and record keeping.
5. Function as an entry-level AEMT, providing emergency care to the sick and injured.
6. Perform an appropriate patient assessment.

EMSS 2240. Introduction to Paramedic Practice
2 Credits (2)
A course which introduces students to the advanced practice of prehospital medicine, research, medical legal issues, the wellbeing of the provider. Reviews foundational EMS knowledge and the NM Paramedic Scope of Practice. Emphasizes paramedic operations within the healthcare system.
Prerequisite: EMSS 1120, EMSS 1120L, EMSS 1121.
Learning Outcomes
1. Understand paramedic roles and responsibilities within an EMS system.
2. Understand and interpret research and how to integrate findings into evidence based practice.
3. Demonstrates understanding of health and safety principles to maintain provider, crew and situational awareness, safety, and wellbeing.
4. Uses appropriate written or electronic tools to effectively document the essential elements of patient care and transport.
5. Understands the components of the EMS communications systems and the importance of Quality Assurance/Quality Improvement.
6. Understands the appropriate techniques of theraputic communication with patients, families and other healthcare team members.
7. Understand relevant laws and ethical issues which impact decisions made in healthcare settings.

EMSS 2245. Human Systems, Pathophysiology and Development
3 Credits (3)
A course which provides a survey of human anatomy and physiology, pathological processes, and life span development. Emphasis is placed on interrelationships among organ systems and deviation from homeostasis.
Prerequisite: EMSS 1120, EMSS 1120L.
Learning Outcomes
1. Understand the general terminology, anatomy, and physiology of the human body.
2. Apply principles of normal anatomy and physiology of the human body to the pathophysiologic processes of common health problems.
3. Associate pathophysiology to patient assessment and treatment.
4. Describe key physiologic and psychosocial changes that occur in different age groups.

EMSS 2250. Introduction to Advanced Patient Assessment and Clinical Decision Making
1 Credit (1)
A course which introduces the concepts of advanced patient assessment and clinical decision making, including history taking, physical exam techniques, and therapeutic communication with patients.
Learning Outcomes
1. Integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression.
2. Develops a list of differential diagnoses through clinical reasoning to modify the assessment and formulate a treatment or referral plan.

EMSS 2255. Emergency Pharmacology
2 Credits (2)

A course which integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Discusses physiologic actions, pharmacodynamics, pharmacokinetics, therapeutic effects, medication administration, dosages and interactions.
Prerequisite: EMSS 1120, EMSS 1120L, EMSS 1121.
Corequisite: EMSS 2255L.
Learning Outcomes

1. Demonstrates an understanding of relevant terms, processes and definitions relating to pharmacology.
2. Demonstrates an understanding of safety, storage and security, legislation, naming, classification and scheduling of medications.
3. Demonstrates appropriate decision making regarding medication administration to mitigate emergencies and improve overall health of the patient.
4. Demonstrates an understanding of the dosages, routes, indications, contraindications, mechanism of actions, side effects of medications in the National and NM Paramedic Scope of Practice.
5. Demonstrates an understanding of ethical, legal, communication and documentation aspects of emergency pharmacology.

EMSS 2255L. Emergency Pharmacology Laboratory
1 Credit (3P)
A course which integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Students will practice medication administration, calculate medication dosages, vascular access, fluid administration and other related skills. May be repeated up to 1 credit.
Prerequisite: EMSS 1120, EMSS 1120L, EMSS 1121.
Corequisite: EMSS 2255.
Learning Outcomes

1. Demonstrates an ability to safely administer medications in the national and NM Paramedic Scope of Practice.
2. Calculates the correct volume, flow rate and amount of medication to be administered in a given situation.
3. Demonstrates an ability to administer medications as appropriate based on patient presentations.

EMSS 2310. Airway and Respiratory Emergencies
2 Credits (2)
A course which focuses on the anatomy, physiology, and pathophysiology of the respiratory system. Integrates the knowledge to develop and implement a comprehensive treatment plan, with the goal of assuring a patent airway, adequate mechanical ventilation and respiration for patients of all ages.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2310L.
Learning Outcomes

1. Demonstrates an understanding of the mechanics, neurological control and diseases impacting respiration and ventilation.
2. Demonstrates an understanding of various methods, tools and techniques to assure a patent airway, ventilation and respiration.
3. Integrate assessment findings with emergency pharmacology and relevant tools to create and implement treatment plans for patients with medical or trauma related respiratory complaints.

EMSS 2310L. Airway and Respiratory Emergencies Laboratory
1 Credit (3P)
A course which focuses on diseases impacting the respiratory system. Students will demonstrate the knowledge to develop and implement a comprehensive treatment plan, with the goal of assuring a patent airway, adequate mechanical ventilation and respiration for patients of all ages. Students will utilize basic and advanced airway management and ventilation tools and techniques.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2310L.
Learning Outcomes

1. Appropriately utilizes various methods, tools and techniques to assure a patent airway, ventilation and respiration.
2. Integrates assessment findings with emergency pharmacology and relevant tools to implement treatment plans for patients with medical or trauma related respiratory complaints.
3. Act as an entry-level Paramedic team leader in an airway management, ventilation or respiratory simulation.

EMSS 2410. Cardiac Emergencies
4 Credits (4)
Focuses on advanced patient assessment, management, and development of a treatment plan, with extensive discussion of cardiac anatomy, physiology, pathophysiology, pharmacology and pathology. Discusses EKG and 12 lead EKG acquisition and interpretation, and cardiac rhythms. There is an emphasis on advanced prehospital assessment and management of cardiac patients. Restricted to: OEEM, OEMS majors. Restricted to Community Colleges campuses only.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Learning Outcomes

1. Demonstrates knowledge of anatomy and physiology, assessment findings, principles of epidemiology and pathophysiology to formulate a field impression and choose a comprehensive treatment/disposition plan for a patient with a cardiac complaint.
2. Integrate comprehensive knowledge of causes, pathophysiology, and management of the following cardiovascular conditions: Acute coronary syndrome, Heart failure, Nontraumatic cardiac tamponade, Cardiogenic shock, Vascular disorders, Cardiac rhythm disturbances, Infectious diseases of the heart, Congenital abnormalities.
3. Demonstrates an understanding of the acquisition, interpretation and integration of EKG findings into patient assessment, management and disposition.

EMSS 2410L. Cardiac Emergencies Laboratory
2 Credits (2P)
Focuses on the performance of advanced patient assessment, management, and development of a treatment plan, with extensive integration of an understanding of cardiac pathophysiology and pharmacology. Integrates EKG and 12 lead EKG acquisition and interpretation with patient management. There is an emphasis on the application of advanced assessment and management of cardiac patients.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2410.
Learning Outcomes

1. Demonstrates knowledge of anatomy and physiology, assessment findings, principles of epidemiology and pathophysiology to formulate a field impression and choose a comprehensive treatment/disposition plan for a patient with a cardiac complaint.
2. Integrate comprehensive knowledge of causes, pathophysiology, and management of the following cardiovascular conditions: Acute coronary syndrome, Heart failure, Nontraumatic cardiac tamponade, Cardiogenic shock, Vascular disorders, Cardiac rhythm disturbances, Infectious diseases of the heart, Congenital abnormalities.

3. Demonstrates an understanding of the acquisition, interpretation and integration of EKG findings into patient assessment, management and disposition.

EMSS 2510. Medical Emergencies
3 Credits (3)
A course which covers patient assessment, Anatomy & Physiology, pathology of non-cardiac, non-OB/Peds, special populations medical emergencies. Includes environmental, chemical, poisoning, infectious diseases, endocrine/digestive, renal system and psychiatric illnesses. Requires a C or better to pass. Restricted to: Community Colleges only.
Corequisite: EMSS 2510L.
Learning Outcomes
1. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
2. Understands epidemiology, disease pathologies and how they impact transport and destination decisions.
3. Construct assessment and treatment plans for vulnerable patient populations including the cognitively impaired, pregnant, pediatrics, technology dependent, congenital diseases and geriatrics.
4. Understands the pathophysiology, assessment, management and treatment of the medical patient with multiple comorbidities.
5. Understands how to safely and effectively communicate with, assess, and manage patients with psychiatric illnesses.

EMSS 2510L. Medical Emergencies Laboratory
3 Credits (3P)
Performs advanced assessments, formulates diagnoses, implements treatment plans and manages common medical and behavioral emergencies.
Corequisite: EMSS 2510.
Learning Outcomes
1. Demonstrates the integration of assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
2. Integrates knowledge of epidemiology and disease pathologies into transport and destination decisions.
3. Implements assessment and treatment plans for vulnerable patient populations including the cognitively impaired, pregnant, pediatrics, technology dependent, congenital diseases and geriatrics.
4. Appropriately assesses, manages and treats patients with multiple comorbidities.
5. Demonstrates how to safely and effectively communicate with, assess, and manage patients with psychiatric illnesses.

EMSS 2610. Paramedic Trauma Care
2 Credits (2)
A course which covers the mechanism of injury, pathophysiology, diagnosis, assessment, treatment and care of the trauma and environmental emergency patient.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2610L.
Learning Outcomes
1. Understands epidemiology, trauma scoring and destination decisions.
2. Formulates comprehensive and focused assessment strategies for minor, moderate and critically ill patients with bleeding; chest, abdominal, genitourinary, orthopedic, soft tissue, head, face, neck, spine, nervous system trauma.
3. Construct assessment and treatment plans for vulnerable trauma patient populations including the cognitively impaired, pregnant, pediatrics and geriatrics.
4. Understands the pathophysiology, assessment, management and treatment of environmental emergencies.
5. Understands the pathophysiology, assessment, management and treatment of the multisystem trauma patient.

EMSS 2610L. Paramedic Trauma Care Laboratory
1 Credit (3P)
A practical course which covers the mechanism of injury, pathophysiology, diagnosis, assessment, treatment and care of the trauma and environmental patient. May be repeated up to 1 credit.
Prerequisite: EMSS 2245, EMSS 2240, EMSS 2255.
Corequisite: EMSS 2610.
Learning Outcomes
1. Applies an understanding of epidemiology, trauma scoring and destination decisions.
2. Implements comprehensive and focused assessment strategies for minor, moderate and critically ill patients with bleeding; chest, abdominal, genitourinary, orthopedic, soft tissue, head, face, neck, spine, nervous system trauma.
3. Constructs and applies assessment and treatment plans for vulnerable trauma patient populations including the cognitively impaired, pregnant, pediatrics and geriatrics.
4. Applies an understanding of the pathophysiology, assessment, management and treatment of environmental emergencies.
5. Applies an understanding of the pathophysiology, assessment, management and treatment of the multisystem trauma patient.
6. Safely and effectively perform all psychomotor skills within the National EMS Scope of Practice Model and the New Mexico Scope of Practice at the Paramedic level.
7. Demonstrate professional behavior including, but not limited to, integrity, empathy, self-motivation, appearance/personal hygiene, self-confidence, communication, time management, teamwork/diplomacy, respect, patient advocacy and careful delivery of service.

EMSS 2650. Advanced EMS Operations
2 Credits (9P)
Theory course covering the operational aspects of paramedic practice including discussions on the Incident Command System, hazardous materials, rescue, crime scene awareness, mass casualty incidents, bioterrorism/WMD, aeromedical transport, ambulance operations and extrication. Restricted to: OEEM majors. Restricted to Community Colleges campuses only.
Prerequisite: EMSS 2895, EMSS 2998.
Learning Outcomes
1. Identify risks and responsibilities associated with: ambulance and air medical transportation, multiple-casualty incidents, gaining access to and extricating patients, hazardous materials incidents, responding to situations involving weapons of mass destruction.
2. Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.
3. Establish and work within the incident management system.

EMSS 2710. Advanced Care of Special Populations
2 Credits (2)

Comprehend assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and identify a comprehensive treatment/disposition plan for patients with special challenges and neonates, pediatrics, geriatrics, obstetrics. Requires a "C" or better to pass. Restricted to: OEEM, OEMS majors.
Prerequisite: EMSS 2410.
Learning Outcomes
1. Demonstrates comprehensive knowledge of the pathophysiology, assessment and treatment of the following patient types: a) neonatal b) obstetric c) pediatric d) patients identified as having special challenges e) geriatric.
2. Recognizes the unique psychosocial needs of these patients and demonstrates knowledge of relevant community resources.

EMSS 2710L. Advanced Care of Special Populations Laboratory
1 Credit (1P)
Integrates assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special challenges and neonates, pediatrics, geriatrics, obstetrics.
Corequisite: EMSS 2410.
Learning Outcomes
1. Understands and implements comprehensive knowledge of the pathophysiology, assessment and treatment of the following patient types: a) neonatal, b) obstetric, c) pediatric, d) patients identified as having special challenges, e) geriatric.
2. Demonstrate an awareness of the unique psychosocial needs of these patients and an ability to connect them to relevant community resources.

EMSS 2890. Paramedic Clinical I
3 Credits (9P)
A course which provides students with clinical opportunities which may include hospitals, clinics, field rotations and other healthcare settings to administer medications, perform approved skills, and assess and manage patients of all age groups with various medical or traumatic conditions. Provides students an opportunity to apply their knowledge in real patient care situations, under direct supervision. Students may be required to travel to complete this course. Restricted to majors. Requires a C or better to pass. May be repeated up to 6 credits.
Learning Outcomes
1. Perform a comprehensive assessment, formulate and implement a treatment plan for all patient types across all age groups.
2. Safely and appropriately administer allowed medications.
3. Safely and appropriately perform allowed skills.
4. Work effectively as part of a healthcare team.
5. Demonstrate appropriate affect.

EMSS 2895. Paramedic Clinical II
3 Credits (9P)
A continuation of Paramedic Clinical I which provides students with clinical opportunities which may include hospitals, clinics, field rotations and other healthcare settings to administer medications, perform approved skills, and assess and manage patients of all age groups with various medical or traumatic conditions. Provides students an opportunity to apply their knowledge in real patient care situations, under direct supervision. Students may be required to travel to complete this course. Restricted to Community Colleges campuses only. May be repeated up to 6 credits.
Prerequisite/Corequisite: EMSS 2890.
Learning Outcomes
1. Perform a comprehensive assessment, formulate and implement a treatment plan for all patient types across all age groups.
2. Safely and appropriately administer allowed medications.
3. Safely and appropriately perform allowed skills.
4. Work effectively as part of a healthcare team.
5. Demonstrate appropriate affect.

EMSS 2998. Paramedic Internship
5 Credits (5)
Comprehensive final program testing to prepare for licensing examination. Requires a "C" or better to pass. Restricted to: OEMS, OEEM majors. Restricted to Community Colleges campuses only.
Prerequisite: EMSS 2890, EMSS 2895.
Learning Outcomes
1. Varies.

ENGL-ENGLISH (ENGL)

ENGL 1105M. Introduction to Academic Writing for Multilingual Students
3 Credits (3)
This course is offered to international and domestic multilingual students. The purpose of this course is to provide students with review and practice opportunities to develop writing fluency and coherence, grammar awareness, and academic vocabulary necessary to be successful in ENGL 1110M and/or ENGL 471M.
Prerequisite: Placement in ENGL 1105M through NMSU's English Language Placement Test (ELPT), or an ACT score of 13-15, or#placement with an academic advisor using the English Self-Placement Canvas#Course, or#consent of instructor.
Learning Outcomes
1. Create well-organized, coherent paragraphs alone or in essay format.
2. Integrate a variety of sentence structures in connected discourse.
3. Portray, with general mastery, basic grammatical forms with very few errors.
4. Summarize or paraphrase information from source readings correctly.
5. Analyze readings for meaning and main ideas through annotation.
6. Integrate APA style format for in-text citations and references into their writing.

ENGL 1110G. Composition I
4 Credits (4)
In this course, students will read, write, and think about a variety of issues and texts.They will develop reading and writing skills that will help with the writing required in their fields of study and other personal and professional contexts. Students will learn to analyze rhetorical situations in terms of audience, contexts, purpose, mediums, and technologies and apply this knowledge to their reading and writing. They will also gain an understanding of how writing and other modes of communication work together for rhetorical purposes. Students will learn to analyze the rhetorical context of any writing task and compose with purpose, audience, and genre in mind. Students will reflect on their own writing processes, learn to workshop drafts with other writers,and practice techniques for writing, revising, and editing. May be repeated up to 4 credits.
Prerequisite: ACT standard score in English of 16 or higher, or an Accuplacer score 250 or higher, or an SAT score of 400 or higher or a C- or higher in either CCDE 110N or CCDS 119N.

Learning Outcomes

1. Analyze communication through reading and writing skills.
2. Employ writing processes such as planning, organizing, composing, and revising.
3. Express a primary purpose and organize supporting points logically.
4. Use and document research evidence appropriate for college-level writing.
5. Employ academic writing styles appropriate for different genres and audiences.
6. Identify and correct grammatical and mechanical errors in their writing.

ENGL 1110H. Composition I Honors
4 Credits (4)
In this course, students will read, write, and think about a variety of issues and texts.They will develop reading and writing skills that will help with the writing required in their fields of study and other personal and professional contexts. Students will learn to analyze rhetorical situations in terms of audience, contexts, purpose, mediums, and technologies and apply this knowledge to their reading and writing. They will also gain an understanding of how writing and other modes of communication work together for rhetorical purposes. Students will learn to analyze the rhetorical context of any writing task and compose with purpose, audience, and genre in mind. Students will reflect on their own writing processes, learn to workshop drafts with other writers,and practice techniques for writing, revising, and editing.

Learning Outcomes

1. Analyze communication through reading and writing skills.
2. Employ writing processes such as planning, organizing, composing, and revising.
3. Express a primary purpose and organize supporting points logically.
4. Use and document research evidence appropriate for college-level writing.
5. Employ academic writing styles appropriate for different genres and audiences.
6. Identify and correct grammatical and mechanical errors in their writing.

ENGL 1110M. Composition I Multilingual
4 Credits (4)
In this course, students will read, write, and think about a variety of issues and texts.They will develop reading and writing skills that will help with the writing required in their fields of study and other personal and professional contexts. Students will learn to analyze rhetorical situations in terms of audience, contexts, purpose, mediums, and technologies and apply this knowledge to their reading and writing. They will also gain an understanding of how writing and other modes of communication work together for rhetorical purposes. Students will learn to analyze the rhetorical context of any writing task and compose with purpose, audience, and genre in mind. Students will reflect on their own writing processes, learn to workshop drafts with other writers,and practice techniques for writing, revising, and editing. May be repeated up to 4 credits.
Prerequisite: ACT standard score in English of 16 or higher, or an Accuplacer score 250 or higher, or an SAT score of 400 or higher or CCDE 1110 N.

Learning Outcomes

1. Analyze communication through reading and writing skills.
2. Employ writing processes such as planning, organizing, composing, and revising.
3. Express a primary purpose and organize supporting points logically.
4. Use and document research evidence appropriate for college-level writing.
5. Employ academic writing styles appropriate for different genres and audiences.
6. Identify and correct grammatical and mechanical errors in their writing.

ENGL 1120. Composition II
2 Credits (2)
In this course, students will explore argument in multiple genres. Research and writing practices emphasize summary, analysis, evaluation, and integration of secondary sources. Students will analyze rhetorical situations in terms of audience, contexts, purpose, mediums, and technologies and apply this knowledge to their reading, writing, and research. Students will sharpen their understanding of how writing and other modes of communication work together for rhetorical purposes. The emphasis of this course will be on research methods.
Prerequisite: successful completion of ENGL 1110G or ENGL 1110H or ENGL 1110M.

Learning Outcomes

1. Analyze the rhetorical situation for purpose, main ideas, support, audience, and organizational strategies in a variety of genres.
2. Employ writing processes such as planning, organizing, composing, and revising.
3. Use a variety of research methods to gather appropriate, credible information.
4. Evaluate sources, claims, and evidence for their relevance, credibility, and purpose.
5. Quote, paraphrase, and summarize sources ethically, citing and documenting them appropriately.
6. Integrate information from sources to effectively support claims as well as other purposes (to provide background information, evidence/examples, illustrate an alternative view, etc.).
7. Use an appropriate voice (including syntax and word choice).

ENGL 1410G. Introduction to Literature
3 Credits (3)
In this course, students will examine a variety of literary genres, including fiction, poetry, and drama. Students will identify common literary elements in each genre, understanding how specific elements influence meaning.

Learning Outcomes

1. Identify, define, and understand basic literary conventions and themes in fiction, poetry and drama.
2. Write reasonable, well-supported analyses of literature that ethically integrate evidence from texts

ENGL 2130G. Advanced Composition
3 Credits (3)
This course is for students who are striving for fluency, maturity, clarity and significance in their writing. It is an intermediate writing course that builds on and refines writing skills acquired in previous courses. It focuses on non-fiction writing for the professions, business, science, technical fields, academe and/or the popular press. Short works of master writers are studied for ideas, styleand structure.

Learning Outcomes

1. Students will examine and apply different writing styles and modes used by masters of personal essay and keep a reading response

journal of assigned readings as demonstrated by scoring a 70% in faculty designed assignments.
2. Students will develop a sense of audience by discussing their papers with each other in small groups during class or by reading each other's papers and participating in positive, helpful peer reviews as demonstrated by scoring a 70% in faculty designed assignments.

ENGL 2210G. Professional and Technical Communication
3 Credits (3)
Professional and Technical Communication will introduce students to the different types of documents and correspondence that they will create in their professional careers. This course emphasizes the importance of audience, document design, and the use of technology in designing, developing, and delivering documents. This course will provide students with experience in professional correspondence and communicating technical information to a non-technical audience.
Prerequisite(s): Grade of C- or better in ENGL 1110G or the equivalent.
Learning Outcomes
1. Choose professional communication appropriate for audiences and situations.
2. Write in different genres of professional communication.
3. Identify the purpose of a work-related communication and assess the audiences' informational needs and organizational constraints.
4. Employ appropriate design/visuals to support and enhance various texts.
5. Demonstrate effective collaboration and presentation skills.
6. Integrate research and information from credible sources into professional communication.

ENGL 2210H. Professional and Technical Communication Honors
3 Credits (3)
Professional and Technical Communication writing for Crimson Scholars/ Honors students will introduce students to the different types of documents and correspondence that they will create in their professional careers. This course emphasizes the importance of audience, document design, and the use of technology in designing, developing, and delivering documents. This course will provide students with experience in professional correspondence and communicating technical information to a non-technical audience. 3.5 GPA is also required. Restricted to Las Cruces campus only.
Prerequisite(s): grade of C- or better in ENGL 1110G or the equivalent; approval of the honors college.
Learning Outcomes
1. Choose professional communication appropriate for audiences and situations.
2. Write in different genres of professional communication.
3. Identify the purpose of a work-related communication and assess the audiences' informational needs and organizational constraints.
4. Employ appropriate design/visuals to support and enhance various texts.
5. Demonstrate effective collaboration and presentation skills.
6. Integrate research and information from credible sources into professional communication.

ENGL 2210M. Professional and Technical Communication for Multilingual Students
3 Credits (3)
Professional and Technical Communication will introduce students to the different types of documents and correspondence that they will create in their professional careers. This course emphasizes the importance of audience, document design, and the use of technology in designing, developing, and delivering documents. This course will provide students with experience in professional correspondence and communicating technical information to a non-technical audience. NMSU specific description: In this course, students will explore the unique advantages and challenges of being multilingual writers. This course is designed for international and domestic multilingual students.
Prerequisite: Grade of C- or better in ENGL 1110G or ENGL 1110H or ENGL 1110M.
Learning Outcomes
1. Choose professional communication appropriate for audiences and situations.
2. Write in different genres of professional communication.
3. Identify the purpose of a work-related communication and assess the audiences' informational needs and organizational constraints.
4. Employ appropriate design/visuals to support and enhance various texts.
5. Demonstrate effective collaboration and presentation skills.
6. Integrate research and information from credible sources into professional communication.

ENGL 2215G. Advanced Technical and Professional Communication
3 Credits (3)
Theory and practice of writing in technical and professional fields, individualized to each student s field. Emphasizes efficient writing processes and effective written products. May be repeated up to 3 credits. Restricted to Las Cruces campus only.
Prerequisite(s): Junior or above standing, or consent of instructor.
Learning Outcomes
1. To complicate the definition of "technical and scientific communication" and its relationship(s) to studying and practicing "rhetoric."
2. To complicate our relationship to concepts like "science", "knowledge, "objectivity," neutrality, "clarity," etc.
3. To use a community-based approach to study and practice technical and scientific documents within various discourse communities.
4. To study and practice different genres (i.e. memos, letters, e-mails, reports, proposals, and instruction sets) attending to issues of audience and purpose within discourse communities.
5. To practice some mindful reading strategies that allow you to attend to the use of language and its material and discursive effects in different situations.
6. To examine the material effects of producing, circulating, and consuming technical and scientific texts on the bodies of people within different contexts.
7. To complicate our understanding of "ethics," "responsibility," and "accountability" toward ourselves and others.
8. To work collaboratively and individually to research, to analyze, and to write about public debates regarding the conduct of science and technology.
9. To understand and use basic principles of document design attending to issues of usability and accessibility. 1
10. To articulate the relationship between technical and scientific communication and issues of inclusion and social justice in the world.

ENGL 2221G. Writing in the Humanities and Social Science
3 Credits (3)
Theory and practice in interpreting texts from various disciplines in the humanities and social sciences. Strategies for researching, evaluating,

constructing, and writing researched arguments. Course subtitled in the Schedule of Classes. May be repeated up to 3 credits.
Prerequisite(s): Grade of C- or better in ENGL 1110G or ENGL 1110H, or ENGL 1110M.

Learning Outcomes

1. Develop the ability to interpret and respond to humanities and social sciences texts
2. Analyze and evaluate cultural artifacts such as texts, images, and practices as a means of academic inquiry
3. Critique arguments offered in the readings to determine the underlying methodology as well as underlying values
4. Construct a rhetorical argument with evidence appropriate for an explicit audience and purpose
5. Use written, visual, or oral strategies to persuade, inform, or engage, considering situation, audience, purpose, aesthetics, and diverse points of view
6. Practice effective research strategies, and integrate research correctly and ethically from credible sources
7. Understand and apply components of the writing process such as planning, collaborating, organizing, composing, revising, and editing

ENGL 2280. History of Argument
3 Credits (3)
Investigates the major figures and movements in rhetoric from the classical period to modern rhetorical theory, examining relations between rhetorical teaching and practice, culture, epistemology, and ideology. Main campus only. Prerequisite(s): ENGL 1110G, or ENGL 1110GH, or ENGL 1110M

Learning Outcomes

1. Understand how rhetoric, argument, and persuasion work. Become familiar with the key terms and various contexts in which rhetoric, argument, and persuasion function and the contingencies that influence their use and effectiveness;
2. be familiar with the broad history and major figures of western rhetoric;
3. apply a number of approaches used to analyze and construct/deconstruct rhetorical arguments, including (but not limited to) Aristotelian appeals and commonplaces, stasis theory, toulmin analysis, pentadic/dramatistic analysis, fallacy analysis, and rogerian analysis;
4. complete an analysis as well as design and present a project regarding a contemporary issue or concern about which you feel deep passion and commitment; and
5. Improve general critical thinking and communication skills, both oral and written.

ENGL 2310G. Introduction to Creative Writing
3 Credits (3)
This course will introduce students to the basic elements of creative writing, including short fiction, poetry, and creative nonfiction. Students will read and study published works as models, but the focus of this "workshop" course is on students revising and reflecting on their own writing. Throughout this course, students will be expected to read poetry, fiction, and nonfiction closely, and analyze the craft features employed. They will be expected to write frequently in each of these genres. May be repeated up to 3 credits.
Prerequisite: C- or better in ENGL 1110G or ENGL 1110H or ENGL 1110M.

Learning Outcomes

1. Participate in a constructive conversation and community about creative writing.
2. Read and critically engage with a variety of texts.
3. Compose creative works in various genres of creative writing.
4. Provide respectful, honest, and critical feedback to peers about their work.
5. Revise creative work based on peer feedback and critique.
6. Develop thoughtful workshop reflection on students' own writing and writing process.
7. Evaluate and engage with publication process.

ENGL 2381. Script Development and Storyboarding
3 Credits (3)
Examines effective writing principles for creating storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Crosslisted with: FDMA 2381.

Learning Outcomes

1. develop a story idea into a complete storyboard
2. describe and visualize the creative aspects of a media project from conception to completion
3. write a scene in the professional script format
4. deliver a professional verbal and visual presentation of a story idea to an audience
5. the ability to conceive, illustrate and plan a visual project
6. proficiency in oral, written, and visual communication via storyboarding, script writing and verbal presentations

ENGL 2382. Narrative: Principles of Story Across the Media
3 Credits (3)
Examines the various strategies of written and visual storytelling, narrative structure and its principal components (plot, theme, character, imagery, symbolism, point of view) with an attempt to connect them to elements of contemporary forms of media expression, including screenwriting, playwriting, writing for documentaries and animation, etc. Crosslisted with: FDMA 2382

Learning Outcomes

1. Identify use the building blocks of storytelling: plot, theme, character, imagery,
2. Symbolism and point of view
3. Develop these building blocks into a cohesive narrative within a written document
4. Effectively communicate in different written formats
5. Create design documents for varied genres of media: narrative short, documentary, 6 Animation, commercial/industrial video, computer game
6. Describe how a written narrative can be translated into a visual medium

ENGL 2520G. Film as Literature
3 Credits (3+3P)
The purpose of this course is to teach students how to analyze film as a visual text. Students will learn to analyze films, film techniques, eras, and genres. Students will also identify significant trends and developments in film-making, examining the ways in which film reflects and creates cultural trends and values.
Prerequisites: C- or better in ENGL 1110G or ENGL 1110H or ENGL 1110M.

Learning Outcomes

1. Develop an understanding of the cultural, historical, and technical contexts for various films.

2. Identify, define, and analyze basic film techniques used in different genres and time periods.
3. Analyze how film uses literature by studying different sources of adaptation.
4. Demonstrate an understanding of film in its various aspects by writing film analysis, reviews, and/or other projects.

ENGL 2521. The Bible as Literature
3 Credits (3)
Develops informed readings of Hebrew and Christian scriptures. Emphasizes understanding Biblical literary forms, techniques, themes; historical, cultural contexts for interpretation; authorship, composition, audience for individual books; development of Biblical canon.
Learning Outcomes
1. Develop and articulate historically informed and textually supported arguments regarding the form and meaning of biblical texts
2. Express arguments and explication in clear, organized,
3. Understand the Jewish and Christian scriptures as cultural artifacts, using some fundamental techniques of literary analysis and interpretation, especially: thematic interpretation, stylistic analysis, narrative analysis, poetics, and the rhetorical analysis of figurative language.
4. Use socio-historically informed interpretive methods focused on these fundamental contextual questions : 1) who probably wrote and edited these texts, 2) why and how they most likely did so, 3) how their earliest audiences probably responded to them, and 4) why and how they were later combined to form the canonical Jewish and Christian bibles read today.
5. Know in detail substantial selections of representative, influential, and historically informative biblical texts
6. Distinguish literary critical and historical analysis of the Bible from those based on faith, tradition, authority, and theology
7. Recognize, understand, and analyze the forms, genres, and techniques used by biblical authors
8. Become familiar with and be able to use essential knowledge of the historical, cultural, and geographical contexts of Biblical writing
9. Learn how evaluate texts as historical documents, as well as how doing so relates to and differs from literary critical analysis and interpretation 1
10. Become familiar with common and influential scholarly, critical, and aesthetic ways of reading Biblical texts from a contemporary perspective 1
11. Understand the cultural influence of the Bible and its relevance for other areas of scholarly and artistic work

ENGL 2610G. American Literature I
3 Credits (3)
This course surveys American literature from the colonial period to the mid-nineteenth century. This course provides students with the contexts and documents necessary to understand the origins of American Literature and the aesthetic, cultural, and ideological debates central to early American culture.
Learning Outcomes
1. Recognize the traditions of American literature and their connection to issues of culture, race, class, and gender.
2. Demonstrate familiarity with a variety of major works by American authors.
3. Explore the various influences and sources of American literature.
4. Apply effective analytic and interpretive strategies to American literary works using academic conventions of citation and style.

ENGL 2620G. American Literature II
3 Credits (3)
This course surveys American literature from the mid-nineteenth-century to the contemporary period. This course provides students with the contexts and documents necessary to understand American literature and the aesthetic, cultural, and ideological debates central to American culture.
Learning Outcomes
1. Recognize the traditions of American literature and their connection to issues of culture, race, class, and gender.
2. Demonstrate familiarity with a variety of major works by American authors.
3. Explore the various influences and sources of American literature.
4. Apply effective analytic and interpretive strategies to American literary works using academic conventions of citation and style.

ENGL 2630G. British Literature I
3 Credits (3)
This course offers a study of British literature from its origins in Old English to the 18th century. This survey covers specific literary works--essays, short stories, novels, poems, and plays--as well as the social, cultural, and intellectual currents that influenced the literature.
Learning Outcomes
1. Read and discuss representative works of British writers from its origins in Old English to the 18th century to understand cultural and historical movements which influenced those writers and their works.
2. Identify the characteristics of various British literary genres, such as the essay, novel, short story, poetry, and dramatic literature.
3. Apply effective analytic and interpretive strategies to British literary works using academic conventions of citation and style.

ENGL 2640G. British Literature II
3 Credits (3)
This course offers a study of British literature from the 18th century to the present. This survey covers specific literary works--essays, short stories, novels, poems, and plays--as well as the social, cultural, and intellectual currents that influenced the literature.
Learning Outcomes
1. Read and discuss representative works of British writers from the 18th century to the present to understand cultural and historical movements, which influenced those writers,and their works.
2. Identify the characteristics of various British literary genres, such as the essay, novel, short story, poetry, and dramatic literature.
3. Apply effective analytic and interpretive strategies to British literary works using academic conventions of citation and style.

ENGL 2650G. World Literature I
3 Credits (3)
In this course, students will read representative world masterpieces from ancient, medieval and Renaissance literature. Students will broaden their understanding of literature and their knowledge of other cultures through exploration of how literature represents individuals, ideas and customs of the world cultures. The course focuses strongly on examining the ways literature and culture intersect and define each other.
Learning Outcomes
1. Identify and comprehend key authors and literary works from ancient periods to the Enlightenment.
2. Understand each text's historical and cultural context.

3. Identify and analyze a variety of literary forms, including poetry, plays, and philosophical and religious texts.
4. Compare works from different cultures and historical periods examining genre, style, and content or theme.
5. Analyze how literary works reflect historical, national, cultural, and ethnic differences.

ENGL 2675. Transatlantic Literatures
3 Credits (3)
This course tracks the production, circulation, and reception of literary works in transatlantic contexts over at least 150 years. Students examine a variety of documents to map transformations in form, genre, and medium across historical and geographic contexts. Students consider how colonization, exile, displacement, and migration have track the production, circulation, and reception of literary works in transatlantic contexts over at least 150 years reinforced or contested national literary traditions.
Learning Outcomes
1. Track the production, circulation, and reception of literary works in transatlantic contexts over at least 150 years
2. Identify and analyze a variety of documents to map transformations in form, genre, and medium across historical and geographic contexts
3. Explain how colonization, exile, displacement, and migration have reinforced or contested national literary traditions.

ENGL 2996. Special Topics
1-3 Credits
Emphasis on a literary and/or writing subject chosen for the semester. Repeatable for a unlimited credit under different subtitles.
Learning Outcomes
1. Varies

ENGR-ENGINEERING (ENGR)

ENGR 100G. Introduction to Engineering
3 Credits (2+3P)
An introduction to the various engineering disciplines, the engineering approach to problem solving, and the design process. Projects emphasize the importance of teamwork, written & oral communication skills, as well as ethical responsibilities. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): MATH 1220G or above.
Learning Outcomes
1. Analyze the engineering road maps and have a solid curriculum plan for each semester including summers.
2. Discuss the importance of information on engineering student organizations.
3. Demonstrate an understanding of the design process from initial conception to final solution through the application of critical thinking while learning important team building skills approaches to problem solving.
4. Identify the different engineering fields,the engineering profession, career paths open to engineers, and the process to professional licensure.
5. Apply clear communication and critical thinking skills by collecting, organizing, and analyzing data in a complete, clearly written, and oral presentation of their work.
6. Make use of basic knowledge and skills in Microsoft Excel to complete engineering assignments.
7. Identity, compute, and apply how dimensions, length, time, mass, force, temperature, electric current, energy and power, and related parameters are related to the different fields of engineering.
8. recognize ethical and professional responsibilities in engineering situations and make informed judgements.

ENGR 100GH. Introduction to Engineering Honors
3 Credits (2+3P)
An introduction to the various engineering disciplines, the engineering approach to problem solving, and the design process. Projects emphasize the importance of teamwork, written & oral communication skills, as well as ethical responsibilities. May be repeated up to 3 credits. Crosslisted with: ENGR 100.
Prerequisite(s)/Corequisite(s): MATH 1220G or above.
Learning Outcomes
1. Analyze the engineering road maps and have a solid curriculum plan for each semester including summers.
2. Discuss the importance of information on engineering student organizations.
3. Demonstrate an understanding of the design process from initial conception to final solution through the application of critical thinking while learning important team building skills approaches to problem solving.
4. Identify the different engineering fields,the engineering profession, career paths open to engineers, and the process to professional licensure.
5. Apply clear communication and critical thinking skills by collecting, organizing, and analyzing data in a complete, clearly written, and oral presentation of their work.
6. Make use of basic knowledge and skills in Microsoft Excel to complete engineering assignments.
7. Identity, compute, and apply how dimensions, length, time, mass, force, temperature, electric current, energy and power, and related parameters are related to the different fields of engineering.
8. recognize ethical and professional responsibilities in engineering situations and make informed judgements.

ENGR 110. Introduction to Engineering Design
3 Credits (2+3P)
Sketching and orthographic projection. Covers detail and assembly working drawings, dimensioning, tolerance specification, and design project
Learning Outcomes
1. Students will learn the fundamentals of part modeling and assemblies using modeling techniques in the SolidWorks solid modeling software.
2. They will learn how to put these parts and assemblies into production drawings using proper Geometric Dimensioning.

ENGR 111. Mathematics for Engineering Applications
3 Credits (3)
An introduction to engineering mathematics and basic programming skills needed to perform elementary data manipulation and analysis. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): MATH 1250G. Prerequisite(s): MATH 1220G.

ENGR 120. DC Circuit Analysis
4 Credits (3+3P)
An introduction to DC circuit analysis using Ohm's law, Kirchoff's laws, and Thevenin's theorem. Topics include delta-wye and source

transformations, node-voltage and mesh-current analysis, and superposition.
Prerequisite/Corequisite: MATH 1250G.
Learning Outcomes
1. Convert decimal numbers to engineering notation using metric prefixes and units.
2. Relate electric charge, current, resistance, voltage, energy, and power.
3. Analyze circuits with voltage and current sources, ideal and real, independent and dependent.
4. Apply Ohm's Law and Kirchoff's Voltage and Current Laws to DC circuits.
5. Create equivalent circuits using series/parallel combinations, delta-wye and source transformations, and Thevinin's Theorem.
6. Analyze circuits using the node voltage method, mesh current method, and superposition.
7. Create a functioning prototype of DC circuits, including taking voltage, current, and resistance measurements.

ENGR 130. Digital Logic
4 Credits (3+3P)
An introduction to logic design and the basic building blocks of digital systems. Topics include numbering systems, Boolean algebra, digital logic theory, combinational logic, sequential logic, and applications such as adders, multiplexers, encoders, counters, and registers. Includes hands-on laboratory.
Prerequisite: A grade of C- or better in MATH 1220G or higher.
Learning Outcomes
1. Explain the behavior of the six logic gates using the truth table (AND, OR, NOT, NAND, NOR, XOR, XNOR).
2. Create the truth tables for any logic gate or Boolean function.
3. Apply Boolean Algebra rules OR K-maps to any logic function expression to simplify it.
4. Create complete circuit designs using combinational logic functions and sequential logic functions.
5. Convert numerical values to the commonly used digital representations.
6. Apply arithmetic operations using different numbering systems.
7. Build digital circuits using breadboard and Integrated circuits.

ENGR 140. Introduction to Programming and Embedded Systems
4 Credits (3+3P)
An introduction to programming and to the field of embedded systems. Starting from the basic concepts of programming, this course uses microcontrollers, sensors, motors, and other peripheral devices to support the learning and application of the problem-solving process through embedded systems. This course focuses on reading, writing, debugging, testing, and documenting computer programs.
Prerequisite/Corequisite: E T 182 or ENGR 130 or PHYS 1310G.
Learning Outcomes
1. Set up and use a rich programming environment for programming.
2. Employ effective use of the problem-solving process.
3. Analyze existing code.
4. Write, debug and test code given software requirements.
5. Apply testing and documentation best practices.
6. Transfer and apply programming knowledge to an Arduino-based environment.

ENGR 190. Introduction to Engineering Mathematics
4 Credits (4)
Engineering applications involving involved Math topics most heavily used in first and second-year engineering courses. Topics include engineering applications of algebra, trigonometry, vectors, complex numbers, sinusoids and signals, systems of equations and matrices, derivatives, integrals and differential equations.
Prerequisite: A grade of C- or better in MATH 1250G or higher.
Learning Outcomes
1. Ability to solve systems of linear equations by use of matrices
2. Ability to use complex numbers and periodic function to solve engineering problems
3. Ability to solve problems using various coordinate system
4. Write and Solve problems with 2-D 3D vectors
5. Write and Solve problems with derivatives
6. Write and solve problems with integrals

ENGR 198. Special Topics in Engineering
1-3 Credits
Directed individual study of topics in engineering. Written reports covering work required. May be repeated for a maximum of 6 credits. Restricted to engineering majors. Graded S/U.
Prerequisite: consent of academic dean.

ENGR 217. Manufacturing Processes
3 Credits (3)
An introduction to modern manufacturing processes and their application. Students will be introduced to manufacturing concepts such as traditional and non-traditional machining operations, tooling, material selection, thermal joining, geometric dimensioning & tolerancing, metrology, additive manufacturing, assembly and inspection, g-code, and automated manufacturing using CAM packages.
Prerequisite: A grade of C- or better in both, ENGR 110 and (MATH 1220G or higher).
Learning Outcomes
1. Identify the different manufacturing processes and their applications
2. Use, set up, and calibrate measuring tools.
3. Apply geometric tolerances to engineering drawings
4. Demonstrate basic knowledge of materials and material properties
5. Demonstrate basic knowledge of GM codes and their application
6. Proficiently use CAM packages such as SolidWorks CAM
7. Identify different tooling, their use, and manufacturing application

ENGR 217 L. Manufacturing Processes Lab
1 Credit (3P)
A hands-on application of the concepts introduced in ENGR 217. This lab will expose the students to hands-on exercises and manufacturing methods used in industry.
Corequisite: ENGR 217.
Learning Outcomes
1. Understand how a product goes from design to being manufactured
2. Gain knowledge of industry tools and technology
3. Learn how to design for manufacturing
4. Engage students in critical thinking and the design process
5. Gain an appreciation for, and skills for effective communication, teamwork, ethics
6. Increase student knowledge of Geometric Dimensioning and Tolerancing (GDT)
7. Use of other tools such as drawing software, mathematics, economics, etc. knowledge of dimensions, length, time, mass, force, temperature, electric current, energy and power, and related parameters in engineering

8. Understand industry and NMSU safety practices and apply them whenever applicable.

ENGR 230. AC Circuit Analysis
4 Credits (3+3P)
An introduction to AC circuit analysis techniques, RC/RL and RLC transients, phasors, complex power, filter response, and operational amplifiers.
Prerequisite: A grade of C- or better in both, ENGR 120 and (MATH 1440 or MATH 1521G or higher) or ENGR 190)).
Learning Outcomes
1. Apply Ohm's Law and Kirchoff's Laws to AC circuits.
2. Determine transient responses of RL/RC and RLC circuits.
3. Use phasor techniques to analyze AC circuits.
4. Compute RMS quantities and complex power.
5. Analyze and design Op-Amp circuits.
6. Design and proto-type AC circuits and measure AC voltages and currents.

ENGR 233. Engineering Mechanics I
3 Credits (3)
Engineering mechanics using vector methods. Force systems, resultants, equilibrium, distributed forces, area moments, and friction.
Prerequisite: A grade of C- or better in ENGR 190 or MATH 1521G.
Prerequisite/Corequisite: PHYS 1310G or PHYS 1230G.
Learning Outcomes
1. Have an understanding of the force systems, resultants, equilibrium, distributed forces, area moments, and friction.
2. Be able to apply the acquired knowledge to formulate, solve and interpret solutions of engineering mechanics problems.

ENGR 234. Engineering Mechanics II
3 Credits (3)
Kinetics of particles, kinematics and kinetics rigid bodies, systems of particles, energy and momentum principles, and kinetics of rigid bodies in three dimensions.
Prerequisite: A grade of C- or better in M E 236 or C E 233 or ENGR 233.
Learning Outcomes
1. Have a good understanding of the kinetics of particles, kinematics and kinetics rigid bodies, energy and momentum principles, and kinetics of rigid bodies.
2. Be able to apply the acquired knowledge to formulate, solve and interpret solutions of engineering mechanics problems

ENTR-ENTREPRENEURSHIP

ENTR 1110. Entrepreneurship
3 Credits (3)
Introduces students to the concept of entrepreneurship and to the process of business startups. May be repeated up to 3 credits.
Prerequisite: BUSA 1110.
Learning Outcomes
1. Identify the unique characteristics of an entrepreneur.
2. Identify opportunities and conduct needs analysis.
3. Develop value proposition/market fit for proposed products and services.
4. Develop an appropriate business model.
5. Identify availability of necessary resources.

ENVS-ENVIRONMENTAL SCIENCE

ENVS 1110G. Environmental Science I
4 Credits (3+2P)
Introduction to environmental science as related to the protection, remediation, and sustainability of land, air, water, and food resources. Emphasis on the use of the scientific method and critical thinking skills in understanding environmental issues.
Learning Outcomes
1. Students will learn to critically analyze cause-and-effect relationships in the environment
2. Students will integrate and synthesize knowledge and draw appropriate conclusions based on the scientific method

ENVS 2111. Environmental Engineering and Science
3 Credits (3)
Principles in environmental engineering and science: physical chemical systems and biological processes as applied to pollution control. Crosslisted with: C E 256.
Prerequisite: (C- or better grade in CHEM 1215G) and (C- or better grade in MATH 1511G or ENGR 190).
Learning Outcomes
1. To understand the nature of water quality parameters in the context of Civil Engineering and Environmental Science (Water Treatment/ Wastewater Treatment/Environmental Science).
2. To learn to apply engineering and scientific solutions to water quality problems.
3. To understand environmental regulations and their consequences on the design of pollution control systems.

ENVS 2111L. Environmental Science Laboratory
1 Credit (1)
Laboratory experiments associated with the material presented in ENVS 2111. Same as C E 256 L.
Corequisite(s): ENVS 2111.
Learning Outcomes
1. List typical analyses commonly performed to evaluate physical, chemical, and microbiological parameters used to describe water quality.
2. Follow experimental procedures listed in the class laboratory manual, or other publications such as Standards Methods, to perform common water quality analyses.
3. Evaluate, analyze, and discuss experimental results and present the conclusions in the form of a professional report

EPWS-ETMLGY/PLNT PTHLGY/WD SCI (EPWS)

EPWS 1110G. Applied Biology
3 Credits (3)
Introduction to applied biology and ecology focusing on insects, plants and pathogens in natural areas, crops and urban settings. EPWS 1110L is strongly recommended to take in the same semester. May be repeated up to 3 credits.
Learning Outcomes
1. Students will learn about the Department of Entomology Plant Pathology and Weed Science and will have the opportunity to meet the Las Cruces-based faculty in the department.
2. By the end of this course students will have gained a broad understanding of the pests in a wide range of systems, their

interactions with other organisms, and the methods available to minimize the influence of pests on target commodities.

EPWS 1110L. Applied Biology Lab
1 Credit (1)
Study of applied biology and ecology of insects, plants and pathogens in natural areas, crops, and urban settings. EPWS 1110 strongly recommended to take in the same semester. May be repeated up to 1 credits. Restricted to Las Cruces campus only.
Learning Outcomes
1. Students will learn about the Department of Entomology Plant Pathology and Weed Science and will have the opportunity to meet the Las Cruces-based faculty in the department.
2. By the end of this course students will have gained a broad understanding of the pests in a wide range of systems, their interactions with other organisms, and the methods available to minimize the influence of pests on target commodities.

EPWS 2996. Special Topics
1-4 Credits
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.
Learning Outcomes
1. Varies

FCSC-FAMILY AND CONSUMER SCIENCES

FCSC 2250. Overview of Family and Consumer Sciences Teaching
3 Credits (3)
Overview of planning and teaching skills. Supervised experiences in observing and directing the learning of secondary family and consumer sciences students. Philosophy and history of the profession.
Learning Outcomes
1. Explain the foci of FCS—past, present and future.
2. Begin to develop a professional role in FCS.
3. Formulate a personal philosophy of FCS, and of teaching.
4. Explain the teaching process.
5. Give examples of roles, responsibilities and qualities of effective and ethical teachers.
6. Assess the characteristics, backgrounds, and needs of learner audiences.
7. Explain various learning theories/principles.
8. Illustrate how various input factors influence teaching decisions.
9. Plan a researched based student-centered lesson with a learning activity in a FCS content area. 1
10. Give examples of ways to evaluate learner growth.1
11. Present a FCS content-based lesson effectively to learners using PowerPoint presentation software and a selected teaching method. 1
12. Evaluate one's own teaching and the teaching of others. 1
13. Exhibit increased confidence in one's abilities as a teacher/educator.1
14. Exhibit excitement about assuming the teacher/educator role.

FCSC 2330. Housing and Interior Design
3 Credits (3)
Investigation of types of housing and factors impacting housing decisions for families. Selection, planning, and arrangement of interior components of homes to meet the needs of the family. Restricted to Las Cruces campus only.
Learning Outcomes
1. Differentiate between different architectural designs (i.e., Cape Cod, contemporary, craftsman, ranch, southern colonial, Spanish, Victorian, pueblo, New Mexican territorial, and territorial revival) and be able to identify historical, cultural, demographic, geographical, and environmental influences on style and aesthetics.
2. Analyze the fundamentals of housing for all families and cultures and understand the role housing plays in the ecological model of human ecology.
3. Define elements of design as related to housing and interiors (i.e., color, form, line, space texture).
4. Define principles of design as related to housing and interiors (i.e., balance emphasis, harmony, proportion, unity).
5. Compare and contrast the different periods of interior design from the 20th century to the present.
6. Analyze the influence of historical and cultural factors in the development of current interior trends.
7. Select and arrange interiors that are functional and aesthetically pleasing to designated interior design situations.
8. Identify, describe and make application of textiles as related to various furniture and interior design styles.
9. Design a three-dimensional tiny house or an interior space, using all concepts learned.

FCST-FAMILY AND CHILD STUDIES

FCST 1130. Interpersonal Skills in Intimate Relationships
3 Credits (3)
Developing social skills within friendships, dating relationships, marriage, parenting, and families.
Learning Outcomes
1. To understand several theories that explain why some people have healthy interpersonal relationships while others do not.
2. To gain insight about one's self.
3. To learn and improve upon selected relationship skills that improve quality of life.
4. To learn skills that improve interpersonal relationships

FCST 2110. Infancy Through Middle Childhood in the Family
3 Credits (3)
This course discusses research and theory relevant to prenatal development and the physical, mental, and socio- emotional development of the child from birth through age 12. This developmental period will be examined across different cultures and in real world contexts. Attitudes, knowledge, and skills needed for working with young children and their families will be introduced. Restricted to Las Cruces campus only.
Learning Outcomes
1. Evaluate how genes and the environment interact to impact human development from prenatal stages through age twelve.
2. Assess the effects of environmental influences on the developing fetus.
3. Discuss the capacities of newborn development through age twelve.
4. Evaluate how individuals and couples change during the transition to parenthood.
5. Analyze the physical, cognitive, and social-emotional development of the child from birth through age twelve.

FCST 2135. Adolescent Development and the Family
3 Credits (3)

Research and theory relevant to the physical, mental, social, and emotional development of the children ages 12 to 18. Attitudes, knowledge, and skills related to working with adolescents in the family system. Observation in a variety of settings may be required.

Learning Outcomes

1. Compare adolescents of today with adolescents of the past.
2. Describe the physical, cognitive, and psychosocial development of the adolescent in the family system and evaluate individual differences in development.
3. Contrast ways in which culture impacts adolescent development.
4. Assess effective parenting strategies with adolescents.
5. Analyze the influence of family, peers, school, and work on adolescent development.

FCST 2140. Adult Development and Aging
3 Credits (3)

Research and theory related to the physical, mental, social, and emotional development of older adults. Attitudes, knowledge, and skills related to working with older adults in the family system, including normative, and nonnormative transitions.

Learning Outcomes

1. Contrast theories of adult development and aging and apply theories to adult behavior.
2. Hypothesize how physical, emotional, cognitive, and psychosocial aspects of adult development change over time.
3. Describe multicultural factors that impact attitudes toward aging and coping with aging family members.
4. Evaluate ways in which special issues (including but limited to Alzheimer's Disease, heart disease, end of life issues) impact aging.
5. Devise a conceptualization of one's own perspective in dealing with aging and aging family members.

FDMA-FILM & DIGITAL MEDIA ARTS

FDMA 1120. Desktop Publishing
3 Credits (2+2P)

This course is designed to teach introductory skills for designing and creating publications and presentations with layout software. The course will focus on graphics and typographic design, fonts, and other skills for print and web publishing.

Learning Outcomes

1. Demonstrate knowledge of fundamental features and navigation of desktop publishing software.
2. Combine text and images for effective communication.
3. Develop a balanced composition through use of color, contrast, and alignment.
4. Place images within a composition and wrap around text.
5. Produce documents with professional layout and typography skills.
6. Create attractive and effective designs.
7. Combine knowledge of typography, images, and design principles to produce professional print and web media.
8. Create or add to a professional design portfolio for future use.

FDMA 1210. Digital Video Production I
3 Credits (2+4P)

An introduction to digital video production. Students learn camera operation, lights and audio equipment. Hands-on production is completed in the studio and on location.

Learning Outcomes

1. Plan and produce a digital video project
2. Apply post-production workflow
3. Work in team and as individual to complete digital video projects.

FDMA 1220. Introduction to Digital Video Editing
3 Credits (3)

In this course, students learn the basics of the post-production process for non-linear video editing. Students work with multiple video formats and create short movies for multiple distribution platforms. Skills include media management and professional terminology. Sections on the Main Campus will be restricted to CMI students.

Learning Outcomes

1. Define concepts related to digital video editing.
2. Use non-linear video editing software for editing a short film
3. Enhance storytelling through the use of continuity, timing, cutaways, intercutting, compositing, transitioning, jump cutting, montaging and animating.
4. Use text, titles, transitions, video effects, sound effects, dialogue, and visual assets for digital video editing.

FDMA 1360. Web Design I
3 Credits (2+2P)

This course provides an introduction to web development techniques, theory, and design. Students will learn HTML, CSS application, and strategies for effective site navigation and design, along with industry standard web editing software to develop various websites. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): ARTS 1520 OR FDMA 1515.

Learning Outcomes

1. Acquire and utilize web design terminology.
2. Create basic web pages using HTML.
3. Demonstrate how to use industry-standard, web editing software.
4. Design professional pages that are easy to navigate and quick to load.
5. Develop a basic comprehension of CSS
6. Prepare and export a variety of graphics to be used online.
7. Compare and contrast designing for web media vs. print media.
8. Analyze the importance of web presence in today's business/social climate

FDMA 1410. Audio Production I
3 Credits (2+2P)

Students will learn about and apply essential tools and techniques in analog and digital audio production. Topics include acoustic science, microphones, recording and mixing techniques, analog and digital audio hardware and software, including, multi-track, computer-based recording and editing systems. Restricted to: Community Colleges only. May be repeated up to 3 credits.

Learning Outcomes

1. Apply tools and techniques in analog and digital audio production
2. Illustrate the fundamentals of acoustic science.
3. Model professional behavior used in audio recording.

FDMA 1415. Principles of Sound
3 Credits (2+2P)

The creation of a professional quality original media soundtrack is possible for relatively low production/post production cost. This class is designed to give the student and overview of creating sound for a variety

of digital media. Topics include acoustic principles, sound design, audio hardware, recording techniques; and editing, processing, and multi-track mixing, using software applications. Restricted to: Community Colleges only.
Prerequisite(s)/Corequisite(s): FDMA 1220.
Learning Outcomes
1. Record and edit wild sound effects and synced dialogue
2. Discover, upload, and edit on-linemusic, ambience and sound effect loops
3. Implement audio design theories
4. Create an aesthetic soundtrack which incorporates multiple elements and dimensions
5. Design, edit, process, mix and master a synced multi-track soundtrack
6. Demonstrate capable use of digital audio production and post-production workflow
7. Produce short audio projects which meet media industry technical standards

FDMA 1510. Introduction to 3D Animation
3 Credits (3)
This course provides an overview of 3D animation production processes. Students will be introduced to basic story development and the creation of computer-generated assets and cinematic sequences. The course will survey specialty areas of digital animation and various software and techniques applied in entertainment and information media. Students will review and critique other's animation, as well as plan and produce original animation for review by classmates and as part of a CGI demo reel.
Prerequisite(s): FDMA 2382 or FDMA 2381 or consent of instructor.
Learning Outcomes
1. Demonstrate a fundamental understanding of 3D animation history and principles.
2. Analyze animation work of other artists.
3. Appropriately utilize the various media technologies for digital 3D animation.
4. Demonstrate and apply basic techniques of digital 3D animation.
5. Demonstrate and apply basic processes of creating CGI for a narrative. 6 .Apply some basic strategies for developing and creating a story visually, and create original animations.
6. Present original animations to instructor and classmates for critique.
7. Create a CGI demo reel of work completed during the course.

FDMA 1515. Introduction to Digital Image Editing - Photoshop
3 Credits (2+2P)
In this course, students will learn how to use the tools in Adobe Photoshop to create new images and edit existing images. Tools used will include selections, layers, and adjustments, among other pixel editing tools. Basic composition and output will be emphasized in all projects. May be repeated for a maximum of 6 credits.
Learning Outcomes
1. Make and refine selections
2. Adjust color and tone in an image
3. Eliminate unwanted objects in an image
4. Apply layers to organize and create effects
5. Create brushes, styles and vector shapes
6. Prepare image for print and screen output
7. Apply masking and layers to non-destructively edit an image
8. Effectively utilize blending modes and layer styles 1
9. Apply adjustment layers 1
10. Apply design principles including typography

FDMA 1531. Evolution of Electronic Games
3 Credits (2+2P)
Focus on the evolution of video games and how they have shaped mainstream entertainment. May be repeated up to 6 credits.
Learning Outcomes
1. Analyze the historical development of video games from early arcade machines to modern consoles and mobile platforms.
2. Evaluate the impact of technological advancements on video game design, graphics, and gameplay mechanics.
3. Identify key milestones, influential games, creators, and major companies that shaped the video game industry.
4. Examine how video games have influenced and been influenced by other forms of media and popular culture.
5. Assess the social, cultural, and economic impacts of video games as they evolved into a mainstream form of entertainment.
6. Discuss current trends and predict future directions in video game development and the gaming industry.

FDMA 1535. Introduction to Illustrator
3 Credits (2+2P)
Students receive instruction on vector graphics creation using vector illustration software. The students will create professional-quality artwork for print publishing and multimedia graphics. Instruction includes creating and manipulating basic shapes, drawing with the pen tool, using various brushes, working with type and preparing graphics for web, print, and digital publication. May be repeated for a maximum of 6 credits.
Learning Outcomes
1. Apply a variety of shape blending options
2. Create and apply new gradients
3. Apply Gradient Meshes and Envelopes
4. Create symbols, brushes and vector shapes
5. Apply Pathfinder and other effects
6. Effectively utilize the pen tool to draw and edit shapes
7. Effectively utilize Vector tools
8. Prepare image for print and screen output
9. Apply clipping masks 1
10. Prepare image for use in another program 1
11. Apply design principles including typography

FDMA 1536. Advanced Computer Illustration
3 Credits (2+2P)
Advanced techniques in 2D vector drawing and fundamentals of 3D illustration for use in print, web, and multimedia applications. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1535.
Learning Outcomes
1. Demonstrate proficiency in using advanced features of Illustrator.
2. Identify and create different illustrator/art styles using advanced techniques for shading, perspective, light, reflection.
3. Produce high quality digital imagery incorporating basic principles of composition.
4. Create a series of illustrations demonstrating a design competency in layout foundation and illustrative moods or client/project based solutions.

5. Create high quality portfolio pieces that demonstrate an advanced knowledge of design, composition and Illustrator techniques.
6. The students will produce finished printed portfolio pieces demonstrating a comprehensive knowledge of typographical, design, illustrative and layout skills

FDMA 1545. Introduction to Photography & Digital Imaging
3 Credits (2+2P)
This course is a study of the principles and techniques of photography using digital equipment, and discusses how digital cameras, imaging editing, and technology have changed the world of photography. Students will learn about studies in resolution, lighting, software, editing, printing, and web applications. They will gain fundamental knowledge in the rapidly expanding technology of photography and imaging, and be able to incorporate the knowledge into all areas of digital graphics.
Learning Outcomes
1. Exhibit proper usage of the principles and techniques of photography using digital equipment.
2. Utilize features and techniques of a digital camera with proper use of lenses, settings, and flashes.
3. Create photo collections that represent proper use of technical skills.
4. Demonstrate proficiency in planning, lighting, capturing, and distributing photographic projects which show ability to create photographs artistically and to tell a story or express an idea.
5. Utilize appropriate software to create original projects.
6. Demonstrate knowledge in post-production of photos as to sizing, sampling, resolution, and exporting.
7. Produce original projects which respect intellectual property of others.
8. Create a digital portfolio of work completed during the course.

FDMA 1555. Introduction to the Creative Media Industry
3 Credits (3)
This class is an introductory course for students who are beginning their understanding of Media and how it affects them and our society. It offers a broad-stroked view of the entire industry including Marketing, Production, History, Jobs, Design, Architecture, New Media Literacy, and industry standards. Students will listen to experts in the field, get involved in open discussions about the industry and use new information to complete hands-on individual & group assignments.
Learning Outcomes
1. The basic philosophies and methods that guide people working in the Creative Media industry.
2. Knowledge of a wide variety of different jobs, qualifications and paradigms used in the industry.
3. Marketing, Production, Budgets, History, New Media, Inspiration and other aspects of the industry.
4. An accurate view of the Creative Media field.

FDMA 1630. Principles of Design
3 Credits (2+2P)
This course will explore how we see and use visuals to communicate information. Students will develop critical 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, digital media, and web design. The business of design will also be covered with emphasis on client relations and networking Restricted to: Community Colleges only. Prerequisite(s): FDMA 1535
Learning Outcomes
1. Practice Creativity
2. Plan a Design project
3. Demonstrate the effective use of Emphasis Contrast
4. Demonstrate the effective use of Balance and Alignment
5. Demonstrate the effective use of Harmony and Repetition
6. Demonstrate the effective use of Flow, Movement, and Rhythm
7. Demonstrate the effective use of Simplicity and Economy
8. Effectively apply basic color theory
9. Demonstrate the effective use of Typography principles 1
10. Apply design principles to Screen Print Projects 1
11. Develop client relations

FDMA 1710. 2D Animation
3 Credits (2+2P)
Concepts and techniques in storyboarding and creating interactive 2D animations for web, multimedia and video.
Prerequisite(s): FDMA 1535.
Learning Outcomes
1. Be able to correctly storyboard an animation scene
2. Define and demonstrate basic animation terminology and principles.
3. Produce a complete hand drawn animation using industry standard software and processes.

FDMA 1715. 2-D Compositing & FX
3 Credits (3)
This course will familiarize students with the process of compositing and creating special effects for animation using industry standard software. Students will learn how to assemble an animated scene and use advanced 3D lighting, spacing, and digital effects to achieve a dynamic, professionally rendered look.
Prerequisite: FDMA 2710.
Learning Outcomes
1. The goal of this class is for students to learn how to use advanced compositing and effects tools in order to achieve a more dynamic and professional visual look for their animations or motion graphics.
2. By the end of the class, you should be proficient animation compositors that can assemble and synthesize a basic animation into a rendered, visually sophisticated piece.
3. Students who pass this class will have a basic to intermediate knowledge of Adobe After Effects

FDMA 1720. 3-D Character Design
3 Credits (2+4P)
Focus on designing a character and then taking that design and building it in 3D using intermediate modeling techniques. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1510 or FDMA 2530.
Learning Outcomes
1. Translate concept art into a low and high resolution 3D model using proper modeling techniques
2. Use Polygon modeling techniques to create a 3D character
3. Layout UVs and utilize Adobe Photoshop to texture a model.

FDMA 1996. Selected Topics
1-4 Credits (1-4)
Specific titles to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits. Restricted to Community Colleges campuses only.

Learning Outcomes

1. Varies

FDMA 2120. Film Crew I/ Introduction to Film and Media Workflow
9 Credits (9)

An introduction to the film industry. This class teaches film production processes, film crew hierarchy, film production set-safety and etiquette and provides hands-on training in industry standard film production equipment. Students complete the semester by participating as a below-the-line crew member on a short film. Restricted to: Community Colleges only.

Learning Outcomes

1. Explain film production processes; Interpret call sheets and deal memos, model basic on-set protocols and professional behavior
2. Assist producers and directors in completing a professional film project
3. Work effectively in production crew positions in a group environment.
4. Recognize and articulate specific film production structure, from original concept to final release

FDMA 2125. Film Crew II
9 Credits (9)

The second course designed to train students to become working members of film crews. It will be taught by working film professionals. Content will be lecture and hands-on. Students complete the semester by working as part of an actual film crew as below-the-line and above-the-line crew members. Restricted to: Community Colleges only.

Prerequisite(s): FDMA 2120.

Learning Outcomes

1. Understand film production processes used to produce a film
2. Manage craft area job functions
3. Model on-set protocols and professional behaviors
4. Assist producers and directors in completing a professional film project

FDMA 2144. Pre-production Management
3 Credits (2+2P)

Pre-production planning paperwork breakdowns, budgeting, and scheduling; taking a project from start to finish from a producers standpoint.

Prerequisite(s): FDMA 1210.

Learning Outcomes

1. Demonstrate proficiency in various areas of pre-production
2. Create a script breakdown, budget, production and post-production schedule, and management plan and timeline that are technically sound.
3. Use features of pre-production and project management software, to foresee and plan the pre-production, production, and post-production stages of a project
4. Demonstrate understanding of the processes of supporting and managing a project, through the pre-production, production, and post-production stages to completion
5. Work collaboratively and communicate effectively with the pre-production and management teams to produce the desired finished project.

FDMA 2150. Desktop Publishing II
3 Credits (2+2P)

This class will enhance and build upon student layout/design skills developed in the Introduction to Desktop Publishing course, incorporating intermediate to advanced concepts in typography and layout design. Upon completion of this course, students will be able to use page layout software to prepare a variety of documents for presentation and critique, including newsletters, instructional flyers, and other complex design/typographic pieces May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): FDMA 1120.

Learning Outcomes

1. Build upon knowledge of design and design terminology.
2. Exhibit intermediate to advanced design principles using type, layout, and color.
3. Demonstrate skill in intermediate to advanced concepts and features of page layout software.
4. Exhibit knowledge of styles, tables, images and clipping paths and interactive documents as well as printing preparations and procedures.
5. Create layouts for print, web, and other media that demonstrate an intermediate to advanced knowledge in typography and layout design.
6. Format and produce newsletters and instructional flyers, as well as larger, complex projects such as packaging mechanicals, multiple master page documents, and books.
7. Assess works of graphic design for quality and effectiveness.
8. Utilize produced material to create or add to a design portfolio for future use.

FDMA 2210. Digital Video Production II
3 Credits (2+2P)

Advanced techniques of the tools and application of professional film making. May be repeated for a maximum of 6 credits.

Prerequisite: FDMA 1210.

Learning Outcomes

1. Demonstrate the ability to produce and manage a video project: Produce a script, storyboard, and production schedule for a video project designed for a specific audience.
2. Demonstrate proficiency in producing quality digital video footage and audio tracks: Shoot to the script and storyboard using a variety of camera and lighting techniques; Produce a finished complex sound track including narration, music, and sound effect.
3. Demonstrate ability to produce and edit a professional quality video project: Integrate all production aspects of the project including video, audio, graphics, titles, transitions, and effects. Guide the project through the final production stages.
4. Develop competency in digital video distribution using various formats and techniques: Distribute project in various formats which could include DVD and web posting.

FDMA 2241. Advanced Camera Techniques
3 Credits (2+2P)

Professional camera techniques and training for electronic news gathering and studio filmmaking. Utilizes high-end handheld shooting techniques, cranes, dollies, and steadicam training. May be repeated for a maximum of 6 credits.

Prerequisite(s): FDMA 1210.

Learning Outcomes

1. Students knowledge of high-end video camera operation and features.
2. Students must know all the working features of the video production equipment being used during the course in order to achieve the desired footage as required by the instructor.
3. Demonstrate proficiency in producing quality digital video footage.

4. Individuals must acquire the knowledge of different shooting styles in different productions situations and use those acquired skills to produce the appropriate video footage.
5. Using the proper lighting in different on location shooting styles.
6. Skill of each individual utilizing the usage of high-end camera equipment such as dollies, cranes and Steadicam.
7. Each individual must work as a team player to create professional style video footage.

FDMA 2285. Digital Video Production and Editing II
3 Credits (2+2P)
Advanced features of digital video, audio/music, and titling production software. Included are color correction, vector scopes, motion effects, and advanced editing techniques used by filmmakers. Restricted to Community Colleges campuses only. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1220.
Learning Outcomes
1. intermediate to advanced video editing create short films and training videos, create TV quality commercials, direct a news broadcast, and work as a mentor to students on digital media equipment

FDMA 2287. Digital Design Studio
1-3 Credits
A design studio environment in which students obtain real-world experience while providing service to college and non-profit associations with faculty supervision using a variety of media. Can be used with permission to fulfill cooperative requirement. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1630 or ARTS 1712.
Learning Outcomes
1. Demonstrate competency in the use of InDesign software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio.

FDMA 2310. History of Cinema I
3 Credits (3)
This course surveys the history of cinema - investigating the process by which the original “cinema of attractions” evolved into a globally dominant form of visual storytelling. We will explore the development of cinema both as an art form and as an industry, and consider the technological, economic, cultural factors, as well as many key international movements that helped shape it. Restricted to: G-CMI, DFM, ANVE majors.
Learning Outcomes
1. Gain a greater appreciation for the history of cinema
2. Develop knowledge of the key eras in the history of U.S. cinema
3. Learn the characteristics of major movements in international cinema
4. Understand the various elements that go into telling a story in cinema: screenplay, narrative devices, director, producer, talent, production design, cinematography, editing, sound design
5. Learn how major genres in U.S. cinema have evolved in the past 100+ years
6. Gain a basic understanding of the operations and organization of the Hollywood film industry, from the studio system until today
7. Gain an awareness of the shifts inthe film industry that present new opportunities for independent filmmakers
8. Understand the importance of learning about the history of cinema to the process of becoming a filmmaker
9. Strengthen public speaking skills

FDMA 2311. History of Animation
3 Credits (3)
Explores the history of Animation as an art form and industry through readings, screenings, lecture and periodic guest speakers. Restricted to: G-CMI, ANVE, DFM majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. To expand your knowledge of the history of animation and its evolution to the modern day.
2. To expand your ability to view animation critically and to understand its early connections to cartooning as well as its ongoing cultural presence and relevance.
3. To expand your comfort with accessing information and completing assignments both online and independently. Canvas will be utilized for many of our readings and for some response assignments.

FDMA 2312. History of Media Design
3 Credits (3)
An introduction to the principles of design history and theory within a chronological framework of historical and emerging media.
Learning Outcomes
1. Introduction to visual communication: Defines design media; Discuss universal design principles and strengthen student basic design skills.
2. Historical technological development and design: Prehistoric communication; Beginnings of alphabet and written language; Movable type and the printing press; Industrial revolution; Digital Age; Designers and Trends; Personalities and their influence and contributions
3. Identify design styles and discuss the relevance of how design influences: Idea generation; Trend sources; Influences or appropriation; Propaganda and advertising.

FDMA 2325. Advanced Photoshop
3 Credits (2+2P)
This course expands on the Photoshop skill set to develop proficiency with selections, masking, channels, filters, color correction, painting tools, vector integration, video, special effects, and compositing techniques. The focus is 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 and students develop work suitable for portfolios. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1515.
Learning Outcomes
1. Create effects using advanced blending techniques
2. Effectively utilize advanced masking techniques
3. Refine Selections with advanced techniques
4. Assess Adjust color in an image
5. Utilize advanced photo enhancement techniques
6. Alter images using Photoshop painting techniques
7. Create brush presets
8. Create vector elements with paths
9. Add manipulate type on a path 1

10. Create advanced special effects 1
11. Apply vanishing point warping 1
12. Create a video clip 1
13. Apply color adjustments to video

FDMA 2326. Digital Photography and Imaging II
3 Credits (2+2P)
Provide understanding and skills needed for advanced digital capture, editing, optimizing and manipulating photographic images for print, web and multimedia applications. The course will prepare students to make more advanced technical and more refined aesthetic decisions relative to specific photographic applications. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus.
Prerequisite(s): FDMA 1545.
Learning Outcomes
1. Apply proper exposure techniques.
2. Practice effective composition techniques.
3. Demonstrate knowledge of working with Camera RAW files.
4. Demonstrate proper image adjustment and correction techniques.
5. Successfully apply the basics of HDR digital photography.
6. Apply techniques for modifying light.

FDMA 2360. Web Design II
3 Credits (2+2P)
In this course, students will refine their skills in coding and web graphic design as well as be introduced to methods in constructing sites that adhere to the standards of responsive web design. Students will expand their knowledge of HTML and CSS using a code editor, and they will both analyze existing websites and also construct an interactive website. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1360.
Learning Outcomes
1. Plan and produce web design mockups.
2. Demonstrate a proficiency in HTML/CSS coding.
3. Utilize basic web scripts.
4. Integrate animation into web design.
5. Create fully functional websites using one or more web editors.
6. Make a website “live.”
7. Evaluate web designs for aesthetics and functionality.
8. Demonstrate the utilization of responsive design.

FDMA 2365. Web Design for Small Business
3 Credits (2+2P)
Technology and techniques for designing and building a web presence for small business. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): FDMA 1360.
Learning Outcomes
1. Learning advanced tools and techniques for creating and maintaining complex Business web sites. We will be using CSS, PHP, HTML, Photoshop, and Wordpress.
2. design a complete and fully functional online web business.
3. understand and develop a plan to better manage a web store/ business.
4. review basic design guidelines in preparing a variety of web applications for business.
5. develop technical skills in using various web based solutions.
6. reinforce your knowledge of web design software.
7. introduce alternate sources of data, communication and financial solutions.

FDMA 2381. Storyboarding
3 Credits (3)
Examines effective writing principles to create storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Further, the purpose of this course is to introduce students to the principles of visual storytelling—in film--through the use of the storyboard. In other words, to show how storyboards are critical "architectural component" of the filmmaking process, used as a blueprint (or guide) to communicate the complex elemnts of a film story. Crosslisted with: ENGL 2381. Restricted to: DFM,ANVE, G-CMI majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Learn to conceive and draw original images.
2. Learn to use images to tell a story.
3. Design, develop, and order images (shots) into storyboarded scenes.
4. Understand how storyboarded sequences are a tool in the process of filmmaking.
5. Understand how the storyboard image is translated from the written page.
6. Build scenes from the scripted sequences into a storyboard.

FDMA 2382. Principles of Story Across the Media
3 Credits (3)
The purpose of this course is to help students understand the basic elements of narrative structure (e.g. character, dramatic conflict, theme, etc.) and how these elements may be used effectively in media expression. Crosslisted with: ENGL 2382. Restricted to: G-CMI, DFM, ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Identify the elements of storytelling in scripted text or improvised performance
2. Understand how these elements work together across different media
3. Apply these elements of storytelling in original work
4. Appreciate and master these elements for independent or collaborative work

FDMA 2410. Audio Production II
3 Credits (2+2P)
Students will use skills developed in the Audio Production I course to produce audio projects utilizing a variety of analog and digital audio hardware and software, including continued use of multi-track, computer-based recording and editing systems, as well as exploring more advanced audio techniques and concepts. Restricted to: Community Colleges only. May be repeated up to 6 credits.
Prerequisite: FDMA 1410.
Learning Outcomes
1. Apply analog and digital audio hardware and software in audio recording.
2. Apply common professional set-up practices of audio production facilities.
3. Produce audio projects, sync sound recordings, and audio dialogue replacement (ADR) demonstrating technical expertise.
4. Perform an audio mix and master for a final professional product.
5. Analyze and compare existing audio productions for quality.

FDMA 2510. Introduction to Sound Design for Film
3 Credits (3)
This couse is an introduction to the principles, techniques and applications of sound design and film scoring. Students learn how sound affects storytelling in a film, examine the role of sound from the script to screen, and the professional process of creating a soundtrack. Students learn how to use sound equipment in a production environment and execute basic techniques used to develop a soundtrack. Crosslisted with: FDMA 1415.
Prerequisite(s)/Corequisite(s): FDMA 2382. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Compare the properties and propagation of sound and importance of sound to the storytelling aspect of filmmaking
2. Learn the process of designing a soundtrack for film and recording live audio dialogue for use in post-production editing.
3. Learn methods of capturing sound including live audio recording, dialogue recording, foley, orchestration and audio dialogue replacement
4. Design a soundtrack for motion media project.

FDMA 2520. Introduction to Cinematography
3 Credits (3)
The Director of Photography (or Cinematographer), in close collaboration with the Director and Production Designer, helps determine the look of a film. This course is designed to intorduce students to the technical and aesthetic fundamentals of creating, developing, and collaborating on the visual elements of storytelling, using camera framing, lensing, and lighting fundamentals such as shadows, light and color. May be repeated up to 6 credits. only. Prerequisite(s)/Corequisite(s): FDMA 2382 (Las Cruces Campus) or FDMA 1210 (Community College Campus(es)
Learning Outcomes
1. Define and explain the fundamental concepts of cinematography, such as exposure, lighting solutions, and color temperature.
2. Understand how cinematography brings the Director's vision to reality.
3. Demonstrate proficiency in plotting and executing interior and exterior lighting solutions.

FDMA 2530. Introduction to 3D Modeling
3 Credits (3)
This course will introduce 3D modeling methods and current practices. Students will learn preliminary and detailed modeling techniques using industry standard software. Methods will emphasize formal and functional aspects of modeling as they apply to mechanical, organic, and sculpted topology for application in animation, games, and information media. May be repeated for a maximum of 6 credits.
Learning Outcomes
1. Identify the role of a 3D modeler in a production pipeline within various fields of digital animation.
2. Apply techniques in modeling mechanical and organic objects.
3. Utilize tools available in professional 3D modeling software.
4. Create simple animations and renders.
5. Present original animations to instructor and classmates for critique.
6. Create a demo reel of work completed during the course.

FDMA 2535. Digital Illustration Techniques
3 Credits (3)
Introductory course examining traditional artistic expressions and translating visual art experiences into a digital art medium to enhance visual storytelling. Students acquire basic principles of drawing and painting through hands-on experience manipulating tonal value, composition, form development, light and shadow, color theory, rendering realism, and graphic design. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. Be familiar with the CMI computer system, facilities, equipment and policies.
2. Appropriately utilize the various media technologies available at CMI for digital illustration.
3. Understand the different roles and areas of digital illustration.
4. Understand and apply some basic techniques of digital illustration.
5. Understand and apply some basic processes of creating pleasing images based on knowledge of traditional art principles.
6. Begin to apply some basic strategies for developing and creating aesthetically pleasing images.

FDMA 2570. Creative Media Studio
3 Credits (2+2P)
A studio environment where students specialize in creating film-festival quality and portfolio-ready projects under the supervision of faculty. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 1210 and FDMA 1220 or FDMA 2530.
Learning Outcomes
1. Students will work together to create portfolio-quality work in a studio environment.
2. Through classroom discussion and reporting the students will collaborate to produce a professional quality "vertical slice" game concept within a defined timeline and financial budget

FDMA 2710. Beginning 2-D Animation
3 Credits (3)
Students will learn the basics of digital 2D animation by working through a variety of exercises, creating an original storyboard, and animating five or more shots utilizing industry standard software. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Learning Outcomes
1. The student will demonstrate an overall knowledge of computers as a tool of the animation artist and be able to produce simple animations using the techniques learned in class.
2. Use major software tools with ease
3. Manage time lines through key frames
4. Build storyboards
5. Demonstrate knowledge of 2-D and animation terminology
6. Produce actions, set environments and constraints for 2-D animation
7. Render full animation.

FDMA 2715. Special Effects
3 Credits (2+4P)
Creating advanced virtual special effects for both rigid and soft bodies. Using MEL, dynamic principles, mixing nodes, and advanced particle systems. How to drive particles over surfaces, add texture to flow, create surface tensions, and use collision events to drive texture. Study of integrating computer-generated images with real-life video and audio.
Prerequisite(s): FDMA 2530 or FDMA 2765.

FDMA 2720. 3D Animation
3 Credits (3)
Overview of the essentials and principles of 3D animation; creative methods for using industry standard tools to produce the illusion of movement for storytelling and creating 3D effects. Topics include,

keyframe and curve animation, kinematics, cycle animation, camera animation, deformers, dynamics and constraints.
Prerequisite: FDMA 1510, FDMA 2710 or consent of instructor.
Learning Outcomes

1. Clearly describe the role of an animator in cinema, gaming and related fields.
2. Recognize leading animators and their methods.
3. Demonstrate knowledge of advances in contemporary animation.
4. Utilize current industry standard animation tools.
5. Apply fundamental animation processes and techniques

FDMA 2725. Rigging for 3D Animation
3 Credits (3)
This course will introduce principles and practices of current 3D animation rigging. Students will develop fundamental methods necessary to create character rigs. Students will learn aesthetic, technical, and optimization concepts as they apply to organic and mechanical designs. Topics will include: hierarchies, constraints, deformation rigging, skeleton creation, skinning, forward and inverse kinematics, controls, body and facial rigging. Restricted to: DFM, ANVE majors.
Prerequisite(s): FDMA 1510.
Learning Outcomes

1. Understand what Rigging is and the role it plays in the world of cinema and video games.
2. Be familiar with industry professionals and their techniques and approaches to rigging.
3. Understand and be able to apply the fundamentals of rigging to industry standard applications.
4. Demonstrate ability to rig basic to intermediate machines, bipeds and quadrapeds

FDMA 2730. Advanced Character Animation
3 Credits (2+2P)
Focus on complex rigging techniques as well as utilizing advanced animation functions to blend multiple animations into complex animations. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.
Prerequisite(s): FDMA 2530.
Learning Outcomes

1. Create skeletal riggings for use with a 3D model
2. Attach riggings to a 3D model using Smooth and rigid binding and refine the bindings so that they are properly weighted
3. Animate a 3D model using skeletal and vertex animation techniques

FDMA 2745. Light, Shade, Render
3 Credits (3)
This course will explore the theory and practice of 3D lighting and rendering methodologies. Techniques covered will implement cameras, lighting sources, textures, surface-mapping and algorithmic rendering to produce stylized and photo realistic images. Topics covered will include direct and indirect lighting, shaders that simulate physical substances and effects, rendering multiple passes and simulating physical lens effects. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
Prerequisite: FDMA 1510 OR FDMA 2530, or Consent of Instructor.
Learning Outcomes

1. Understand the role of lighting and surfacing to tell a story.
2. Be familiar with leading lighting artist and their approaches.
3. Utilize the software implemented in the entertainment industry.
4. Understand and apply fundamental lighting and rendering techniques.
5. Demonstrate ability to create successfully rendered scenes from concept through production.

FDMA 2750. Digital Sculpting
3 Credits (3)
Introduce students to the 3D Sculpting programs which are the industry standard sculpting programs. Students will learn how to create complex high polygon sculpts and normal maps and transfer the models into 3D studio Max and Autodesk Maya. May be repeated up to 6 credits. Restricted to: Community Colleges only.
Prerequisite(s): FDMA 2530.
Learning Outcomes

1. Demonstrate communication skills through written critiques and explanations
2. Students will demonstrate visual communication skills through critiques, written explanations, and storyboarding
3. Demonstrate a working knowledge of Zbrush's interface
4. Demonstrate a working knowledge of Zpheres and how they are best used to create sculpts
5. Demonstrate a working knowledge of painting a mesh using Spotlight
6. Demonstrate a working knowledge of retopologizing and exporting the mesh
7. Demonstrate a working knowledge of integrating the full Zbrush pipeline into Unity and Unreal

FDMA 2755. Drawing for Animation
3 Credits (3)
Introductory study of the human and animal form in relation to animation. Students learn fundamentals and exaggeration of the figure, as related to proportion, rhythm, mechanics, and motion. Areas of focus are: basic form, proportion, shape, contour, gesture, anatomy, portraiture, perspective, clothing effects and drawing from observation. Restricted to: CMT,DFM,ANVE majors.
Learning Outcomes

1. Students will have an opportunity to gain hands on experience using industry standard state of the art animation software.
2. Understand what the basics of drawing the human form.
3. Have a general understanding of human anatomy as needed for the artist.
4. Be able to design the human form from imagination.

FDMA 2770. Critical Game Studies
3 Credits (2+2P)
Focus on creating a complete design document utilizing techniques and standards used in the industry today. May be repeated up to 6 credits.
Learning Outcomes

1. Develop a comprehensive game design document that adheres to industry standards, incorporating elements such as gameplay mechanics, narrative structure, and user interface design.
2. Critically analyze existing game design documents to identify strengths, weaknesses, and areas for improvement.
3. Apply advanced game design techniques to create innovative and engaging game concepts.
4. Evaluate the ethical and cultural implications of game design choices and their impact on diverse audiences.
5. Collaborate effectively in a team setting to produce a cohesive and well-documented game design project.

6. Present and defend game design concepts and documents to peers and industry professionals, demonstrating clear communication and critical thinking skills.

FDMA 2775. Game Tools and Techniques
3 Credits (2+2P)
Focus on the different engines and gaming technologies that power the games of today. May be repeated for a maximum of 6 credits.
Prerequisite(s): FDMA 2770.
Learning Outcomes
1. Students will develop rapid prototyping techniques.
2. Through classroom exercises the students will gain competency in industry-standard game creation engines and tools, and learn to work together in groups to create rapid prototypes.
3. This includes creating art, sound and music, and creating basic scripts within an engine.

FDMA 2785. Level Design Concepts
3 Credits (2+2P)
Focus on the design and creation of video game levels. Dealing with the challenges and pitfalls of different video game genres. May be repeated for a maximum of 6 credits. Prerequisite(s): FDMA 2770
Learning Outcomes
1. Students will develop level design skills.
2. Through classroom exercises the students will gain a comfortable competency with designing levels both on paper and digitally.
3. This includes creating first person shooter levels, third person levels, multiplayer level design, and more.

FDMA 2993. Workshops (Advanced Photography)
1 Credit (1)
This is a series of 1-credit workshops offering specialized and intense advanced skill training and upgrading applications of photography for commercial purposes and training in photographic skills and styles presented by a variety of professional lecturers. May be repeated up to 7 credits. Restricted to Community Colleges only.
Prerequisite(s): FDMA 1545.
Learning Outcomes
1. Varies

FDMA 2994. Portfolio Design & Development
1-3 Credits
Personalized design and creation of the student's professional portfolio including hard-copy, demo reel, and online. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Varies

FDMA 2995. Film Crew Cooperative Experience
3-6 Credits (3-6)
Industry production experience in specific craft areas for film crew technicians who have successfully completed two semesters of FTTP. Restricted to: Dona Ana campus, Carlsbad campus.
Prerequisite(s): FDMA 2125.
Learning Outcomes
1. Varies

FDMA 2996. Special Topics
1-4 Credits
Specific topics to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits.
Learning Outcomes
1. Varies

FDMA 2997. Independent Study
1-3 Credits
Individual studies directed by consenting faculty with prior approval of department head. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): Minimum GPA of 3.0 and sophomore standing.
Learning Outcomes
1. Varies

FDMA 2998. Internship
1-3 Credits
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 9 credits. Consent of Instructor required. Graded: S/U Grading (S/U, Audit). Restricted to Community Colleges campuses only. Consent of instructor required.
Learning Outcomes
1. Varies

FIRE-FIRE INVESTIGATION (FIRE)

FIRE 102. Fire Fighter I and II
12 Credits (12)
This course will train the student as outlined in NFPA 1001, Fire Fighter Professional Qualifications. Firefighter I & II Certification issued through the New Mexico Firefighter's Training Academy (NMFTA) upon successful completion [International Fire Service Accreditation Congress (IFSAC) & Pro Board accredited]. Consent of Instructor required.
Prerequisite/Corequisite: FIRE 115, FIRE 252, OEEM 103. Restricted to Dona Ana campus only.
Learning Outcomes
1. Describe basic fire department organizational structure and operating procedures.
2. Recognize probable fire behaviors and how to manage them appropriately.
3. Identify and manage hazardous materials.
4. Identify characteristics of building construction; recognize signs of building collapse.
5. Demonstrate the safe use, cleaning, refilling, inspecting, and storing of SCBA bottles.
6. Identify and properly use portable fire extinguishers.
7. Identify and properly tie knots used in the fire service; use and maintain various types of rope used in the fire service.
8. Conduct search and rescue drills as a member of Fire Company.
9. Identify and appropriately use techniques for forcible entry tools. 1
10. Identify and demonstrate knowledge and techniques used with fire service ground and aerial ladders. 1
11. Apply ventilation practices to effectively ventilate buildings. 1
12. Learning fundamentals of water supply and securing water sources. 1
13. Demonstrate coupling, loading, and rolling fire hose. 1
14. Demonstrate hydrant connections using various lays and connections. 1
15. Identify and operate nozzles and smooth bore tips for fire streams. 1
16. Become familiar with strategies and tactics in fire extinguishment. 1

17. Become familiar with use and operation of fire sprinklers. 1
18. Perform salvage and overhaul operations. 1
19. Identify and use various fire service communications systems. 2
20. Define the types of special rescues encountered by fire fighters. 2
21. Describe the steps of a special rescue. 2
22. Describe the general procedures at a special rescue scene. 2
23. Describe how to safely approach and assist at a vehicle or machinery rescue incident. 2
24. Describe how to safely approach and assist at a confined space rescue incident. 2
25. Describe how to safely approach and assist at a rope rescue incident.

FIRE 112. Principles of Emergency Services
3 Credits (3)
This course provides an overview to fire protection and emergency services including career opportunities in fire protection and related fields. The organization and function of public and private fire protection services is studied including how fire departments fit as part of local government. An overview of laws and regulations affecting the fire service is explored along with specific fire protection functions and responsibilities including basic fire chemistry and physics, introduction to fire strategy and tactics and life safety initiatives.
Learning Outcomes
1. Illustrate and explain the history and culture of the fire service.
2. Differentiate between fire service training and education and explain the value of higher education to the professionalization of the fire service.
3. List and describe the major organizations that provide emergency response service and illustrate how they interrelate.
4. Identify fire protection and emergency service careers in both the public and private sectors.
5. Define the role of national, state, and local support organizations in fire and emergency services.
6. Discuss and describe the scope, purpose, and organizational structure of fire and emergency services.
7. Describe the common types of fire and emergency service facilities, equipment, and apparatus.
8. Compare and contrast effective management concepts for various emergency situations.
9. Identify and explain the components of fire prevention including code enforcement, public information, and public and private fire protection systems. 1
10. Recognize the components of career preparation and goal setting. 1
11. Describe the importance of wellness and fitness as it relates to emergency services.

FIRE 114. Fire Behavior and Combustion
3 Credits (3)
This course explores the theories and fundamentals of how and why fires start, spread, and are controlled. Restricted to: Community colleges only.
Learning Outcomes
1. Identify physical properties or the three states of matter.
2. Categorize the components of fire.
3. Explain the physical and chemical properties of fire.
4. Describe and apply the process of burning.
5. Define and use basic terms and concepts associated with the chemistry and dynamics of fire.
6. Discuss various materials and their relationship to fires as fuel.
7. Demonstrate knowledge of the characteristics of water as a fire suppression agent.
8. Explain types of suppression agents and strategies.
9. Compare and contrast differing methods and techniques of fire extinguishments.

FIRE 115. Hazardous Materials Awareness and Operations
3 Credits (3)
This course will train the student to the Hazardous Materials 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. Hazardous Materials Awareness and Operations certification issued through the New Mexico Firefighter's Training Academy upon successful completion (IFSAC accredited).
Learning Outcomes
1. Identify the definition of hazardous materials (or dangerous goods, in Canada) and WMD.
2. Identify typical container shapes that can indicate hazardous materials/WMD.
3. Identify the UN/DOT hazard classes and divisions of hazardous materials and identify common examples of materials in each hazard class or division.
4. Identify the difference between hazardous materials/WMD incidents and other incidents.
5. Identify typical occupancies and locations in the community where hazardous materials/WMD are manufactured, transported, stored, used, or disposed of.
6. Identify facility and transportation markings and colors that indicate hazardous materials/WMD.
7. Identify sources of information for determining the correct mass decontamination procedures and identify how to access those resources in a hazardous material/WMD incident.
8. Identify the supplies and equipment required to set up and implement technical decontamination operations.
9. Identify procedures, equipment, and safety precautions for communicating with crowds and crowd management techniques that can be used at incidents where a large number of people might potentially be contaminated. 1
10. Describe products potentially encountered in the incident associated with WMD suspicious letter, package, illicit laboratory, WMD agent and environmental crimes. 1
11. Describe the procedures for maintaining the evidentiary integrity of any item removed from the crime scene. 1
12. Select the personal protective equipment required to support evidence preservation and sampling at hazardous materials/WMD incidents based upon local procedures. 1
13. Select the personal protective equipment required to support victim rescue and recovery at hazardous materials/WMD incidents based on local procedures.

FIRE 120. Fire Protection Hydraulics and Water Supply
3 Credits (3)
This course will train students on skill requirements for becoming a safe and effective fire apparatus driver/operator. The focus will be on pump operation, construction, testing, and mathematical calculation required for effective pump operation and fire control. Responsibilities of the driver/operator will be taught and assessed consistent with applicable NFPA standards and the New Mexico Firefighters' Training Academy (NMFTA) guidelines. Students who meet all course requirements

will be eligible for International Fire Service Accreditation Congress (IFSAC) certification through the NMFTA. Consent of Instructor required. Restricted to Community Colleges campuses.
Prerequisite/Corequisite: FIRE 128.
Learning Outcomes

1. Define and explain hydraulic applications within the fire service.
2. Analyze the chemical and physical properties of water including latent heat and specific heat.
3. Examine the use of water as an extinguishing agent and how it relates to BUT's absorbed and generated steam.
4. Calculate pressure, force an area using hydraulic formulas.
5. Explain the six principles of pressure as they apply to water.
6. Discuss the use of basic fireground formulas to estimate effective pump operations.
7. Explain and apply the formulas used by the fire service, determining: Gallons per minute, nozzle pressure, friction loss, and pump discharge pressure.
8. Identify the pumps used by the fire service and demonstrate their operations.
9. Discuss the importance of understanding pump operating principles and construction. 1
10. Analyze the laws of physics that permit drafting operations. 1
11. Explain and apply the formulas used by the fire service for determining: vertical and horizontal range of fire streams, nozzle reaction, back pressure, and relay operations. 1
12. Identify the source of water used for firefighting. 1
13. Evaluate other fire ground formulas used for the proper operation of sprinkler systems, standpipes, and hydrants. 1
14. List and discuss the role of hose, nozzles, and appliances used during pump operations. 1
15. Distinguish among types of foam used in the fire service. 1
16. Identify foam application techniques. 1
17. Install and operate an inline foam eductor. 1
18. Evaluate the relationship of flow, pressure, shape, and nozzle reaction in the design and operation of a nozzle.

FIRE 126. Fire Prevention
3 Credits (3)
This course will educate students about the principles and techniques of fire prevention and life-safety inspection and code compliance in accordance to NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plan Examiner, Level I. Students who meet all course requirements will be eligible for International Fire Service Accreditation Congress (IFSAC) certification through the New Mexico Firefighters' Training Academy (NMFTA). Restricted to Community Colleges campuses only.
Learning Outcomes

1. Define the national fire problem and the role of fire prevention.
2. Identify and describe fire prevention organizations and associations.
3. Define laws, rules, regulations, and codes and identify those relevant to fire prevention of the authority having jurisdiction.
4. Define the functions of a fire prevention bureau.
5. Describe inspection practices and procedures.
6. Identify and describe the standards for professional qualifications for Fire Marshal, Plan examine, Fire Inspector, Fire and Life Safety Educator, and Fire Investigator.
7. List opportunities in professional development for fire prevention personnel.
8. Describe the history and philosophy of fire prevention.

FIRE 128. Apparatus and Equipment
2 Credits (2)
The course will train students on attitude and skill requirements for becoming a safe and effective fire apparatus driver/operator. The focus will be on apparatus inspection, operation, maintenance, and specification. Responsibilities of the driver/operator will be taught and assessed consistent with applicable NFPA standards and the New Mexico Firefighters' Training Academy (NMFTA) guidelines. Students pursuing certification must posses a current and valid New Mexico driver's license. Students who meet all course requirements will be eligible for International Fire Service Accreditation Congress (IFSAC) certification through the NMFTA. Restricted to Community Colleges campuses only.
Learning Outcomes

1. Identify the pumps used by the fire service and demonstrate their operations.
2. Discuss the importance of understanding pump operating principles and construction.
3. Identify the sources of water used for firefighting.
4. Assess the basic attributes of a good driver and how basic vehicle operations, defensive driving, speed, and environmental conditions affect safe driving.
5. Explain the importance of preventive maintenance and its documentation.
6. Describe features and capacities of various fire department apparatus.
7. Identify the considerations taken when selecting qualified driver/operators.
8. Safely drive fire apparatus and successfully complete the NFPA obstacle course.
9. Describe apparatus positioning as it applies to different types of apparatus. 1
10. Describe the characteristics of water. 1
11. Summarize facts about performance testing of fire pumps. 1
12. Distinguish among performance tests for puming apparatus.

FIRE 130. Principles of Fire and Emergency Services Safety and Survival
3 Credits (3)
This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Consent of instructor required. Restricted to: Community colleges only.
Learning Outcomes

1. Define cultural change.
2. Evaluate methods for enhancing accountability.
3. Apply risk management techniques.
4. List steps for eliminating unsafe acts.
5. Identify training and certification standards.
6. identify medical and fitness standards.
7. Explain how using available technology enhances safety.
8. Identify the NIOSH top five and apply them to case studies in evaluating prevention measures.
9. Describe the importance of establishing response standards. 1

10. Evaluate considerations for response to violent incidents. 1
11. Evaluate methods for providing emotional support.

FIRE 200. Special Topics
1-12 Credits (1-12)
Specific subjects to be announced in the Schedule of Classes. Course may be repeated for credit as topics change. May be repeated up to 12 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.

FIRE 201. Independent Study
1-3 Credits
Research on an approved topic to meet graduation requirements. Meets or exceeds NFPA standards. May be repeated for total of 9 credits.
Prerequisite: consent of instructor.

FIRE 203. Fire and Emergency Services Administration
3 Credits (3)
This course will provide students entry-level training in company operations and administration at the first-line supervisory level. The student will learn how to effectively manage human resources and community/public relations. Students will learn about fire department organization and administration; including budgets, reports, and planning. Students will learn the process involved in fire inspection, investigation, public education, emergency service delivery, and safety, per NFPA Standard 1021, Fire Officer Professional Qualifications.
Learning Outcomes
1. Acknowledge career development opportunities and strategies for success.
2. Recognize the need for effective communication skills both written and verbal.
3. Identify and explain the concept of span and control, effective delegation, and division of labor.
4. Select and implement the appropriate disciplinary action based upon an employee's conduct.
5. Explain the history of management and supervision methods and procedures.
6. Discuss the various levels of leadership, roles, and responsibilities within the organization.
7. Describe the traits of effective versus ineffective management styles.
8. Identify the importance of ethics as it relates to fire and emergency services.
9. Identify the roles of the National Incident Management System (NIMS) and Incident Management System (ICS).

FIRE 210. Building Construction for Fire Protection
3 Credits (3)
This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. Restricted to: Community colleges only.
Learning Outcomes
1. Describe building construction as it relates to firefighter safety, building codes, fire prevention, code inspection, firefighting strategy, and tactics.
2. Classify major types of building construction in accordance with a local/model building code.
3. Analyze the hazards and tactical considerations associated with the various types of building construction.
4. Explain the different loads and stresses that are placed on a building and their interrelationships.
5. Identify the function of each principle structural component in typical building design.
6. Differentiate between fire resistance, flame spread, and describe the testing procedures used to establish ratings for each.
7. Classify occupancy designations of the building code.
8. identify the indicators of potential structural failure as they relate to firefighter safety.
9. Identify the role of GIS as it relates to building construction.

FIRE 214. Hazardous Materials Technician
3 Credits (3)
Knowledge and skills about hazardous materials mitigation needed to certify as a Hazardous Materials Technician Level III. Meets or exceeds NFPA 471, 472, 473 standards, and OSHA 1910.102 part Q, and New Mexico HMER plan.
Prerequisite/Corequisite: FIRE 216.
Learning Outcomes
1. Acquire the skills and knowledge required to perform the functions of a firefighter.
2. Apply the appropriate critical thinking skills necessary to develop an incident action plan using appropriate strategies and tactics to safely manage incidents.

FIRE 215. Hazardous Materials Technician Manipulative Skills
4 Credits (4P)
Successful students will learn to perform as hazardous materials technicians, in a lab setting. They will learn how to respond to hazardous materials / weapons of mass destruction (WMD) incidents using a risk-based response process by which they analyze problems involving hazardous materials/WMD. Students will select applicable decontamination procedures and control a release using specialized protective clothing and control equipment. Incident termination will include following industry accepted practices and documentation while maintaining scene control and safety.
Prerequisite: FIRE 115, FIRE 216.
Corequisite: FIRE 214.
Learning Outcomes
1. Acquire the skills and knowledge required to perform the functions of a firefighter.
2. Apply the appropriate critical thinking skills necessary to develop an incident action plan using appropriate strategies and tactics to safely manage incidents.

FIRE 216. Hazardous Materials Chemistry
3 Credits (3)
This course provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services. Restricted to: Community colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Acquire the skills and knowledge required to perform the functions of a firefighter.

FIRE 220. Cooperative Experience I
1-3 Credits
Supervised cooperative work program. Student is employed in an approved occupation and rated by the employer and instructor. May be repeated for a maximum of 6 credits. Graded S/U.
Prerequisite: consent of instructor.

FIRE 221. Cooperative Experience II
3 Credits (3)
Apply advanced firefighting knowledge and skills while working with fire protection agencies. Meets or exceeds NFPA standards. Consent of instructor required. Graded: S/U. Restricted to: Community Colleges only.
Prerequisite(s): FIRE 220.

FIRE 223. Fire Investigations I
3 Credits (3)
This course meets the requirements set forth in NFPA 1033 Professional Qualifications for Fire Investigator. This course will give a comprehensive understanding of the principles of fire investigation, scene examination, documentation, evidence collection/preservation, interview techniques, and post-incident investigations. Student who meet all course requirements are eligible for International Fire Service Accreditation Congress (IFSAC) certification through New Mexico Firefighters' Training Academy (NMFTA). Restricted to Community Colleges campuses only.
Learning Outcomes
1. The student will be able to understand fire science, fire chemistry, thermodynamics, fire dynamics, and exploding of dynamics.
2. The student will be able to understand fire investigations, fire investigations methodology, fire investigation technology, and fire analysis.
3. The student will be able to understand evidence documentation, collection, and preservation.
4. The student will be able to understand computer fire modeling, failure analysis and analytical tools, fire protection systems, electricity and electrical systems, and hazardous materials.

FIRE 224. Strategy and Tactics
3 Credits (3)
Provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment and extinguishing agents on the fire ground. Covers the development of systematic action plans for emergency situations. Includes recognizing and prioritizing emergency scene needs and developing related strategies, tactics and contingencies. Educates students on how resources should be deployed to implement those plans. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Explain the importance of a fire ground commander.
2. Explain the importance of having standard operating procedures during fire ground operations.
3. Analyze fires by their classification and identify what constitutes a fuel.
4. Describe heat transfer and identify their distinct characteristics.
5. Describe the phases that a fire progresses through and their specific approach to extinguishment.
6. Describe the methods for making proper assumptions in fire situations.
7. Identify and list unique building construction techniques, and their specific approach to extinguishment.
8. Identify the principles behind reduce, fire control, and fire stream operations.
9. Evaluate fire scenarios and apply the appropriate tactics and strategies.

FIRE 225. Fire Protection Systems
3 Credits (3)
This course provides information relating to the features and design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. Restricted to: Community colleges only.

FIRE 230. Fire Service Instructor
3 Credits (3)
Provides the instructor candidate with methods and techniques of instruction including oral communications, preparing lesson plans, writing performance objectives, use of audio and other training aids, and the selection, evaluation and preparation of performance tests. Meets and exceeds NFPA 1041 Level I standards. Restricted to: Community Colleges only.
Learning Outcomes
1. The student shall be able to summarize professional responsibilities of the fire and emergency services instructor.
2. The student shall be able to discuss characteristics of adult learning and describe the different learning domains and learning styles.
3. The student shall be able discuss instructional preparation as it relates to training aid selection, class continuity, and class consistency.
4. The student shall be able discuss instructional materials and equipment and how they are used in the classroom and training environments.
5. The student shall be able discuss the classroom and training ground environments.
6. The student shall be able to discuss skills-based training and safely.

FIRE 232. Firefighter Internship
3 Credits (3)
Application of knowledge, skills and abilities in a fire service department, as a firefighter intern and integrated member of a fire affiliated agency. Restricted to majors.
Prerequisites: FIRE 101, FIRE 102, FIRE 115, FIRE 202 and EMT-B and consent of instructor.

FIRE 252. Vehicle Extrication
2 Credits (1+2P)
This course will train the student to the Vehicle & Machinery Extrication level I as outlined in NFPA 1006, Standard for Technical Rescuer Professional Qualifications. Vehicle & Machinery Extrication certification issued through the New Mexico Firefighter's Training Academy upon successful completion (IFSAC accredited). May be repeated up to 2 credits.
Learning Outcomes
1. Define extrication, disentanglement, and rescue.
2. Identify organizations relevant to extrication operations.
3. Describe the roles performed by organizations relevant to extrication operations.
4. Identify the responsibilities of the rescue organizations.

FREN-FRENCH (FREN)

FREN 1110. French I
4 Credits (4)
Intended for students with no previous exposure to French, this course develops basic listening, speaking, reading, and writing skills aiming toward the ACTFL novice-high level. This is an introductory course designed to teach the student to communicate in French in everyday situations and to develop an understanding of French and Francophone cultures through the identification of cultural products and practices, of cultural perspectives, and the ability to function at a survival level in an authentic cultural content. This course will also develop the student's

sense of personal and social responsibility through the identification of social issues.

Learning Outcomes

1. Students can communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language.
2. Students can usually handle short social interactions in everyday situations by asking and answering simple questions
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and sometimes understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.
8. Students can identify beliefs, behaviors and cultural artifactsof the French-speaking world.
9. In English, students will engage with social issues confronting the French-speaking world to develop their sense of personal and social responsibility.

FREN 1120. French II
4 Credits (4)

A continuation of French 1,students will develop a broader foundation in skills gained during the first semester, including understanding, speaking, reading and writing French aiming toward the ACTFL intermediate-low level. This course is designed to increase student fluency in French as applied to everyday situations. Students will also learn to recognize and understand various French and Francophone products,practices, and perspectives, identifying common cultural patterns, describing basic cultural viewpoints, and further developing their sense of personal and social responsibility through the investigation of cultural issues. May be repeated up to 4 credits.

Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write briefly about most familiar topics and present information using a series of simple sentences.
4. Students can understand the main idea in short, simple messages and presentations on familiar topics.
5. Students can understand the main idea of simple conversations that they overhear.
6. Students can understand the main idea of short and simple texts when the topic is familiar.
7. Students can describe and make comparisons between decisions about beliefs, behaviors and cultural artifacts of the French-speaking world.
8. Students will engage with social issues confronting the French-speaking world to continue to develop their sense of personal and social responsibility

FREN 2110. French III
3 Credits (3)

In this third semester course, students will continue to develop a broader foundation in skills gained during the first year, including understanding, speaking, reading and writing French aiming toward the ACTFL intermediate-mid level.This course is designed to teach the student to communicate in a more sustained way in areas of personal interest and in everyday situations. Students will engage in and analyze various French and Francophone products, practices, and perspectives, as well as continue to develop their sense of personal and social responsibility through comparison and contrast of cultural perspectives. May be repeated up to 3 credits.

Learning Outcomes

1. Students can participate in conversations on familiar topics using sentences and series of sentences.
2. Students can engage in short social interactions in everyday situations by asking and answering a variety of questions. Students can usually say what they want to say about themselves and their everyday life.
3. Students can write on a wide variety of familiar topics using connected sentences.
4. Students can understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
5. Students can understand the main idea of conversations that they overhear.
6. Students can understand the main idea of texts related to everyday life and personal interests or studies.
7. Students can analyze beliefs, behaviors and cultural artifacts of the French-speaking world, and discuss the nature and value of French and Francophone products, practices, and perspectives.
8. Students will engage with social issues confronting the French-speaking world to continue to develop their sense of personal and social responsibility

FREN 2120G. French IV
3 Credits (3)

In this fourth semester course, students will continue to broaden and refine skills gained during previous semesters, including understanding, speaking, reading and writing French aiming at the ACTFL intermediate-high level. This course is designed to teach the student to communicate in a more sustained way in situations that go beyond the everyday. Students will evaluate various French and Francophone products,practices, and create ways to demonstrate their sense of personal and social responsibility through participation in cultural interaction. May be repeated up to 3 credits.

Learning Outcomes

1. Students can participate with ease and confidence in conversations on familiar topics. They can usually describe people, places, and things. They can usually talk about events and experiences in various time frames.
2. Students can handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
3. Students can write about topics related to school, work, and community in a generally organized way. They can write some simple paragraphs about events and experiences in various time frames.
4. Students can easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
5. Students can usually understand a few details of what I overhear in conversations, even when something unexpected is expressed.

The student can sometimes follow what they hear about events and experiences in various time frames.

6. Students can understand the main idea of texts with topics related to everyday life, personal interests, and studies, as well as sometimes follow stories and descriptions about events and experiences in various time frames.
7. Students can analyze beliefs, behaviors and cultural artifacts of the French-speaking world, and recognize and discuss the representations and controversies of French and Francophone products, practices, and perspectives.
8. Students demonstrate the essential skills of Critical Thinking, Personal and Social Responsibility, and Information and Digital Literacy, as per the New Mexico General Education Curriculum

FREN 2135G. Frontiers and Border Crossings in the French-Speaking World
3 Credits (3)
An exploration of frontiers and borders in the French-speaking world: geographical, linguistic, cultural, and symbolic
Learning Outcomes

1. Articulate the diversity of boundaries (geographical, literal, gender, cultural, symbolic) and the role they play in negotiating cultural identities in the Francophone world.
2. Critically analyze and communicate orally and in writing the nuances of frontiers, border crossings, and their expressions in the course texts.
3. Describe, through the study of French and Francophone borders and frontiers, how cultural contexts and human practices influence individuals and societies.
4. Apply the knowledge and skills gained though the study of boundaries in the francophone world to analogous settings and to students' personal academic goals.
5. Demonstrate information literacy and technological skills in researching and presenting themes related to the readings and to the films screened
6. Reflect on the effects of geographical, social, linguistic, and symbolic boundaries and crossings as expressed in the course content on individuals.

FSTE-FOOD SCIENCE & TECHNOLOGY (FSTE)

FSTE 1120. ACES in the Hole Foods I
4 Credits (4)
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products Restricted to Las Cruces campus only. Students enrolled in this class must possess A Food Handler Card
Learning Outcomes

1. Apply basic scientific principles, procedures, techniques and standards in the production of food products.
2. Apply principles of sanitation and safety to the production of food products.
3. Assist in the development and evaluation of new and/or existing food products made for human consumption.
4. Prepare a resume and portfolio

FSTE 2110G. Food Science I
4 Credits (3+2P)
The scientific study of the principles involved in the preparation and evaluation of foods. May be repeated up to 4 credits.
Learning Outcomes

1. Explain basic scientific principles involved in the preparation of high quality food products.
2. Utilize scientific inquiry in the experimental investigation of factors influencing the chemical, physical and sensory properties of food products.
3. Apply basic scientific principles, procedures, techniques and standards in the preparation of all types of high quality food products.
4. Use basic methods of quantitative analysis to critically evaluate quality characteristics of food.
5. Use sensory science techniques and terminology to critically evaluate acceptability and quality characteristics of food.
6. Describe high quality characteristics of a variety of food products using appropriate terminology.
7. Apply principles of sanitation and safety to food preparation.

FSTE 2120. ACES in the Hole Foods II
4 Credits (8P)
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products. Student must also have a Food Handler Card to enroll in this course.
Prerequisite(s): FSTE 1120.
Learning Outcomes

1. Apply basic scientific principles, procedures, techniques and standards in the production of food products.
2. Apply principles of sanitation and safety to the production of food products.
3. Assist in the development and evaluation of new and/or existing food products made for human consumption.
4. Prepare a resume and portfolio

FSTE 2130G. Survey of Food and Agricultural Issues
3 Credits (3)
Survey of food and agricultural issues, including: geography of food production and consumption; human-agricultural-natural resource relations; agriculture in the United States and abroad; modern agribusiness; food safety; food, agriculture, and natural resources policy; ethical questions; role and impact of technology. Crosslisted with AEEC 2130G.
Learning Outcomes

1. Understand of global agriculture including production techniques used in various geographical regions, consumption trends, and political and social constraints.
2. Synthesis information about agricultural issues and make informed arguments
3. Articulately discuss modern issues in agriculture
4. Write coherent arguments relative to personal beliefs regarding agricultural issues

FSTE 2996. Special Topics
1-4 Credits
Specific topics and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

Learning Outcomes

1. Varies

FWCE-FISH,WILDLF,CONSERV ECOL (FWCE)

FWCE 1110G. Introduction to Natural Resources Management
4 Credits (3+2P)

This class covers historical and current issues affecting the management of renewable natural resources with an emphasis on water, soil, rangeland, forest, fish, and wildlife resources. An emphasis is placed on the scientific method and critical thinking. In the laboratory students collect and analyze field data on topics covered above and write up each unit as a laboratory report.

Learning Outcomes

1. Students should be able to recall, describe and explain the laws, treaties and acts that have led to our current management of natural resources in the United States.
2. Students should recognize or explain what ecological processes are, the importance of ecological processes in maintaining ecosystem function and how human activities change ecological processes and the ecosystems dependent on those processes.
3. In each of the six course and lab modules (water quality, soils, forestry, rangelands, wildlife and fisheries) students should be able to recall, describe and explain basic terminology, fundamental ecological principles and management techniques and challenges.
4. Students should be able to interpret data presented graphically and in tables from class exercises and lectures.
5. Students should be able to solve problems scientifically through field data collection, laboratory analyses and the use of quantitative methods (basic statistics, tables and graphs).
6. Students should be able to communicate results from laboratory exercises (6 lab modules) orally and in writing.
7. Students will learn to apply scientific thinking to real world problems through in class discussion and short essays based on material from case studies presented in class and guest speakers.

FWCE 1120. Contemporary Issues in Wildlife and Natural Resources Management
3 Credits (3)

Ecological, socioeconomic, and political issues surrounding the management of our natural resources with an emphasis on fish and wildlife resources.

FWCE 2110. Principles of Fish and Wildlife Management
3 Credits (3)

Basic principles of fish and wildlife management including history, ecology, economics, and policy. Emphasis on wildlife and fisheries. Uses an ecosystem approach integrating living and nonliving resources.
Prerequisite(s): FWCE 1110G.

Learning Outcomes

1. The goal of this course is to provide a firm foundation in the principles of wildlife and fisheries management.
2. Material will include a background in biological principles geared towards animal populations, characteristics and management of the habitats utilized by fish and wildlife, techniques used to study and manage animals and their habitats, and aspects of the human dimension involved in wildlife and fisheries issues.
3. This course serves as a core requirement for degrees offered in the Department of Fish, Wildlife and Conservation Ecology and as a required course for degrees in other departments such as Rangeland Resources.

FYEX-FIRST YEAR EXPERIENCE

FYEX 1110. First-year Seminar
1-3 Credits

This course is designed to help students achieve greater success in college and in life. Students will learn many proven strategies for creating greater academic, professional, and personal success. Topics may include career exploration, time management, study and test-taking strategies to adapt to different learning environments, interpersonal relationships, wellness management, financial literacy, and campus and community resources.

Learning Outcomes

1. Recognize the ways in which s/he is responsible for her/his own experience in education.
2. Identify, locate, and utilize available campus resources essential for academic success.
3. Create long-and short-term goals associated with student success and career planning.
4. Implement time management techniques to organize the semester's workload.
5. Develop strategies to use individual strengths to succeed and reflect upon coursework and course progress in multiple classes to alter academic behaviors and create deeper meaning and learning.
6. Apply the skills essential for analyzing and solving problems in her/his academic, professional, and personal life, which may include financial literacy and wellness management.
7. Develop and apply essential skills such as reading, taking notes, studying,memorizing, taking tests, and self-management skills necessary for college success.
8. Identify and revise self-defeating patterns of behavior, thought, and emotion as well as unconscious limiting beliefs.
9. Develop supportive relationships with members of the campus community. 1
10. Develop essential reading, writing, and critical thinking skills used in study and in research. 1
11. Demonstrate understanding of how to use the computer for academic purposes, including learning management systems, email communications, research databases, degree audit, and other online resources.

FYEX 1112. The Freshman Year Experience
3 Credits (3)

An introduction to the university and its resources; emphasis on development of academic and personal skills that enable freshmen to become successful learners. Restricted to: Main campus only.
Prerequisite(s): Freshman Standing Only.

Learning Outcomes

1. Appreciate the goals, methods, and values of higher education
2. Expand intellectual development and self-direction
3. Establish a faculty mentor relationship
4. Enhance knowledge and practice of collaborative learning principles
5. Establish a familiarity with campus resources and student services
6. Develop public speaking, critical thinking, library research, and study strategies
7. Evaluate talents and interest in relation to selecting a major and career planning

8. Examine and clarify values
9. Acknowledge and enhance respect for diversity

FYEX 1116. Managing Your Money
1 Credit (1)
Principles and strategies for effective money management. Includes financial goal setting, both short and long term. Explores the relationship between career and income earning potential. Explores issues of credit and debt management and prevention of identity theft.
Learning Outcomes
1. Demonstrate understanding of the psychology of money and how it relates to personal financial decisions
2. Create realistic short- and long-term financial goals and a personal budget
3. Comprehend and manage college finances, including types of financial aid
4. Appreciate the importance of the Free Application for Federal Student Aid (FAFSA)
5. Describe the financial aspects of career development and how they apply to their own lives, including resume, taxes, salary, benefits
6. Apply principles of student loan management
7. Demonstrate use of credit reports in the prevention identity theft
8. Identify essential elements of smart spending and borrowing
9. Recognize debt and repayment costs 1
10. Explain the basics of saving and planning for the financial future 1
11. Create focused, developed, clear discussion posts and other written work for this class

FYEX 1117. Financial Literacy Money Matters
2 Credits (2)
This course will cover a variety of financial literacy topics ranging from budgeting to student loan repayment. This course is designed to assist students in becoming more financially literate. Restricted to Las Cruces campus only.
Learning Outcomes
1. Master effective strategies and other skills related to financial literacy
2. Establish a familiarity with campus resources designed to foster financial literacy and wellness
3. Exhibit intellectual development and self-direction in relation to financial literacy and wellness
4. Identify financial literacy skills which best support individual financial well-being
5. Demonstrate skills and knowledge that allows the student to make informed and effective decisions with all of their financial resources

FYEX 1131. Personal Learning Skills I
1-3 Credits
Individualized programs for self-improvement in skill areas necessary for academic success in the university environment. Each course to bear an appropriate subtitle. May be repeated up to 3 credits. Graded S/U.
Learning Outcomes
1. Synthesize the importance of critical thinking through self-reflection and self-exploration
2. Analyze and apply critical thinking skills using the eight intellectual standards
3. Describe the common barriers to critical thinking and construct problem solving strategies
4. Evaluate information and knowledge to determine misinformation and inaccuracies
5. Demonstrate information literacy by recognizing when information is needed and being able to efficiently locate, accurately evaluate, effectively use, and clearly communicate the information in various formats and mediums

FYEX 1132. Academic and Personal Effectiveness
2 Credits (2)
Learn academic self-analysis skills through the application of study and learning techniques to current course demands. Exposure to a variety of topics which enhance university and life-long learning.
Learning Outcomes
1. Students will demonstrate mastery of course objectives in time management, stress management, test taking, and other skills through completion of activities, quizzes, discussions, and more.
2. Students will be able to identify NMSU campus resources, including their services, location, and contact information.
3. Students will exhibit intellectual development and an improved self-direction through participation in the course.
4. Students will be able to identify and adopt those management skills which best support academic and career choices.

FYEX 1133. Academic Reading and Study Skills
1-4 Credits
Introduction to and practice with strategies for effective reading and studying at the college level. Provides laboratory.
Learning Outcomes
1. Use reading strategies to synthesize texts
2. Identify rhetorical elements of texts
3. Identify and apply different study methods
4. Recognize the role of student support services for student success
5. Identify and practice effective time management skills
6. Demonstrate proficient computer skills
7. Write an effective summary

FYEX 1134. Speed Reading
1 Credit (1)
Introduction to strategies and techniques for increasing reading rate and comprehension related to academic areas.
Learning Outcomes
1. Demonstrate an understanding of speed reading strategies and eye movement drills
2. Expand vocabulary and reading comprehension
3. Improve reading rates and develop reading techniques
4. Demonstrate an understanding of skimming techniques and scanning strategies

FYEX 1140. Career Exploration
1 Credit (1)
Survey of careers possible with community college associate degrees. Information on how to make a career choice.
Learning Outcomes
1. Desired career and lifestyle
2. Areas of interest
3. Skills and abilities
4. Personal values
5. DACC programs that match the student's interests, abilities, and values

6. Three careers that match the student's interests, abilities, values, and personality

FYEX 1160. Tutorial
1-3 Credits
Development of specific skills required for college courses, such as note-taking, listening, and test-taking. To be taken in conjunction with a regular designated college course.
Learning Outcomes
1. Demonstrate the ability to organize their time in order to improve study habits.
2. Apply pre-reading strategies to improve reading concentration and comprehension.
3. Demonstrate basic understanding of the systems of the body.
4. Identify techniques to improve personal concentration and comprehension skills.
5. Identify and demonstrate listening skills.
6. Identify effective study and note taking skills.
7. Identify and demonstrate effective test-taking skills.
8. Identify critical thinking skills used in nursing.
9. Demonstrate knowledge of key terms.

FYEX 1170. NMSU Gospel Choir
1 Credit (1)
Students will gain performance experience and exposure to urban contemporary gospel music. Open to all majors. May be taken for unlimited credit. Restricted to: Main campus only.
Learning Outcomes
1. Comprehended the foundation related to singing in a gospel choir setting
2. Demonstrate an understanding of the difference between the musical treble and bass clef
3. Expand vocabulary and reading comprehension of gospel music terminology.
4. Improve the speed and accuracy of music sheet and sight reading

FYEX 1996. Special Topics
1-4 Credits
Covers specific study skills and critical thinking topics. Specific sub-titles to be listed in the Schedule of Classes. May be repeated for a maximum of 8 credits.
Learning Outcomes
1. Varies

FYEX 2994. Prior Learning: Professional Portfolio
1-6 Credits
Creating a portfolio that outlines professional and educational experiences. Life skills and education learned through workplace training and non-traditional education experiences will be evaluated for consideration of awarding college credit. Students will draft a life history paper, prepare a professional resume, assemble supporting documentation and evidence in support of their petition to receive college credit for prior learning. Culminating activities will include an oral presentation of the portfolio contents. Graded S/U.
Prerequisite(s): CCDE 110 N or equivalent.
Learning Outcomes
1. produce writing that is focused on a main point
2. produce writing that is organized
3. produce writing follows task-specific conventions of paragraphing, sentence boundaries, usage, agreement, punctuation and spelling
4. deliver effective speeches
5. organize and present information with a purpose
6. apply effective communication strategies in their personal and professional lives

GENE-GENETICS (GENE)

GENE 1110. Experimental Systems in Genetics
1 Credit (1)
Survey of molecular, biochemical, organismal, and computer science based approaches to investigate how genes determine important traits. Historical development and topics of current interest will be discussed.
Learning Outcomes
1. To give the students a historical perspective on the field of genetics.
2. To familiarize the students to introductory concepts and vocabulary to the field of genetics.
3. Introduce experimental systems within the field of genetics and to give perspective to current genetic research.
4. As this course is designed for beginning students as an overview of faculty and research labs on campus. The students majoring in genetics are encouraged to meet with faculty and to explore opportunities available to them on campus

GEOG-GEOGRAPHY (GEOG)

GEOG 1110G. Physical Geography
4 Credits (3+3P)
This course introduces the physical elements of world geography through the study of climate and weather, vegetation, soils, plate tectonics, and the various types of landforms as well as the environmental cycles and the distributions of these components and their significance to humans.
Learning Outcomes
1. Define, describe, illustrate, distinguish among or explain the use of maps, map scale, globes, map projections, and remote sensing.
2. Define, describe, illustrate, distinguish among or explain the various elements of the earth's atmosphere, earth's relation to the sun, incoming solar radiation, the ozone layer, the primary temperature controls, and the unequal heating of land and water.
3. Define, describe, illustrate, distinguish among or explain the weather makers (air temperature, air pressure, humidity, clouds, precipitation, visibility, and wind [including pressure gradient, the Coriolis force, and friction]).
4. Define, describe, illustrate, distinguish among or explain air masses, pressure systems, the various fronts and associated types of storms, weather symbols, monsoons, the various forms of precipitation, along with causes and effects of lightning.
5. Define, describe, illustrate or explain the hydrologic cycle, the characteristics and influences of the oceans and continents on the weather, the Southern Oscillation (i.e., El Nino), the effects of land/water distribution, and climates and their global distribution.
6. Define, describe, illustrate or explain the biosphere, including organisms (flora and fauna), food chains, ecosystems and relationships. Define, describe, illustrate or explain soils in terms of soil-forming processes, components, properties, and classification.
7. Define, describe, illustrate or explain the structure of the earth, the internal processes, weathering and mass wasting, fluvial processes, characteristics and processes of arid regions, processes of coastal and Karst topographical regions, the processes and characteristics of glaciation (mountainous and continental).

8. Define, describe, illustrate, distinguish among or explain specific impacts by humans on weather, climate, and on the ecosystem at large.
9. Perform tests and collect data to analyze and classify weather, climate and landforms characteristics, processes, and impacts both quantitatively and quantitatively. This includes reading and extracting basic information from maps, diagrams, remote sensing devices, graphs, and tables. 1
10. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve problems using the scientific method. This includes interpreting maps, graphs and photos. 1
11. Recognize and discuss the effect of human activity on climate, climate change, the greenhouse effect, and on landforms at large. 1
12. Synthesize information from external, current sources and personal observations and discuss their relationships to class material.

GEOG 1115G. Maps and GIScience
3 Credits (3+3P)
Explore the principles of Geographic Information Science (GIScience) and its applications in solving human, natural, and socio-environmental challenges. Learn to evaluate geospatial data and technologies; analyze their significance, implications, and applications; and communicate insights effectively. Topics include map use, spatial data analysis, Geographic Information Systems (GIS), remote sensing, and Global Navigation Satellite Systems (GNSS).
Corequisite: GEOG 1115L.
Learning Outcomes
1. Explain key concepts and methods of geographic information science (GIScience).
2. Articulate the significance of geographic information in decision-making processes that address human, natural, and socio-environmental challenges.
3. Evaluate the ethical, socio-environmental, and legal implications of geospatial data, technologies, and applications.
4. Evaluate spatial and aspatial data to assess human, natural, and socio-environmental problems, as well as potential solutions.
5. Communicate effectively in written and oral formats.

GEOG 1115L. Maps and GIScience Laboratory
1 Credit (1P)
Gain hands-on field and laboratory experience with geospatial tools, including Geographic Information Systems (GIS), remote sensing, and Global Navigation Satellite Systems (GNSS). Manage, collect, analyze, interpret, and visualize spatial data to solve real-world problem, and develop your own GIScience research report.
Corequisite: GEOG 1115G.
Learning Outcomes
1. Collect spatial and aspatial data using various web and mobile apps.
2. Apply spatial and aspatial quantitative methods for data management, visualization, analysis, interpretation, and spatial problem-solving.
3. Create functional and aesthetically pleasing maps.
4. Develop a GIScience research report.
5. Communicate effectively in written and oral formats.

GEOG 1120G. World Regional Geography
3 Credits (3)
Overview of the physical geography, natural resources, cultural landscapes, and current problems of the world's major regions. Students will also examine current events at a variety of geographic scales.
Learning Outcomes
1. Identify, describe, illustrate, distinguish among or explain the basic concepts of geography, the major world regions, areal differences and similarities, the processes that shape geography natural and human, the use of maps, and the key topics of geographical interpretation (e.g., location, world importance, population, political status, resources, etc.).
2. Identify, describe, illustrate, distinguish among or explain the regional groups of Europe, its historical background, its languages and religions, major features, the diversified economy, political structures, and impact on globalization.
3. Identify, describe, illustrate, distinguish among or explain the regional groups of Russia and its satellite nations, its historical background, their languages and religions, major features, their diversified economies, political structures, current problems, and impact on globalization.
4. Identify, describe, illustrate or explain the regional nations of Middle East, their historical background, their languages and religions, the major features, the diversified economies and political structures, the current problems.
5. Identify, describe, illustrate, distinguish among or explain the regional groups of Asia, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
6. Identify, describe, illustrate, distinguish among or explain the regional groups of the Pacific World, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
7. Identify, describe, illustrate, distinguish among or explain the regional groups of Africa, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
8. Identify, describe, illustrate, distinguish among or explain the regional groups of Latin America, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
9. Identify, describe, illustrate, distinguish among or explain the regional groups of Anglo-America, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization. 1
10. Collect data to analyze or classify the region various historical developments and trends relating to globalization 1
11. Apply critical thinking skills in predicting future developments and impacts in economics, cultural diversity, and political stability globally. 1
12. Recognize and discuss current political “hot-spots,” their causes, and potential results with regards to globalization. 1
13. Synthesize information the data into a comprehensive world-view.

GEOG 1130G. Human Geography
3 Credits (3)
This course serves as an introduction to the study of human geography. Human geography examines the dynamic and often complex relationships that exist between people as members of particular cultural groups and the geographical "spaces" and "places" in which they exist over time and the world today.
Learning Outcomes
1. Locate on maps, globes, and other technologies various geo-political spaces and places around the world, including in the United States.

2. Describe the primary concepts, theories, methods and terms prevalent in the field of human geography.
3. Apply core geographic concepts to the spatial patterns demonstrated in real-world scenarios.
4. Identify the relationships that influence human-environmentinteraction in a specific location at a specific time.
5. Define and utilize key concepts to explain human social and cultural change over time and across geographical space.
6. Explain the geographic context of a current event or conflict.
7. Identify a current event that illustrates a core cultural geographic concept.
8. Think critically, discuss, and write about the relationships of the natural world to human geography.

GEOG 1150G. Introduction to Environmental Studies
3 Credits
This course provides an introduction to core environmental issues and how these have been debated over time. In the process, it is intended to help you read critically, write effectively, and to reflect on your own environmental concerns in relation to the analytical as well as the cultural, social, and political perspectives that have been brought to bear on environmental issues over time. Through extensive exposure to environmental issues, solutions, and institutions, the course will help prepare you for a professional career relating to environmental management and policy.
Learning Outcomes
1. Survey the major environmental issues facing humankind.
2. Assess the conflicts or perceived conflicts between society and the environment.
3. Evaluate the relationships between the environment and the economy.
4. Analyze potential solutions.
5. Develop clear and effective communicators skills.

GEOG 2130. Map Use and Analysis
3 Credits (2+3P)
Exploration of the cartographic medium. Development of critical map analysis and interpretation skills, and map literacy. Comprised of traditional lecture, labs, and map use projects.

GEOG 2996. Special Topics
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.
Learning Outcomes
1. Varies

GEOL-GEOLOGY (GEOL)

GEOL 1110G. Physical Geology
4 Credits (3+3P)
Physical Geology is an introduction to our dynamic Earth introducing students to the materials that make up Earth (rocks and minerals) and the processes that create and modify the features of our planet. The course will help students learn how mountains are formed, how volcanoes erupt, where earthquakes occur, and how water, wind, and ice can shape landscapes. Students will also develop a basic understanding of the ways humans have altered the planet including our impact on natural resources and global climate change.
Learning Outcomes
1. Recall, describe or explain geologic vocabulary.
2. Identify or explain aspects of the geologic time scale and compare the uses and limitations of relative and absolute dating.
3. Recognize or explain the evidence used to support the theory of plate tectonics. Describe or identify how plate tectonics is related to the structure and features of the Earth.
4. Describe the formation of, and describe, compare, and classify minerals.
5. Identify or describe the three main rock types, how each forms in the context of the rock cycle and what each indicates about its environment of formation.
6. Recognize or explain the fundamentals of surface and groundwater hydrology and discuss the impact of human activities on water quality and quantity.
7. Describe or discuss the processes that are responsible for specific geologic hazards (e.g., earthquakes, volcanic eruptions, mass movement, flooding, etc.).
8. Recognize or describe the geologic processes involved in the formation and concentration of geologic resources.

GEOL 1150. Introduction to Rocks and Minerals
3 Credits (2+3P)
This course is an introduction to the characteristics and the formation of the three main types of rocks, the rock-forming minerals, and important ore minerals. An outline of Plate Tectonics will give students the basis to understand how many of these rocks and minerals form. In laboratory exercises, students will gain practice in describing and identifying hand-specimens of the main types of rocks and minerals.
Prerequisite(s)/Corequisite(s): GEOL 1110G.
Learning Outcomes
1. The student Identify the main rock-forming minerals from each mineral group as demonstrated by scoring a total of 70% or more on the relevant laboratory exercise component. Studying minerals, the student will: Identify the main minerals in hand specimens; Describe the environments in which these minerals form; Identify the rock types in which these minerals are found.
2. The student will understand the structure, composition, and genesis of rocks by identifying the principal igneous, sedimentary, and metamorphic rocks, as demonstrated by scoring a total of 70% or more on the relevant laboratory exercise components.
3. Studying rocks, the student will: Define the principal igneous processes and features, identify the most common igneous rocks and their constituting minerals in hand specimens, and discuss their origin and interpretation; Describe the principles of sedimentary processes and features, identify the most common sedimentary rocks in hand specimens, and discuss their origin and interpretation; Describe the principles of metamorphic processes and features, identify the most common metamorphic rocks and constituting minerals in hand specimens, and discuss their origin and interpretation.

GEOL 2996. Special Topics
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. Community Colleges only. May be repeated for a maximum of 12 credits.
Learning Outcomes
1. Varies

GNDR-Gender and Sexuality Studies

GNDR 2110G. Introduction to Women, Gender, and Sexuality Studies
3 Credits (3)
This course introduces students to key concepts, debates, and analytical tools informing Women's, Gender, and Sexuality Studies. As an interdisciplinary field of study, Women's, Gender, and Sexuality Studies employs academic perspectives from a range of disciplines and theoretical approaches. It also incorporates lived experience and social location into its object of analysis. Though content will vary according to the expertise and focus of the instructor, this course will develop tools through readings and assignments that critically analyze how gender and sexuality are shaped by different networks of power and social relations and demonstrate how the intersections of race, class, disability, national status, and other categories identity and difference are central to their understanding and deployment. In addition to feminist thought, areas of focus might include gender and sexuality in relation to social, cultural, political, creative, economic, or scientific discourses. This class is recommended for those with a general interest in the topic area as well as for those seeking a foundational course for further study. May be repeated up to 3 credits.
Learning Outcomes
1. Understand foundational concepts, theories, and approaches to gender and sexuality in conjunction with contemporary social justice movements such as feminism.
2. Describe the range of social and political forces that shape and are shaped by gender, sexuality, race/ethnicity, and other intersecting categories of identity.
3. Demonstrate the ability to conduct intersectional analysis.
4. Develop and improve skills in reading, critical thinking, academic writing, and public speaking.

GNDR 2120G. Representing Women Across Cultures
3 Credits (3)
Historical and critical examination of women's contributions to the humanities, with emphasis on the issues of representation that have contributed to exclusion and marginalization of women and their achievements.
Learning Outcomes
1. To think critically about contemporary discourses on gender, race, sexuality, and class.
2. To understand how forms of identity intersect with one another
3. To explore the ways power and privilege operate in contemporary society
4. To understand some of the ways social inequalities develop, function, and change
5. To further students' interest in developing their own ideas and research in issues of women and gender, sexuality, race, class, and nation

GRMN-GERMAN

GRMN 1110. German I
4 Credits (4)
Intended for students with no previous exposure to German, this course develops basic listening, speaking, reading, and writing skills aiming toward the ACTFL novice-mid level. This is an introductory course designed to teach the student to communicate in German in everyday situations and to develop an understanding of German cultures through the identification of cultural products and practices, of cultural perspectives, and the ability to function at a survival level in an authentic cultural content. This course will also develop the student's sense of personal and social responsibility through the identification of social issues.
Learning Outcomes
1. Students can communicate on very familiar topics using a variety of words and phrases that they have practiced and memorized.
2. Students can write lists and memorized phrases on familiar topics.
3. Students can recognize some familiar words and phrases when they hear them spoken.
4. Students can recognize some letters or characters.
5. Students can understand some learned or memorized words and phrases when they read.
6. Students can identify beliefs, behaviors and cultural artifacts of the German-speaking world.
7. In English, students will engage with social issues confronting the German-speaking world to develop their sense of personal and social responsibility

GRMN 1120. German II
4 Credits (4)
A continuation of German 1, students will develop a broader foundation in skills gained during the first semester, including understanding, speaking, reading and writing German aiming toward the ACTFL novice-high level. This course is designed to increase student fluency in German as applied to everyday situations. Students will also learn to recognize and understand various German products, practices, and perspectives, identifying common cultural patterns, describing basic cultural viewpoints, and further developing their sense of personal and social responsibility through the investigation of cultural issues.
Prerequisite(s): C or better in GRMN 1110.
Learning Outcomes
1. Students can communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language.
2. Students can usually handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and sometimes understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.
8. Students can describe and make comparisons between decisions about beliefs, behaviors and cultural artifacts ofthe German-speaking world.
9. Students will engage with social issues confronting the German-speaking world to continue to develop their sense of personal and social responsibility.

GRMN 2110. German III
3 Credits (3)
In this third semester course, students will continue to develop a broader foundation in skills gained during the first two semesters, including understanding, speaking, reading and writing German aiming toward the ACTFL intermediate-low level. This course is designed to teach the

student to communicate in a more sustained way in areas of personal interest and in everyday situations. Students will engage in and analyze various German products, practices, and perspectives, as well as continue to develop their sense of personal and social responsibility through comparison and contrast of cultural perspectives.
Prerequisite(s): C or better in GRMN 1120.
Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write briefly about most familiar topics and present information using a series of simple sentences.
4. Students can understand the main idea in short, simple messages and presentations on familiar topics.
5. Students can understand the main idea of simple conversations that they overhear.
6. Students can understand the main idea of short and simple texts when the topic is familiar.
7. Students can analyze beliefs, behaviors and cultural artifacts of the German-speaking world, and discuss the nature and value of German products, practices, and perspectives.
8. Students will engage with social issues confronting the German-speaking world to continue to develop their sense of personal and social responsibility.

GRMN 2120. German IV
3 Credits (3)
In this fourth semester course, students will continue to broaden and refine skills gained during previous semesters, including understanding, speaking, reading and writing German aiming at the ACTFL intermediate-mid level. This course is designed to teach the student to communicate in a more sustained way in situations that go beyond the everyday. Students will evaluate various German products, practices, and create ways to demonstrate their sense of personal and social responsibility through participation in cultural interaction.
Prerequisite(s): C or better in GRMN 2110.
Learning Outcomes

1. Students can participate in conversations on familiar topics using sentences and series of sentences.
2. Students can engage in short social interactions in everyday situations by asking and answering a variety of questions. Students can usually say what they want to say about themselves and their everyday life.
3. Students can write on a wide variety of familiar topics using connected sentences.
4. Students can understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
5. Students can understand the main idea of conversations that they overhear.
6. Students can understand the main idea of texts related to everyday life and personal interests or studies.
7. Students can analyze beliefs, behaviors and cultural artifacts of the German-speaking world, and recognize and discuss the representations and controversies of German products, practices, and perspectives.
8. Students will engage with social issues confronting the German-speaking world to create ways to demonstrate their sense of personal and social responsibility.

HIST-HISTORY (HIST)

HIST 1110G. United States History I
3 Credits (3)
The primary objective of this course is to serve as an introduction to the history of the United States from the pre-colonial period to the immediate aftermath of the Civil War. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of the United States within the context of world societies.
Learning Outcomes

1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the United States from the pre-colonial period to the immediate aftermath of the Civil War. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: Remember, Understand, Evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: Create, Apply 8
6. Students will APPLY historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: Apply, Analyze 9

HIST 1120G. United States History II
3 Credits (3)
The primary objective of this course is to serve as an introduction to the history of the United States from reconstruction to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of the United States within the context of world societies.
Learning Outcomes

1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the United States from the reconstruction to the present. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distingusih between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create
3. Students will summarize and appriase different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply

4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: Remember, Understand, Evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: Create, Apply
6. Students will apply historical knowledge and historical thinking "inorder to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: Apply, Analyze 10 11

HIST 1130G. World History I
3 Credits (3)
The primary objective of this course is to serve as an introduction to global history from ancient times to the 16th century. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of world societies. May be repeated up to 3 credits.
Learning Outcomes
1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for global history from ancient times to the 16th century. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: Remember, Understand, Evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: Create, Apply
6. Students will apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: Apply, Analyze

HIST 1140G. World History II
3 Credits (3)
The primary objective of this course is to serve as an introduction to global history from the 16th century to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of world societies. May be repeated up to 3 credits.
Learning Outcomes
1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of global history from the 16th century to the present. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: Remember, Understand, Evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: Create, Apply
6. Students will Apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: Apply, Analyze

HIST 1150G. Western Civilization I
3 Credits (3)
This course is a chronological treatment of the history of the western world from ancient times to the early modern era. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of western civilization within the context of world societies. Selective attention will be given to "non-western" civilizations which impact and influence the development of "western" civilization.
Learning Outcomes
1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the western world from ancient times to the early modern era. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. BloomTaxonomy's Cognitive Process: Remember, Understand, Evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: Create, Apply
6. Students will apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: Apply, Analyze 14

HIST 1160G. Western Civilization II
3 Credits (3)
This course is a chronological treatment of the history of the western world from the early modern era to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of western civilization within the context of world societies. Selective attention will be given to "non-western" civilizations which impact and influence the development of "western" civilization.

Learning Outcomes

1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the western world from the early modern era to the present. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: Remember, Understand, Evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: Create, Apply
6. Students will apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: Apply, Analyze

HIST 1170G. Survey of Early Latin America
3 Credits (3)

The primary objective of this course is to serve as a survey of the history of Latin America from pre-Columbian times through independence. This course will explore the contributions of Indigenous peoples, Africans, and Europeans to the creation of Latin America's diverse societies. The elements of this course are designed to inform students on the major events and trends that are essential to the understanding of the history of Latin America within the context of world societies.

Learning Outcomes

1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of Latin America from independence to the present. Bloom Taxonomy's Cognitive Process: Remember and Understand.
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: analyze, remember, evaluate, create.
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: understand, evaluate, apply.
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: remember, understand, evaluate.
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: create, apply.
6. Students will apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present." Bloom Taxonomy's Cognitive Process: apply, analyze.

HIST 1180. MODERN LATIN AMERICA
3 Credits (3)

The primary objective of this course is to serve as a survey of the history of Latin America from independence to the present. This course will explore the contributions of Indigenous peoples, Africans, and Europeans to the creation of Latin America's diverse societies. The elements of this course are designed to inform students on the major events and trends that are essential to the understanding of the history of Latin America within the context of world societies.

Learning Outcomes

1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of Latin America from independence to the present. Bloom Taxonomy's Cognitive Process: Remember and Understand
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: analyze, remember, evaluate, create
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: understand, evaluate, apply
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective, and relevance. Bloom Taxonomy's Cognitive Process: remember, understand, evaluate
5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: create. apply
6. Students will apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present."Bloom Taxonomy's Cognitive Process: apply, analyze

HIST 1180G. Survey of Modern Latin America
3 Credits (3)

The primary objective of this course is to serve as a survey of the history of Latin America from independence to the present. This course will explore the contributions of Indigenous peoples, Africans, and Europeans to the creation of Latin America's diverse societies. The elements of this course are designed to inform students on the major events and trends that are essential to the understanding of the history of Latin America within the context of world societies.

Learning Outcomes

1. Students will be able to explain in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of Latin America from independence to the present. Bloom Taxonomy's Cognitive Process: Remember and Understand.
2. Students will distinguish between primary and secondary sources, identify and evaluate evidence and empathize with people in their historical context. Bloom Taxonomy's Cognitive Process: analyze, remember, evaluate, create.
3. Students will summarize and appraise different historical interpretations and evidence in order to construct past events. Bloom Taxonomy's Cognitive Process: understand, evaluate, apply.
4. Students will identify historical arguments in a variety of sources and explain how they were constructed, evaluating credibility, perspective,

and relevance. Bloom Taxonomy's Cognitive Process: remember, understand, evaluate.

5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of audience. Bloom Taxonomy's Cognitive Process: create and apply.
6. Students will apply historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present."Bloom Taxonomy's Cognitive Process: apply, analyze.

HIST 2245G. Islamic Civilizations to 1800
3 Credits (3)
History of Islamic civilizations to 1800.
Learning Outcomes

1. By the conclusion of the course, the student will be able to demonstrate a knowledge of the history of cultural encounters, exchanges, and conflicts between the Islamic world and the West from the seventh to the sixteenth century;
2. Be able to evaluate the major themes of cultural contact, conflict, and interchange between the Islamic world and the West;
3. Critically read and evaluate historical evidence with the goal of forming an argument about historical evidence
4. Communicate a historical argument logically, clearly, and effectively in writing.

HIST 2250G. East Asia to 1600
3 Credits (3)
History of China, Korea, Vietnam, and Japan from earliest times through the sixteenth century. Emphasis on cultural and political developments and their social and economic contexts, and the interaction between East Asian societies.
Learning Outcomes

1. Students will learn the analytic skills of interpreting historical changes and continuity.
2. They will assess and use historical documents, and learn how to evaluate varying historical interpretations.
3. Students will understand the chronological and geographic context of important historical events,and will understand the social, technological, economic, cultural and political components of the society under study in this course.
4. Students will understand how people shape their culture and its beliefs, and the way in which prevailing cultures and beliefs shape them.
5. They will understand the historical origins of present-day societies, to learn about their own historical roots.
6. They will learn about the development of structures of power, the production of and distribution of goods, and the relationship between science and technology and human values and behavior.

HIST 2251G. East Asia since 1600
3 Credits (3)
History of China, Korea, Vietnam, and Japan from the sixteenth through the twentieth centuries. Emphasis on internal development of each country, as well as the social and political impact of Western Imperialism, and the emergence of each country's unique version of modern society.
Learning Outcomes

1. Students will learn the analytical skills of interpreting historical changes and continuity.
2. They will assess and use historical documents, and learn how to evaluate varying historical interpretations.
3. Students will understand the chronological and geographic context of important historical events, and will understand the social, technological, economic, cultural and political components of the society under study in this course.
4. Students will understand how people shape their culture and its beliefs, and the way in which prevailing cultures and beliefs shape them.
5. They will understand the historical origins of present-day societies, to learn about their own historical roots.
6. They will learn about the development of structures of power, the production of and distribution of goods, and the relationship between science and technology and human values and behavior.

HIST 2996. Special Topics
1-3 Credits
Specific subjects to be announced in the Schedule of Classes. Community Colleges only. May be repeated for a maximum of 12 credits.
Learning Outcomes

1. Varies

HITP-HEALTH INFORMATION TECHNOLOGY

HITP 1110. Electronic Health Records
3 Credits (3)
Current electronic health record principles, methods and procedures, and computerized medical record concepts and software applications will be introduced.
Learning Outcomes

1. Define the concept of an electronic health record.
2. Describe key issues related to privacy and security of EHRs.
3. Set up new patients, edit patient information, and export patient lists.
4. Set up new insurance companies.
5. Set up, edit, and print addresses in the physician, employee, pharmacy, and testing facility categories.
6. Add patients and notes to the schedule.
7. Use the Patient Tracker to track and locate a patient with the medical setting.
8. Describe the layout of an electric chart.
9. Create office visit notes. 1
10. Describe how to order lab, imaging, and medical tests.

HITP 1120. Health Information Introduction to Pharmacology
3 Credits (3)
Introduction to the principles of pharmacology, including drug terminology; drug origins, forms, and actions; routes of administration; as well as the use of generic name drugs, trade name drugs and categories of drugs to treat multiple and specific body systems.
Learning Outcomes

1. List and define the major pharmacological drugs and common generics used in healthcare.
2. Distinguish between local, systemic, therapeutic, allergic, and side effects of the drugs.
3. Describe the pharmacological action of common drugs and drug categories used to treat each body system, including usage, dosage, adverse effects, contraindications, indications, and key client education information.

4. Identify basic laws and ethics associated with pharmacological preparation and distribution.
5. Describe the principal mechanisms of actions, usage, dosage, adverse effects, contraindications, indications, and key client education information for drug classifications affecting multiple body systems, also list several routes of drug administration and describe their advantages and disadvantages.

HITP 1140. Health Information Introduction to Pathophysiology
3 Credits (3)
Introduction to the nature of disease and its effect on body systems. Disease processes affecting the human body via an integrated approach to specific disease entities will be presented including a review of normal functions of the appropriate body systems. Diseases will be studied in relation to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.
Learning Outcomes
1. Describe basic disease concepts, including mechanisms of disease, neoplasms, inflammation, and infection.
2. Examine the basic anatomy and physiology of the body systems, etiology of various diseases and conditions, important signs and symptoms of disorders, common diagnostics, typical course and management of disorders, preventive measures, and the effects of aging.
3. Identify the terminology, etiology, signs and symptoms, common diagnostics, typical course and management of disorders, and preventive measures associated with genetic and developmental disorders, childhood diseases, and mental health disorders.
4. Recognize important medical terminology related to the understanding of human diseases.
5. State the drug classifications and examples of medications in each class used to treat diseases, disorders and conditions related to each body system.

HITP 2208. Medical Office Procedures
3 Credits (2+2P)
Introduction of current and efficient administrative medical office procedures. The emphasis will be on practical, current strategies for maintaining accurate, organized and compliant documentation.
Prerequisite: HLSC 1510.
Learning Outcomes
1. Identify key medical terminology as it relates to administrative medical office operations.
2. Explain the roles, responsibilities, and professional ethics of an administrative medical assistant in various healthcare setting.
3. Demonstrate effective communication skills with patients, families, proxies and healthcare professionals.
4. Apply accurate updated policy to scheduling techniques, office and records management, and billing procedures in a medical office environment.
5. Apply techniques for efficient patient, office, and administrative workflows to enhance medical office management.
6. Identify medical office technology applications that promote efficient administrative duties and accurate documentation.

HITP 2240. Health Information Quality Management
3 Credits (3)
Introduction to basic concepts of quality and performance improvement as they apply to health record systems and the health care industry. Introduction to quality assessment, requirements of licensing, accreditation, and fiscal considerations.
Learning Outcomes
1. Identify responsibilities in medical facilities to develop leadership skills for success.
2. Abstract data for facility-wide quality management performance improvement programs.
3. Identify techniques utilized by quality improvement organizations to evaluate and track medical treatments and services to improve the health information performance.
4. Demonstrate an understanding of healthcare compliance, patient consent, documentation, reporting, the creation of policies and procedures, and fundamentals of the Human Resource Department.
5. Explain the purpose and procedure of audits, regulatory agencies, marketing, and compliance in the health care setting.

HITP 2248. Medical Coding I
3 Credits (2+2P)
Comprehensive overview of the fundamentals, coding conventions, and principles of ICD-10-CM/PCS diagnostic and procedure codes.
Prerequisite: HITP 2228.
Learning Outcomes
1. Identify diagnoses, procedures, services while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate diagnostic codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.
5. Demonstrate proper medical record management techniques.

HITP 2258. Medical Coding II
3 Credits (2+2P)
Comprehensive overview of the fundamentals, coding conventions, and principles of CPT and HCPCS diagnostic and procedure codes.
Prerequisite: HITP 2248.
Learning Outcomes
1. Identify procedures and services in various healthcare settings while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate procedural codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.
5. Demonstrate proper medical record management techniques.

HITP 2268. Health Information Systems
3 Credits (3)
Overview of health data management, work planning, and organization principles; an introduction to health care information systems; and review of the fundamentals of information systems for managerial, clinical support, and information systems.
Learning Outcomes
1. Identify the role of health information management in the healthcare system.
2. Identify the ethical and legal challenges in health information management.

3. Describe health care data and information management systems used in healthcare organizations.
4. Maintain data security in accordance with all laws and regulations.
5. Evaluate compliance with regulatory requirements and reimbursement methodologies.
6. Explain the role of the health information technician (HIT) in systems planning and development.
7. Identify the different types of health service organizations and delivery systems.

HITP 2288. Medical Insurance Billing
3 Credits (2+2P)
Comprehensive overview of the insurance concepts and applications required for successfully and accurately completing and submitting insurance claims and reimbursement processes for various insurance carriers, both private and government, will be emphasized.
Prerequisite: HLSC 1510.
Learning Outcomes
1. Comprehend the ramifications of a breach of confidentiality regarding patient information.
2. Follow requirements of different insurance carriers—i.e., HMO's Independent Provider Organizations, Medicare, Medicaid, Workmen's Compensation—in processing patient claims.
3. Process insurance claim form an initial patient visit through receipt of payment from insurance carrier.
4. Match ICD-10 code to appropriate diagnosis.
5. Analyze patient records to construct the insurance claim form and apply the requirements of different insurance carriers to that claim.
6. Classify and explain the various reimbursement systems and how they impact billing.
7. Identify issues of fraud and abuse and follow ethical principles by reviewing inpatient and outpatient cases.

HITP 2996. Health Information Technology Topics
3 Credits (3)
Varies. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

HITP 2998. Health Information Technology Internship
3 Credits (3)
Varies.
Learning Outcomes
1. Varies.

HLED-HEALTH EDUCATION

HLED 1110. American Heart Association Heartsaver First Aid CPR/AED
1 Credit (1)
A video-based, instructor-led course that teaches students critical skills needed to respond to and manage an emergency until emergency medical services arrives. Skills covered in this course include first aid; choking relief in adults, children, and infants; and what to do for sudden cardiac arrest in adults, children, and infants. Upon successful completion of the course, students will become eligible for AHA Heartsaver® First Aid & CPR/AED certification. May be repeated up to 1 credit.
Learning Outcomes
1. Demonstrate the skills necessary to efficiently perform one (1) and two (2) rescuer CPR for adult, child, and infant victims of cardiac arrest at the Basic Life Support level.
2. Demonstrate the skills necessary to safely and effectively operate an automated external defibrillator (AED).
3. Demonstrate the skills necessary to intervene and care for an adult, child, or infant choking victim and be able to administer first-aid to this population.

HLSC-HEALTH SCIENCE

HLSC 1510. Medical Terminology
3 Credits (3)
The study and understanding of medical terminology as it relates to diseases, their causes and effects, and the terminology used in various medical specialties. This course includes word construction, spelling, comprehension, pronunciation, application and abbreviations.
Learning Outcomes
1. Apply prefixes, suffixes, and combining forms to build medical terms.
2. Identify terms for body regions, planes, cavities and membranes.
3. Select medical terminology names, locations and functions of the major organs of the body systems.
4. Identify the medical terms associated with major disease processes and procedures.
5. Demonstrate correct medical linguistic skills.

HLSC 1515. Advanced Medical Terminology
3 Credits (3)
Builds upon the concepts covered in (abbreviation numbering for Medical Terminology) providing greater understanding of how to properly use and apply medical terminology used in the various health fields. Medical terminology associated with the body system's anatomy and physiology, diagnostic and therapeutic procedures, pharmacology, and abbreviations will be emphasized.
Prerequisite: HLSC 1510.
Learning Outcomes
1. State the derivation of most healthcare terms.
2. Build medical terms to their accurate plural form.
3. Identify appropriate terms to the associated organization, position, and direction of the body.
4. Identify appropriate terms to the associated organ systems of the body.

HLSC 1520. Anatomy and Physiology for Health Careers
4 Credits (3+3P)
This introductory course explores the fundamental principles of human anatomy and physiology. Providing a foundation in essential concepts of the function and structure of the human body for those interested in health careers. May be repeated up to 4 credits.
Learning Outcomes
1. Describe the structural organization of the human body.
2. Identify the major body systems and their key functions.
3. Use anatomical terminology to describe body planes, directions, regions, and cavities.
4. Identify the major organs within each body system and their anatomical locations.
5. Explain how the structure and function of the human body change across the lifespan.

6. Identify common pathologies, signs, symptoms, etiology, diagnostic measures, and treatment modalities related to each body system.

HLSC 1530. Pathophysiology for Health Sciences
3 Credits (3)
Introduction to the nature of disease and its effect on body systems. Disease processes affecting the human body via an integrated approach to specific disease entities will be presented including a review of normal functions of the appropriate body systems. Diseases will be studied in relation to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.
Learning Outcomes
1. Describe basic disease concepts, including mechanisms of disease, neoplasms, inflammation, and infection.
2. Examine the basic anatomy and physiology of the body systems, etiology of various diseases and conditions, important signs and symptoms of disorders, common diagnostics, typical course and management of disorders, preventive measures, and the effects of aging.
3. Identify the terminology, etiology, signs and symptoms, common diagnostics, typical course and management of disorders, and preventive measures associated with genetic and developmental disorders, childhood diseases, and mental health disorders.
4. Recognize important medical terminology related to the understanding of human diseases.
5. State the drug classifications and examples of medications in each class used to treat diseases, disorders and conditions related to each body system.

HLSC 1540. Legal and Ethical Issues in Health Care
3 Credits (3)
This course examines the legal and ethical considerations inherent in healthcare delivery. Students will analyze real-world case studies to understand the impact of professional actions on patients, families, and employers, while exploring the legal and ethical responsibilities of healthcare professionals, researchers, and policymakers.
Learning Outcomes
1. Analyze and apply ethical principles and legal frameworks to complex healthcare scenarios, including those related to patient rights, professional liability, and emerging bioethical issues.
2. Describe and evaluate the structure and function of the U.S. legal system as it pertains to healthcare professionals, including key legal terms, doctrines, and workplace regulations.
3. Discuss and address contemporary issues in healthcare, such as patient confidentiality, record keeping in the digital age, and the national healthcare crisis, within an ethical and legal context.
4. Explain the significance of integrating scientific knowledge, clinical expertise, and professional conduct in healthcare practice, and analyze how societal values and public law shape healthcare decision-making.
5. Apply theories and methods of ethical decision-making to resolve dilemmas encountered in healthcare practice, including understanding the interplay of public and private law.

HMRT-HUMAN RIGHTS

HMRT 2110G. Introduction to Human Rights
3 Credits (3)
The course provides a basic introduction to international human rights including conceptual foundations and key theoretical debates with attention paid to current events that are shaping justice and human rights. It provides a variety of disciplinary perspectives on human rights including philosophy, socio-legal studies, political science, law, and criminology. The combination of understanding the conceptual foundations, key theoretical debates, and thematic areas in human rights will enable students to understand the evolution of human rights regimes and their influence in society today. The course is broken into four parts. The first part provides an understanding of the historical underpinnings of international human rights and their evolution in society and law. It examines foundational texts on justice and human rights that have shaped our concepts of rights and justice today. The second part focuses on global and regional mechanisms within human rights. Examining these mechanisms helps us understand the legal application and enforcement of human rights globally. The third section focuses on thematic areas in human rights. These thematic areas include: environmental law, international criminal law, refugee, migrants and asylum seekers, international women's rights, economic, social & cultural rights, and transitional justice. The course concludes by focusing on critical perspectives and local issues on human rights.
Learning Outcomes
1. Understand key theoretical debates on human rights.
2. Describe historical underpinnings of international human rights.
3. Identify different foundational texts in the evolution of justice and human rights.
4. Understand how social and historical contexts have impacted beliefs on justice, rights, and human dignity.
5. Explain thematic areas in international human rights.
6. Understand regional and global multilateral mechanisms in human rights law.
7. Critically examine the efficacy of international human rights.
8. Understand the social, political, economic and other factors that have molded human rights.
9. Gain a better understanding of your own worldviews and opinions towards justice and human rights.

HMRT 2125. International Rights of Children
3 Credits (3)
This course examines the history, sources and role of international rights of children in the protection of children worldwide. It provides an understanding of the international legal regulatory framework implemented to address the rights of children. The course is broken into two parts. The first part covers the history and development of international rights of children and explores key concepts from children's rights theory. This section also covers current international legal mechanisms in place to protect children worldwide. The second section covers issues in the protection of children's rights. Issues covered include (but not limited to): child labor, child trafficking, armed conflict, war, the right to truth. Lastly the course covers the future of international rights of children.
Learning Outcomes
1. Understand the history and origins of child protection in international human rights law.
2. Identify key concepts of children's rights theory in international human rights law.
3. Describe major international human rights law established for the protection of children.

4. Understand how international rights of children addresses issues in child exploitation and abuse related to child labor and child trafficking.
5. Explain the rights of children during armed conflict and war.
6. Identify the rights of children to the right to truth.
7. Critically examine the what the future of international rights of children entails when incorporating an understanding of human rights law.
8. Gain a better understanding of your own worldviews and opinions towards the international rights of children.

HMRT 2175G. Border Justice & Human Rights
3 Credits (3)
This course examines the human rights implications of border practices, migration/refugee patterns, and environmental degradation set amidst increasingly contentious territorial politics, complex population movements, and record-shattering climate change events. Additionally, the course provides context to justice along the U.S/Mexico border as seen through a human rights lens. It examines issues of border conflict around the world. It also explores the history of the U.S.-Mexico border and examines historical and contemporary human rights issues impacting the region. The course is broken into three parts. The first part provides an introduction to the history of the U.S.-Mexico border region. This includes exploring the history of border drawing and its impact on populations living along the border. The second section examines the long history of violence along borders. It examines how border identities develop over time in the midst of violence, community building, and the contested spaces of borders. It also explores how drugs, immigration, and free trade has impacted border regions. Lastly after understanding the history and issues of violence along borders, the last section explores human rights issues of border regions. This section examines how social movements and human rights advocacy have impacted the protection of rights of communities living along borders.
Learning Outcomes
1. Explain the historical evolution of border drawing along the U.S.-Mexico border and throughout the world.
2. Identify how colonization impacted the development of border regions.
3. Understand how identity is informed by migration and belonging in the U.S.-Mexico border region.
4. Describe how increased border enforcement and immigrant criminalization has impacted the U.S.-Mexico border region.
5. Understand how drug wars, human trafficking and gendered violence impacts the U.S.-Mexico border.
6. Describe past and current human rights violations taking place along the U.S.-Mexico border and at other borders throughout the world.
7. Understand how transnational advocacy groups and other social movements advocating for human rights have impacted border regions.
8. Gain a better understanding of your own worldviews and opinions towards the U.S.-Mexico border and human rights.

HMRT 3996. Issues in Human Rights
3 Credits (3)
The course provides an opportunity to discuss contemporary issues in international human rights, including current events that are shaping justice and human rights. It provides a variety of disciplinary perspectives on human rights including philosophy, socio-legal studies, political science, law, and criminology. The combination of understanding the conceptual foundations, key theoretical debates, and thematic areas in human rights will enable students to understand the evolution of human rights regimes and their influence in society today. It will be taught as a Seminar on problems and conflicts encountered in major human rights issues.
Learning Outcomes
1. Understand key theoretical debates on human rights.
2. Describe historical underpinnings of international human rights.
3. Identify different foundational texts in the evolution of justice and human rights.
4. Understand how social and historical contexts have impacted beliefs on justice, rights, and human dignity.
5. Explain thematic areas in international human rights.
6. Understand regional and global multilateral mechanisms in human rights law.
7. Explain issues and approaches in human rights enforcement and policy.
8. Critically examine the efficacy of international human rights.
9. Understand the social, political, economic and other factors that have molded human rights. 1
10. Gain a better understanding of your own worldviews and opinions towards justice and human rights.

HMRT 4550V. Skills & Ethics for Human Rights Work
3 Credits (3)
Course topics will vary, but each will cover a specific skill that is important for doing contemporary human rights work. Topics might include: grant writing and fundraising, specific statistical techniques or research methods, forensics and human rights, interviewing of marginalized communities, creating documentary media, or the optimum use of social media. The course is broken into three parts. The first part provides an introduction to the topic of human rights and examines current issues faced by people working in the human rights field. The second section focuses on development of practical human rights skills. The last section explores ethical dilemmas faced when conducting human rights work
Learning Outcomes
1. Explain the practice of human rights work.
2. Identify differences between human rights activism and advocacy.
3. Explain differences between human right and other rights.
4. Understand the nature and practice of human rights data collection.
5. Describe the different research methods used in human rights work.
6. Understand grant writing and fundraising strategies for human rights work.
7. Identify the impact journalism, documentaries, and social media has on human rights work.
8. Understand how decolonizing human rights practices impact human rights work along the U.S.-Mexico border.
9. Critically examine the role human rights work has globally. 1
10. Gain a better understanding of your own worldviews and opinions towards the skills and ethics of human rights work.

HMRT 4580V. International Environmental Law and Justice
3 Credits (3)
This course will provide a general introduction to the basic concepts and mechanisms of international environmental law. The course is aimed at providing a foundation of the current international legal framework and principles that govern and regulate environmental law. It explores the root causes of environmental problems and investigates the ways society manages environmental issues via the law that transcend

international boundaries and resultantly fall beyond the authority of a single nation. The course is broken into four parts. The first part provides an introduction to the topic and examines current issues impacting environmental law and justice. The section also examines the history and evolution of international environmental law. The second section analyzes the causes associated with environmental problems and describes current norms and policies. The third section explores the roles of governmental and intergovernmental actors and actors beyond the state that participate in international environmental law. The course concludes by examining environmental justice and questions whether environmental law is effective and what are the shortcomings and areas needed for improvement to protect the environment. This section also examines how social movements impact the protection and implementation of environmental law.

Learning Outcomes

1. Explain the historical evolution of international environmental law.
2. Identify root causes of environmental problems.
3. Understand the nature and practice of environmental law.
4. Describe the different types of environmental norms.
5. Identify the legal structure of courts and regulators for environmental law.
6. Understand the different jurisdictional spaces and actors for environmental law.
7. Explain the complexities of international environmental governance and regulation.
8. Describe the interconnections of environmental law with other areas of international law, including human rights, humanitarian law, trade and foreign investment.
9. Critically examine the influence of politics on the protection of the environment and establishment of international environmental law. 1
10. Gain a better understanding of your own worldviews and opinions towards the environmental protection and the law.

HMRT 4720V. Space Law & Human Rights
3 Credits (3)

This course examines the history, sources and role of space law shaping contemporary governance of space activities including weapons in space, freedom of exploration, militarization, surveillance, and corporate accountability. It provides an understanding of international resolutions, principles, regulations and private international and national space laws and policies. The course is broken into two parts. The first part provides an introduction the space law and human rights and examines the evolution of space law. This section also provides understanding on current space law treaties and principles. The second section covers substantive legal issues in outer space law and how human rights intersects with these issues. Issues covered include: weapons in space, corporate responsibility, national security, militarization, and environmental issues.

Learning Outcomes

1. Understand the history and development of space law.
2. Identify main tenets of space law.
3. Explain key space law treaties and principles.
4. Describe how space law intersects with human rights law.
5. Understand contemporary legal issues in space law and the protection of human rights and the environment.
6. Critically examine the what the future of space law entails when incorporating an understanding of human rights law.
7. Gain a better understanding of your own worldviews and opinions towards the outer space law and human rights.

HMSV-HUMAN SERVICES

HMSV 2110. Case Management
3 Credits (3)

This course introduces students to the concept of case management, how it is used in human services, and skills necessary to function effectively as case managers. The emphasis is on the client assessment process, service planning and delivery, and client advocacy. Topics introduced include observation, data collection, documentation, and reporting of client behaviors, identification and referral to appropriate services, monitoring, planning, and evaluation. This course provides student with basic knowledge and beginning case management skills. May be repeated up to 3 credits.

Prerequisite: PSYC 1110G and SOWK 2110G.

Learning Outcomes

1. Define the purpose of case management and explain the role of the case manager
2. Explain the process of case management and what it entails
3. Explain the ethical, professional and legal responsibilities of case managers
4. Describe several settings within which case management takes place
5. Apply principles of client record management, and protect client rights to privacy and confidentiality
6. Use data to determine the appropriate referral service to professional, agencies, community programs or other resource, and clearly and specifically explain the referral service's role in treatment and contact information
7. Apply standards of clinical evaluation, including establishing rapport, data gathering and screening, analysis of substance abuse implications, treatment possibilities, initial actions, and documentation of findings and treatment recommendations
8. Incorporate individual and cultural relevance in concert with established situation-specific policies and procedures for crisis management.

HNRS-HONORS

HNRS 1115. Honors First Year Seminar
3 Credits (3)

This course is designed to introduce new first semester students to the life of the mind, the life of the University, and the principles that guide the NMSU University Honors Program. Combining critical thinking and experiential exploration, students will develop a personalized plan for success, both in and out of the classroom, consistent with the values of the Conroy Honors College and the mission of the University.

Learning Outcomes

1. Demonstrate critical thought about the nature of knowledge, learning, and student development in the contemporary University.
2. Explain how key concepts and principles serve as the foundation for the Honors College mission and values.
3. Create a plan for their experiences at NMSU, in and out of the classroom, that will maximize their academic achievement and personal success beyond graduation.

HNRS 1135G. Introduction to Biological Anthropology
3 Credits (3)

This course provides a basic introduction to the broad field of biological anthropology. The research interests of biological anthropologists include the history and development of modern evolutionary biology, molecular and population genetics, modern primates, the primate and human fossil record, and modern human biological diversity. This is an Honors version of ANTH 1135G. It is taught with ANTH 1135G with differentiated assignments.
Prerequisite: High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Corequisite: HNRS 1135L.
Learning Outcomes

1. Summarize the basic principles of evolution and recognize how they apply to the human species.
2. Recognize the biological and behavioral continuity of humans with all life, and especially other modern primate species.
3. Identify ways in which the human species is biologically and behaviorally unique.
4. Summarize fossil evidence for human evolution.
5. Distinguish the major Paleolithic industries and outline the behavioral and cognitive changes indicated by the fossil and archeological evidence.
6. Critically evaluate popular accounts of human variation and human evolution.
7. Interpret modern human dilemmas (e.g., overpopulation, co-evolution of disease, and genetic engineering) from an evolutionary perspective.
8. Discuss in class and analyze in writing scholarly arguments concerning course concepts.

HNRS 1135L. Introduction to Biological Anthropology Lab
1 Credit (1P)
This laboratory course expand on the topics covered in lecture course and uses scientific methods and principles to examine evidence for the process of evolution, the nature of heredity, human evolutionary history and family tree relationships, primate ecology and behavior, and modern human diversity. Hands-on experience with fossil and skeletal material will be an important part of the learning process. This is an Honors version of ANTH 1135L.
Corequisite: HNRS 1135G.
Learning Outcomes

1. Demonstrate an understanding of the scientific method.
2. Employ principles of Mendelian genetics to determine genotype and phenotype probabilities, and calculate gene, genotype, and phenotype frequencies using the Hardy-Weinberg Equilibrium formula.
3. Demonstrate an understanding of cell structure and functions.
4. Use common lab and anthropometric equipment such as a compound microscope and calipers.
5. Discuss primate evolution, and compare and contrast members of the Primate order in terms of structure, behavior, and phylogeny.
6. Classify hominid species based upon selected traits such as anatomical changes associated with bipedalism, changes in the size and structure of the brain, and the development of culture.
7. Locate and describe the major bones of the human skeleton, and identify characteristics of human skeletons or skulls such as gender, age, and ancestry.
8. Discuss current research in genome analysis of various hominid popul ati ons.

HNRS 2111. Successful Fellowship Writing
1 Credit (1)
Provides scholars with hands-on skills to complete proposals for scholarships and fellowships, such as the Truman, Rhodes, Marshall, Goldwater, Udall, and others. Other skills include how to write resumes, develop general research skills, and find grant and foundation sources. For freshmen and sophomores.
Prerequisite(s): High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes

1. Review of Prestigious International and National scholarships.
2. Best practices in preparing competitive proposals and applications.
3. Effective strategies for writing compelling Executive summaries, Resumes, and Personal Statements.

HNRS 2114G. Music in Time and Space
3 Credits (3)
Introduction to all forms of Music. Through our auditory senses and intellectual faculties music is an ideal means for intelligent and humanistic examination of peoples and cultures, and for the enhancement of life. Types of music covered include classical, jazz, rock and roll, and world music. Music videos, live in-class performances, evening concerts, and lectures will be used as a basis for discussions and research. May be repeated up to 3 credits. Restricted to Las Cruces campus only.
Learning Outcomes

1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, and film).
2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, social, cultural, religious, intellectual).
3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Draw on historical and/or cultural perspectives to evaluate all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought

HNRS 2115G. Encounters with Art
3 Credits (3)
A multicultural examination of the principles and philosophies of the visual arts and the ideas expressed through them.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes

1. Articulate the relationship of art to the human experience.
2. Apply the vocabulary of art to critical writings and discussions.
3. Interpret art works within cultural, social, personal and historical contexts.

HNRS 2116G. Earth, Time and Life
4 Credits (3+3P)
Covers how the earth's materials form, processes involved in changing the earth's configuration, and extent of people's dependence upon the earth's resources. Includes mineral and energy resources, development of landscapes, environmental problems, evolution of the earth and life forms. May be taken in place of GEOL 1110. May be repeated up to 4 credits.
Prerequisite: A High School GPA of 3.75; or a NMSU cummulative GPA of 3.5 or higher.
Learning Outcomes

1. Gain a general understanding of geology and the geological processes that have been occurring throughout Earth's history.

2. Learn about some of the common minerals and rocks that are the building blocks to geology and the rock cycle.
3. Investigate the processes associated with each rock type (e.g., volcanoes, faults, depositional processes, etc.) and as well as potential geologic hazards (e.g., volcanic eruptions, earthquakes, flooding, etc.).
4. Recognize and identify common minerals and rocks and understand the basic processes and conditions responsible for their formation and occurrence.
5. Comprehensively understand how the internal and external parts of the Earth have functioned throughout geologic time.

HNRS 2117G. The World of the Renaissance: Discovering the Modern
3 Credits (3)
An introduction to the literature and thought of Renaissance Europe. Humanism and the Reformation will be approached through the intensive study of major writers such as Petrarch, Machiavelli, Luther, Erasmus, Montaigne, and Shakespeare. Restricted to Las Cruces campus only.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Analyze and critically interpret significant primary texts and/or works of fine art, literature, philosophy, and theatre from the early modem period.
2. Locate art forms, modes of thought and expression, and processes from the early modem period in historical and/or cultural context and compare them to those of other time periods.
3. Demonstrate an understanding of how early modem historical and/or cultural perspectives and key technological developments contributed to the development of contemporary thought and modes of expression.
4. Recognize and articulate the diversity of human experience across historical periods and/or cultural perspectives.
5. Demonstrate skill in working with relevant secondary resources and research tools to develop a class.

HNRS 2130G. Shakespeare on Film
3 Credits (3)
How do Shakespeare's plays continue to speak to us through the medium of film? Written in a time of rapid social change,Shakespeare's plays invited audiences to think critically about the relationship between the self and others and to question conventions. Performances of Shakespeare have long been used to call out social injustice, from western anti-Semitism prior to World War II (The Merchant of Venice), to civil rights-era white supremacy in the US and apartheid in South African (Othello),and authoritarianism in the Arab Spring (Richard III). This course focuses on post-1980 Hollywood film versions of Shakespeare's plays and a few prior landmark adaptations around the world, examining how they use Shakespeare as a medium for debate and even a catalyst for social change.
Learning Outcomes
1. Demonstrate critical thinking by identifying issues and problems in the film adaptation of Shakespeare; 2 .Engage in intercultural reasoning and develop intercultural competence and historical consciousness in analyzing film adaptations from the US, Europe, and Asia;
2. Engage with questions of personal and social responsibility as explored in Shakespeare's plays and modern film adaptations;
3. Conduct effective research on a relevant topic, evaluating the validity and authority of secondary sources, synthesizing ideas, and drawing reasonable conclusions; 5 .Present independent research in collaboration with other student researchers and reflect on this teamwork experience

HNRS 2140G. Plato and the Discovery of Philosophy
3 Credits (3)
Examines arguments and theories found in the Platonic dialogues with a view to determining the nature and value of philosophy both from Plato's point of view and absolutely.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Students will evaluate a number of Plato's dialogues to understand his doctrines and arguments.
2. Students will use their understanding to further evaluate why his philosophies have remained influential in modern, Western society and beyond.
3. Students will develop well-formulated, compelling arguments from philosophical texts.

HNRS 2141G. Bamboo and Silk: The Fabric of Chinese Literature
3 Credits (3)
Introductory survey of traditional and modern Chinese prose and poetry in translation with emphasis on genre, theme, and social/historical context.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Students will acquire extensive knowledge of one of the world's oldest and richest literary traditions.
2. Not incidentally, students will also gain knowledge of China's history and philosophical traditions.
3. As this class is based on reading, writing, and discussion, students will hone their interpretive and expressive skills.

HNRS 2145G. Celtic Literature
3 Credits (3)
This course provides an overview of the most important early literary works of the so-called Celtic nations, principally Ireland and Wales, from a literary and historical approach. This literature stems from the period 600-1200 and ends with the development of the Romances under influence from the French
Learning Outcomes
1. Students will learn the concept of the international folk tale,
2. Students will learn about the history of the Celts
3. Students will learn about the concept of Celtic nations' formed during the 19th Century.
4. Students will enhance critical thinking skills.
5. Students will enhance written and oral communication.

HNRS 2160G. New Testament as Literature
3 Credits (3)
Literature of the New Testament examined from a literary perspective. Emphasis on translation history of the New Testament, generic features of gospel, epistle and apocalypse, precedent literary models, problems of authorship, classification of New Testament texts.
Prerequisite(s): A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Students will hone critical thinking skills by analyzing arguments and controversies surrounding the roots of Christianity.

2. Students will discern and discuss the viability of both literary and historical sources with debated authorship, dating, and interdependency.
3. Students will practice interpersonal navigation and maintaining an academic environment of respect as they discuss a number of topics that can be considered controversial or subjective.

HNRS 2161G. Window of Humanity
3 Credits (3)
Anthropology is the most humanistic of the sciences, and the most scientific of the humanities. This course will use anthropological perspectives to examine the human experience from our earliest origins, through the experiences of contemporary societies. We will gain insights into the influence of both culture and biology on shaping our shared human universals, and on the many ways in which human groups are diverse.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Explain the concepts that define Anthropology (along with its subfields) as a specific research discipline.
2. Possess a growing vocabulary for anthropology, cultural study, ethnographic research and writing that will empower them as they continue with their degrees and professional careers.
3. Recognize how Anthropological concepts, terms, and methods are valuable for present-day concerns and how these tools can be used to engage life and the world at large.

HNRS 2165G. Introduction to Humanities in the 21st Century
3 Credits (3)
An exploration of the global humanities according to its various manifestations: environmental, public, digital, and applied.
Learning Outcomes
1. Articulate what the humanities are and what role they have played in education throughout the ages
2. Critically analyze and communicate orally and in writing various humanities concepts and global interconnections among peoples and cultures.
3. Describe, through the study of the global humanities, how cultural contexts and human practices influence individuals and societies.
4. Apply the knowledge and skills gained through the study of the global humanities to explore their majors, their career goals, and the responsibilities of individuals in their communities.
5. Demonstrate information literacy and technological skills in researching and presenting themes related to the global humanities.
6. Reflect on the effects of the global humanities on individuals.

HNRS 2170G. The Human Mind
3 Credits (3)
The primary course objective is to develop an appreciation of the variety and complexity of problems that are solved by the human mind. The course explores how problems are solved by a combined computational analysis (computational theory of mind), and evolutionary (evolution by natural selection) perspective. The mind is what the brain does (i.e. information processing) and the brain is a computational device that is a product of evolution by natural selection. Note that this is not a neuroscience course, we will be focusing on the mind (what the brain does) rather than on the brain. Restricted to Las Cruces campus only.
Learning Outcomes
1. Enhance written and oral communication
2. Stimulate critical thinking and learn to weigh scientific evidence
3. Challenge students to make ethical decisions and promote personal and social responsibility

HNRS 2172G. Archaeology: Search for the Past
3 Credits (3)
A critical evaluation of various approaches to understanding prehistory and history. The methods and theories of legitimate archaeology are contrasted with fantastic claims that invoke extraterrestrials, global catastrophes, transoceanic voyages, and extra-sensory perception.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Identify, describe, and explain how human lifeways changed in diverse communities in different parts of the globe.
2. Select and use relevant archaeological evidence to articulate how people's beliefs and values were influenced by politics, geography, economics, culture, biology, history, and social institutions in the past.
3. Analyze the significance of archaeological artifacts in context and explain their relevance to understanding relations among individuals, their society, and the environment.
4. Evaluate how practices in research, conservation, and tourism to archaeological sites promote ethical stewardship of non-renewable archaeological resources.
5. Design a study tour to archaeological sites that will address a key question or argument in prehistory and promote historic/archaeological preservation.

HNRS 2175G. Introduction to Communication Honors
3 Credits (3)
Study and practice of interpersonal, small group, and presentational skills essential to effective social, business, and professional interaction. May be repeated up to 3 credits.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes
1. Analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics, and diverse points of view.
2. Express a primary purpose in a compelling statement and order supporting points logically and convincingly.
3. Use effective rhetorical strategies to persuade, inform and engage.
4. Employ writing and/or speaking processes such as planning, collaborating, organizing, composing, revising editing to create presentations using correct diction, syntax, grammar and mechanics.
5. Integrate research correctly and ethically from credible sources to support the primary purpose of a communication.
6. Engage in reasoned civil discourse while recognizing the distinctions among opinions, facts, and inferences.

HNRS 2178G. Theatre: Beginnings to Broadway
3 Credits (3)
Intercultural and historical overview of live theatre production and performance, including history, literature and professionals. Students attend and report on stage productions. May be repeated up to 3 credits.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.

Learning Outcomes

1. Distinguish and differentiate the characteristics of theatre from other art forms.
2. Describe the major components of a theatrical event.
3. Describe the functions of various theatre personnel.
4. Define specific terms relating to the study of theatre.
5. List and describe the parts of a play.
6. Define the different parts of plot.
7. Critique plays.
8. Describe the characteristics of theatre in the different periods of history.
9. Develop an appreciation for theatre as an art form and a reflection of society.

HNRS 2180G. Citizen and State Great Political Issues
3 Credits (3)
The fundamental questions of politics: why and how political societies are organized, what values they express, and how well they satisfy those normative goals and the differing conceptions of citizenship, representation, and freedom.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes

1. Students will investigate the fluid state of American politics by discerning the decisions and policies of a selection of presidents.
2. Students will investigate the complex operations behind a representative democracy.
3. Students will examine how the sociopolitical environment surrounding a president influences his policies, and how a president's policies affect the broader society.
4. Students will assess and measure how politics can be affected by active and engaged citizens.

HNRS 2190G. Claiming a Multiracial Past
3 Credits (3)
Survey of history of the United States in the nineteenth and twentieth centuries, with an emphasis on multicultural social and cultural history. Focus on understanding American history from the point of view of dispossessed, impoverished, and disenfranchised Americans who have fought to claim both their rights as Americans and American past.
Prerequisite: A High School GPA of 3.75; or a NMSU cumulative GPA of 3.5 or higher.
Learning Outcomes

1. Students will contextualize the current state of American "being" by focusing on the multicultural-social and cultural history of the U.S. in the nineteenth and twentieth centuries.
2. Students will hone public speaking and presentation skills through classroom discussions and activities.
3. Students will practice interpersonal navigation and maintaining an academic environment of respect as they discuss a number of topics that can be considered controversial or subjective.

HNRS 2996. Special Topics
1-3 Credits (1-3)
Special course offerings, with unique titles listed in Schedule of Classes. May be repeated up to 6 credits.
Learning Outcomes

1. Students will experience multiple topics by different professors and departments.

HORT-HORTICULTURE (HORT)

HORT 1115G. Introductory Plant Science
4 Credits (3+2P)
Introduction to the physical, biological, and chemical principles underlying plant growth and development in managed ecosystems. In the laboratory portion of the class, students perform experiments demonstrating the principles covered in lecture. The course uses economic plants and agriculturally relevant ecosystems to demonstrate basic principles. Appropriate for nonscience majors. Same as AGRO 1110G.
Learning Outcomes

1. Describe the role plants play in everyday lives
2. Introduce career opportunities in plant and soil sciences, and related fields
3. Define plants through the concepts of plant structure and anatomy
4. Introduce the wide variety of plants cultivated throughout the world
5. Describe how plants work (growth, reproduction, physiology, and soil)
6. Describe how plants are manipulated to feed, clothe and entertain the world

HORT 2110. Ornamental Plants I
4 Credits (2+3P)
Covers identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on deciduous trees, native shrubs, and evergreens.
Learning Outcomes

1. Identify landscape plants by scientific names, including family, genus and specific epithet.
2. Use scientific terminology to accurately describe landscape plant morphology.
3. Illustrate plant family relationships at the family and genus level.
4. Apply landscape design principles and knowledge of plant requirements to arrange plants in a landscape.

HORT 2120. Ornamental Plants II
4 Credits (2+3P)
Identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on flowering trees, cacti, and members of the pea and rose families.
Learning Outcomes

1. Identify landscape plants by scientific names, including family, genus and specific epithet.
2. Use scientific terminology to accurately describe landscape plant morphology.
3. Illustrate plant family relationships at the family and genus level.
4. Apply landscape design principles and knowledge of plant requirements to arrange plants in a landscape.

HORT 2130. Floral Quality Evaluation and Design
2 Credits (1+2P)
Critical hands-on evaluation of the quality of cut and potted floral and tropical foliage crops, their specific merits and faults, and fundamentals of floral design.
Learning Outcomes

1. Identify common floriculture crops, or know resourcing to help identify the crop.
2. Evaluate quality (merit and fault) of common floriculture crops, based on industry standards and merit. Pi Alpha Xi and American Floral Endowment standards will be used for the purpose of this class.

3. Have a basic understanding of the floriculture industry, and identify career pathways within the industry.
4. Know, understand, creatively interpret, and execute basic principles of design in regards to floral design.
5. Use interpersonal communication, problem solving, basic math, and marketing during cash and carry "lab" time (flower sales) in developing job ready skills in floristry.
6. Layer principles of design, marketing, sales, and time management to create floral art in real-world scenarios.

HORT 2160. Plant Propagation
3 Credits (2+2P)
Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques. Same as AGRO 2160.
Learning Outcomes
1. Practical methods of propagating plants by seed, cuttings, layering, grafting, division, and tissue culture through experiential, “hands-on” laboratories.
2. Relevant physiological principles involved in propagating horticultural plants through lecture discussions and readings.

HORT 2990. Floriculture Field Practicum
1 Credit (1)
Participation as team member in the National Intercollegiate Floral Quality Evaluation and Design Competition. Intensive week-long travel for competition, networking with industry, academia, and floriculture tours. May be repeated for a maximum of 3 credits.
Prerequisite(s): HORT 2130 or consent of instructor.
Learning Outcomes
1. Varies

HORT 2996. Special Topics
1-4 Credits
Specific subjects and credits as announced. Maximum of 4 credits per semester and a grand total of 9 credits. May be repeated up to 9 credits. Consent of Instructor required.
Learning Outcomes
1. Varies

HOST-HOSPITALITY AND TOURISM (HOST)

HOST 155. Special Topics
1-3 Credits (1-3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 9 credits.
Learning Outcomes
1. Varies.

HOST 201. Introduction to Hospitality Industry
3 Credits (3)
Overview of hospitality industry; organization and operation of lodging, food and beverage, and travel and tourism segments; focus on career opportunities and future trends of hospitality industry. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze the interrelationship between lodging, food beverage operations, and the travel and tourism industry.
2. Evaluate the scope of the travel and tourism industry and assess its economic impact at the local, national, and international levels.
3. Investigate and propose opportunities for education, training, and career development in the hospitality industry.
4. Analyze the effects of globalization on the hospitality industry and predict future trends.
5. Critically examine and discuss major factors, developments, and trends that have affected lodging and food service operations in recent years and anticipate their future impact on the industry.
6. Analyze the effects of franchising, management contracts, referral organizations, independent and chain ownership, and condominium growth on the industry, and develop a comparative analysis of their implications.
7. Classify hotels based on their general characteristics and evaluate the distinctive features of each classification.
8. Identify and describe the common divisions or functional areas of hotel organization (rooms, food beverage, engineering, marketing and sales, accounting, human resources, and security), and analyze the interdependence and collaboration among these divisions in achieving organizational goals.

HOST 202. Front Office Operations
3 Credits (3)
Hotel/motel front office procedures detailing flow of business, beginning with reservations and extending to the night audit process. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze and differentiate the responsibilities for each job description in the front office.
2. Evaluate the significance of important factors in the day-to-day operation of the front office and propose strategies for optimal performance.
3. Explain front office technology and assess its impact on operational efficiency and guest satisfaction.
4. Develop and implement operational procedures/tasks that are critical to the registration process.
5. Demonstrate effective techniques for handling guest complaints and create a set of best practices for complaint resolution.
6. Analyze the key points regarding front office security functions and develop a comprehensive security plan.
7. Define and explain key terms in front office accounting and apply them to real-world scenarios.
8. Analyze the functions and tasks involved in the night audit processes and develop a step-by-step guide for conducting a successful night audit.

HOST 203. Hospitality Operations Cost Control
3 Credits (3)
Management of Food & Beverage facilities using cost control techniques. Functional training in menu analysis and development with all phases of product flow through a Food & Beverage organization explored. Restricted to: Community Colleges only.
Learning Outcomes
1. Explain the concept of "control" and analyze its importance in the management system.
2. Analyze the purposes and applications of standard costs and evaluate the uses of standard cost tools.

3. Evaluate the role of budget standards in planning and control and create cost-volume-profit analysis models for food and beverage operations.
4. Analyze and compare methods for estimating allowable food and beverage costs based on forecasted sales levels.
5. Evaluate subjective and objective menu pricing methods and create menu prices that incorporate profit requirements.
6. Apply principles and procedures important in controlling the purchasing and receiving processes and analyze the need to incorporate quality requirements in purchasing and receiving activities.
7. Analyze sales history records and time series data to create accurate production forecasts.
8. Evaluate the importance of standard recipes (including computerized standard recipes) as production tools and create a plan for incorporating production planning time.
9. Apply the basic formula for calculating cost of sales and analyze sources of information for each component of the formula. 1
10. Analyze the role of analysis, corrective action, and evaluation in the control process, and create a plan for implementing these steps effectively.

HOST 204. Promotion of Hospitality Services
3 Credits (3)
Organization of hotel marketing functions; developing a marketing plan to sell the varied services of the hotel/motel property. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze the distinctive aspects of marketing within service industries in relation to the intangibility of services, service encounters, service chains, and service quality.
2. Create an appropriate marketing mix to meet guest needs and achieve company goals.
3. Evaluate several methods of segmenting and targeting markets and apply market segmentation criteria effectively.
4. Analyze the kinds of marketing data needed for effective marketing efforts, apply the marketing research process to solve marketing problems, and create marketing information, systems that meet a hospitality company's real marketing needs.
5. Design a product/service mix (or product offer) that meets guest and company needs.
6. Develop and implement a distribution mix of hospitality networks to deliver hospitality products and services effectively and efficiently.
7. Evaluate and apply pricing mix strategies and tactics as an active and critical component of the overall marketing plan.
8. Analyze the components and interrelationships of the communications mix.
9. Evaluate and apply advertising, public relations, personal selling, merchandising, and promotion to better achieve company goals and objectives.

HOST 205. Housekeeping, Maintenance, and Security
3 Credits (3)
Function of housekeeping departments, including personnel, sanitation, maintenance, and materials. A survey of security procedures to include guest protection and internal security of hotel/motel assets. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze and differentiate various positions and job descriptions within the housekeeping, maintenance, and security departments.
2. Apply and evaluate various scheduling methods to optimize departmental efficiency.
3. Evaluate the role of the Maintenance department in the success of the operation and propose strategies for effective collaboration with other departments.
4. Identify and classify various types of floor, wall, and ceiling coverings and develop a comprehensive care and maintenance plan for each type.
5. Analyze the sanitation responsibilities of the Housekeeping department and develop a detailed sanitation protocol.
6. Evaluate the importance of an effective security program and design a comprehensive security plan for a hospitality establishment.
7. Investigate and recommend innovative technologies and practices that can enhance the efficiency and effectiveness of housekeeping, maintenance, and security operations.
8. Develop and implement training programs for housekeeping, maintenance, and security staff to ensure consistent quality and adherence to industry standards.
9. Analyze the impact of sustainable practices in housekeeping, maintenance, and security operations and develop a sustainability plan for these departments. 1
10. Evaluate the role of effective communication and collaboration among housekeeping, maintenance, security, and other departments in ensuring guest satisfaction and operational success.

HOST 206. Travel and Tourism Operations
3 Credits (3)
Transportation, wholesale and retail operations, attractions, the traveler, tourism development, and operational characteristics of tourism business. Restricted to: Community College campuses only.
Learning Outcomes
1. Analyze the economic importance of travel and its impact on local, national, and global economies.
2. Evaluate the historical evolution of travel and its influence on contemporary tourism practices.
3. Identify and explain the roles of various travel and tourism organizations in promoting and regulating the industry.
4. Compare and contrast various modes of transportation, assessing their strengths, weaknesses, and suitability for different types of travel.
5. Investigate and categorize barriers to tourism, proposing strategies to mitigate their impact on the industry.
6. Develop a comprehensive understanding of the global tourism landscape, including popular destinations, emerging markets, and niche travel segments.
7. Analyze the social, cultural, and environmental impacts of tourism on host communities and propose sustainable tourism practices.
8. Evaluate the role of technology in shaping the travel and tourism industry, including its influence on booking systems, customer experiences, and destination marketing.
9. Create a hypothetical travel itinerary that showcases an understanding of transportation logistics, destination management, and customer preferences. 1

10. Assess the importance of customer service in the travel and tourism industry and develop strategies for delivering exceptional experiences to travelers.

HOST 208. Hospitality Supervision
3 Credits (3)
Strategies for directing, leading, managing change and resolving conflict. Prepares students to meet expectations of management, guests, employees, and governmental agencies. Restricted to: Community College campuses only.
Learning Outcomes
1. Apply the management process to business activities, analyzing its effectiveness in achieving organizational goals.
2. Evaluate the importance of the communication process in relation to productivity and morale and develop strategies for effective communication within the organization.
3. Analyze and select appropriate recruitment channels and apply interviewing and screening skills to identify and hire the most qualified employment candidates.
4. Develop and implement effective orientation and training programs to prepare employees for their roles and responsibilities.
5. Integrate standard operating procedures into performance evaluation processes and utilize coaching and ongoing training techniques to support employee development.
6. Evaluate and apply motivational tools to maximize productivity levels while implementing labor cost reduction strategies.
7. Analyze special management concerns, including EEO policy, sexual harassment, safety and security, ethics, substance abuse, and unions, and develop policies and procedures to address these issues effectively.
8. Apply conflict management, communication, and motivational skills to build and lead effective work teams.
9. Evaluate professional development needs and future trends and create strategies for managing change within the organization. 1
10. Design and implement a performance management system that aligns with organizational objectives, incorporates employee feedback, and supports continuous improvement.

HOST 210. Catering and Banquet Operations
3 Credits (3)
Teaches the basics of catering and banquet operations, including computer coordination, planning, set up, service, and completion.
Learning Outcomes
1. Identify and analyze the types of caterers and customer markets, evaluating their unique characteristics and needs.
2. Evaluate and apply various marketing methods used in catering to effectively reach target audiences and promote catering services.
3. Analyze the process of client negotiation and problem resolution and develop strategies for effective communication and conflict management in catering.
4. Apply knowledge of menu planning, truth-in-menu guidelines, pricing, and types of meal functions to create and execute successful catering events.
5. Evaluate beverage service considerations, including pricing, types of beverage functions, liquor laws, and third-party liability, and develop strategies for responsible and profitable beverage service in catering.
6. Analyze special set up considerations, such as space requirements, cleaning and maintenance, equipment, and client services (audiovisual, entertainment, and lighting), and create comprehensive event plans that address these factors.
7. Evaluate recruitment, orientation, training, and compensation practices in catering, and develop strategies for building and managing effective catering teams.
8. Apply understanding of the banquet event order, contract, change order, and other related reports to effectively manage catering events and maintain accurate documentation.
9. Analyze payroll cost control techniques, credit management, and food and beverage cost control methods, and apply these concepts to optimize profitability in catering operations. 1
10. Develop and implement a comprehensive risk management plan for catering operations, addressing issues such as food safety, liability, and emergency preparedness.

HOST 214. Purchasing and Kitchen Management
3 Credits (3)
Technical purchasing concepts, product selection, and specifications. Safety and sanitation as they relate to food service establishments. Prepares student for work with HACCP programs.
Prerequisite: Grade of C- or better in HOST 203.
Learning Outcomes
1. Analyze and apply government and industry standards and specifications to ensure compliance and maintain quality in food service operations.
2. Create detailed specifications for a product or service, taking into account operational requirements, quality standards, and cost considerations.
3. Evaluate the appropriateness of bid purchasing programs for various operational types, considering factors such as volume, frequency, and supplier relationships.
4. Analyze and select the most cost-effective bids by compiling and calculating relevant data, such as price, quality, and delivery terms.
5. Identify and assess the benefits of labor-saving equipment in kitchen operations, and develop strategies for their effective implementation and use.
6. Design and implement a procedural method for improving kitchen efficiency, considering factors such as workflow, ergonomics, and resource optimization.
7. Analyze the inherent dangers found in kitchens and develop a comprehensive safety plan to mitigate risks and protect staff and customers.
8. Identify the major microbial causes of Food Borne Illnesses (FBI), and evaluate their origins, transmission methods, and potential impacts on public health.
9. Apply food safety principles and develop a comprehensive food safety management system to minimize hazards in kitchen environments. 1
10. Evaluate the role of state and local health departments, CDC, WHO, and the HACCP model in controlling Food Borne Illnesses, and incorporate their guidelines and best practices into kitchen operations.

HOST 216. Event, Conference and Convention Operations
3 Credits (3)
The ability to successfully plan, organize, arrange, and execute special events is critical to the success of many hospitality organizations. This course gives the student a grounding in the skills necessary to achieve success in this area. A variety of events are discussed and the similarities and differences with conferences and conventions are explored. Students

are taught to organize and plan events of varying type and durations. Sales, logistics, and organizing skills are emphasized. Restricted to: Community College campuses only.

Learning Outcomes

1. Identify and analyze the major requirements for successful event production, including organizational, financial, and operational factors.
2. Create a marketing plan for an event, incorporating strategies for target audience segmentation, promotional activities, and ROI measurement.
3. Demonstrate and apply effective customer service techniques and negotiating skills in the context of event planning and implementation.
4. Design and optimize the layout and functional space for an event, considering factors such as guest flow, accessibility, and aesthetic appeal.
5. Analyze the importance of financial contracts and controls in event planning, and develop strategies for budgeting, cost management, and revenue generation.
6. Evaluate the legal responsibilities of event planners and develop a risk management plan to mitigate potential liabilities and ensure compliance with relevant regulations.
7. Assess and select appropriate vendors and suppliers for events, considering factors such as quality, reliability, and cost-effectiveness.
8. Develop and implement a comprehensive project management plan for an event, including timelines, milestones, and contingency plans.
9. Analyze post-event data and feedback to identify areas for improvement and develop strategies for enhancing future event outcomes. 1
10. Evaluate the sustainability and environmental impact of events and develop strategies for incorporating Eco-friendly practices into event planning and execution.

HOST 219. Safety, Security and Sanitation in Hospitality Operations
3 Credits (3)

It is the responsibility of the manager to provide appropriate security, sanitation, and safety precautions in hospitality operations. Preparation for internal and external disasters is an important task for the Hospitality Manager. This course uses the National Restaurant Association ServSafe¬ training material.

Learning Outcomes

1. Analyze the steps of the HACCP process and evaluate the significance of each in ensuring food safety in hospitality operations.
2. Design an effective accident prevention program for a hospitality operation, incorporating strategies for hazard identification, risk assessment, and employee training.
3. Evaluate how equipment and facility design impacts employee and guest safety and propose improvements to enhance safety in hospitality settings.
4. Develop and implement loss control/theft prevention policies, considering factors such as asset protection, inventory management, and employee accountability.
5. Create a comprehensive emergency response procedure for hotels and restaurants, including protocols for evacuation, communication, and coordination with local authorities.
6. Analyze the impact of 9/11 on security in the hospitality industry and evaluate the effectiveness of subsequent security measures and policies.
7. Assess the importance of cyber-security in the hospitality industry, and develop strategies for protecting sensitive data, preventing breaches, and responding to cyber incidents.
8. Apply principles of risk management to identify and mitigate potential safety and security threats in hospitality operations.
9. Evaluate the role of technology in enhancing safety and security in the hospitality industry, and propose the adoption of innovative solutions, such as biometrics and AI-based surveillance. 1
10. Analyze the legal and ethical implications of safety and security practices in the hospitality industry and develop policies that prioritize guest and employee well-being while complying with relevant regulations.

HOST 220. Experiential Travel
1-3 Credits (1-3)

Course provides an opportunity for students to plan, prepare for and experience travel to destinations they might not otherwise have visited. Students experience local culture and peoples. Restricted to Community Colleges campuses only. May be repeated up to 9 credits.

Prerequisite: Grade of C- or better in HOST 201 or consent of instructor.

Learning Outcomes

1. Evaluate the marketing and promotional material used by the destination service providers to determine the target market demographics.
2. Recognize and discuss the cultural variations of the host venue and their impact on tourism.
3. Develop plans for cost effective utilization of the services of transportation, activity and lodging providers.
4. Prepare a detailed itinerary for the planned travel to manage time maximizing traveler's experiences.
5. Discuss the economic, cultural and political issues in the destination country and their impact on the tourism industry.
6. Describe customer service strengths and weaknesses experienced at the destination during the travel event.

HOST 221. Internship I
1,3 Credits (1,3)

Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 3 credits.

Learning Outcomes

1. Demonstrate proficiency in performing assigned tasks and responsibilities and contribute meaningfully to the internship host company's operations.
2. Evaluate personal strengths, weaknesses, and areas for improvement based on feedback received during the internship and develop a professional development plan.
3. Create a portfolio showcasing the skills, knowledge, and experiences gained during the internship, and reflect on how these align with career goals and industry expectations.
4. Develop a professional network within the hospitality industry, and leverage internship experiences to explore career opportunities and pathways.
5. Evaluate the internship experience holistically and provide constructive feedback and recommendations to the internship host company and the academic program for continuous improvement.

HOST 222. Cooperative Experience II
3 Credits (3)
Continuation of HOST 221. Restricted to majors. May be repeated up to 3 credits. Restricted to: Community College campuses only. Restricted to HOST majors.
Prerequisite: Grade of C- or better in HOST 221.
Learning Outcomes
1. Student Learning Outcomes vary.

HOST 239. Introduction to Hotel Management
3 Credits (3)
This course covers basic management functions in hotels, resorts, Boutique Hotels, Bed & Breakfast establishments, and other lodging operations. All aspects of the operation are covered including guest management, operations, and sales and marketing. Restricted to: Branch campuses only.
Learning Outcomes
1. Analyze the historical evolution of hotels and evaluate how they have developed into their current form.
2. Describe and explain the basic operational structure of lodging operations.
3. Analyze the different divisions in hotels and evaluate how they interact and contribute to the overall success of the property.
4. Evaluate the functions of the Front Office area and assess its impact on other departments and overall guest experience.
5. Analyze the various functions of the housekeeping department and develop strategies for optimizing its efficiency and effectiveness.
6. Evaluate the role of the sales and marketing department in driving occupancy and revenue.
7. Identify and explain the duties of the Human Resources department in a lodging operation and propose strategies for effective talent management and employee engagement.
8. Analyze the operation of a Food Beverage department in a lodging property, and develop strategies for enhancing its profitability and guest satisfaction.
9. Evaluate the importance of safety and security in a hotel operation and design a comprehensive risk management plan that addresses potential threats and emergencies. 1
10. Compare and contrast the various types of properties in the specialty hotel/lodging market, and analyze their unique characteristics, target markets, and operational requirements.

HOST 255. Special Topics
3 Credits (3)
Specific subjects to be announced in the Schedule of Classes. May be repeated up to 9 credits.
Learning Outcomes
1. Course Learning Outcomes are based on the topical outline for the Special Topic.

HOST 298. Independent Study
1-3 Credits (1-3)
Individual studies directed by consenting faculty with prior approval of department chair. May be repeated for a maximum of 3 credits. Restricted to: Community College campuses only.
Prerequisite(s): Minimum 3.0 GPA and sophomore standing.

HRTM-HOTEL/RESTRNT/TOURISM MGT (HRTM)

HRTM 1120G. Introduction to Tourism
3 Credits (3)
Survey of travel and tourism development and operating characteristics.
Learning Outcomes
1. Define tourism and related terms.
2. Identify and explain the role of the elements of the destination mix.
3. Identify the potential socio-cultural, economic and environmental impacts of tourism.
4. Identify and describe the role of key governmental and nongovernmental organizations in tourism.
5. Describe basic tourism planning and development principles.
6. Discuss the unique challenges of tourism marketing and standard marketing methods.
7. Describe the components of the tourism distribution system.
8. Demonstrate a basic understanding of traveler behavior including motivations and barriers to travel.
9. Identify major factors that influence traveler flows. 1
10. Describe the role of major modes of transportation in the tourism system. 1
11. Identify and describe the three pillars of sustainable tourism development. 1
12. Explain personal and social responsibility as it relates to sustainable tourism development. 1
13. Demonstrate effective communication and critical thinking skills.

HRTM 1130. Introduction to Hospitality Management
3 Credits (3)
Overview of the major segments of the hospitality industry, with a focus on basic management principles.
Learning Outcomes
1. Understand the concept of management contracts and franchising.
2. Recognize and understand needed leadership qualities to achieve organizational objectives.
3. Understand the hospitality industry within the global environment.
4. Identify company and industry trends.
5. Understand the functions of all departments in a hospitality organization (restaurant, hotel, club, etc.).
6. Apply the concepts of convention management, meeting and event planning, and casino management.
7. Understand the concepts of quick and institutional/contract foodservice management.
8. Understand the principles of bar management and compare and contrast wines, beers and distilled spirits.
9. Manage the process of service delivery. 1
10. Identify and solve managerial problems 1
11. Manage a diverse workforce and develop positive employee relations to reduce turnover.

HRTM 1310. Safety, Sanitation and Health in the Hospitality Industry
1 Credit (1)
Addresses public health, HACCP, and food safety responsibilities in the hospitality industry. Sanitation certification test allows students to receive national ServSafe Food Protection Manager Certification.

Learning Outcomes

1. Identify the hazards to safe food and the foods at risk in a foodservice operation.
2. Identify and discuss the Hazard Analysis Critical Control Point (HACCP) system and be able to design a HACCP flowchart.
3. Demonstrate knowledge of how to protect food during purchasing, receiving, storing, preparing, holding, and serving.
4. Discuss the procedures for ensuring sanitary equipment, facilities, and food-handling practices.
5. Explain how to set-up cleaning, safety, pest control, crisis management, and training programs.
6. Also meets KRDNs for the Accreditation Council for Education in Nutrition and Dietetics (ACEND).

HRTM 1320. Food Production and Service Fundamentals
3 Credits (1+4P)

Basic overview of food service systems including menu management, purchasing and production. The course includes basic principles of food fabrication and production. Topics include knife skills, culinary terminology, product identification, quality standards, nutritional cooking theory and application of food preparation techniques. The course includes laboratory aspects and demonstration of basic food production techniques, service styles, practices and procedures in food service operations including culinary math. This course provides students with an understanding of food service sanitation and culinary nutrition. Completion of a national certification examination is required. Students who have not completed HRTM 1310 before enrolling in the course must have proof of valid ServSafe Food Protection Manager certificate. May be repeated up to 3 credits.

Prerequisite: HRTM 1130 or FSTE 2110G.
Prerequisite/Corequisite: HRTM 1310.

Learning Outcomes

1. Demonstrate use of standard recipes and how to reduce and increase their yields
2. Demonstrate basic culinary knife cuts, basic fabrication and mise en place
3. Demonstrate basic cookery techniques of dry, moist and a combination of heat
4. Demonstrate the proper plating and garnishing of foods
5. Describe proper personal behaviors required for the safe handling of food
6. Identify and properly operate kitchen equipment.
7. Pass the ServSafe Exam
8. Describe the three forms of food contaminants and preventative measures.
9. Demonstrate how to properly "set" a table for service 1
10. Demonstrate how to provide dining room service with proper etiquette 1
11. Demonstrate safe work habits, identify safety hazards, and employ preventative safety measures. 1
12. Maintain positive relations with fellow students and faculty through teamwork. 1
13. Exhibit appropriate work habits and attitudes; demonstrate a willingness to compromise. 1
14. Demonstrate a positive attitude, conversation skills, personal hygiene and work attire.

HRTM 2130. Hotel Operations I
3 Credits (3)

Analysis of hotel operations to include: guest services, reservations, reception, guest/city ledger and the night audit. May be repeated up to 3 credits. Restricted to Las Cruces campus only.

Prerequisite(s): HRTM 1130.

Learning Outcomes

1. Outline the history, magnitude and culture of the hotel industry
2. Define and identify hotel ownership and operational structures
3. Outline the organization and structure of a hotel and resort.
4. Describe and calculate the components and processes of room reservation forecasting, pricing and revenue management.
5. Outline and explain the flow of the guest from pre-arrival through arrival, room occupancy and departure.
6. Demonstrate the procedures and processes for Guest Accounting, the City Ledger, Guest Credit and the Night Audit.
7. Discuss problem solving and guest service associated with the front office and other departments of the hotel and resort.
8. Forecast impacts of technology to the guest services and hotel operations
9. Describe the day to day activities and responsibilities of a Hotel Front Office Manager or a Hotel Assistant General Manager (AGM).

HRTM 2996. Special Topics
1-4 Credits

Specific subjects and credits to be assigned on a semester basis for both lecture and laboratory assignments. May be repeated for a maximum of 4 credits.

Prerequisite: consent of instructor.

Learning Outcomes

1. Varies

HVAC-HEATING/AC/REFRIGERATION (HVAC)

HVAC 1105. Introduction to Fundamentals of Refrigeration
4 Credits (3+2P)

Demonstrate the ability to perform HVAC/R Technician duties in a safe manner. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems. Professionally communicate in oral and written forms. Demonstrate the use of current industry techniques including tools, testing equipment, manufacturers' apps. Determine the appropriate ethical action that should occur in a given circumstance. Work effectively in a team-based environment. Possess a mastery of the refrigeration cycle and its components.

Learning Outcomes

1. Demonstrate working knowledge of heat theory, safety, and temperature/pressure/volume gas laws as they relate to the refrigeration cycle.
2. Identify and demonstrate heat transfer by conduction, convection, and radiation and describe their effects on temperature change using latent and sensible heat transfer.
3. Safely demonstrate the refrigeration process using system components such as compressors, condensers, evaporators, metering (expansion) devices and accessories.
4. Demonstrate a knowledge of industry standards for system installation of equipment and tubing and safely demonstrate tubing operations including cutting, reaming, flaring, swaging, and brazing.

HVAC 1110. Introduction to Fundamentals of Electricity
4 Credits (3+2P)
Introduces the student to electrical theory, generation and distribution, OHM's Law, series and parallel circuits, A/C / D/C, practical applications and electrical safety.
Learning Outcomes
1. Demonstrate the use of industry practices: safety, use of lockout/tagout, diagnosing , repairing, and installing electrical components in HVAC/R equipment and systems; use of test instruments both digital and analog, comprehension of wiring diagrams, proper use of tools specific to the industry, mastery of electrical theory and circuits, single-phase and three-phase applications; use of symbols and terminology, and the ability to communicate professionally in oral and written forms.

HVAC 1111. EPA Clean Air Act: Section 608
1 Credit (1)
Refrigerant certification preparation to include basics of refrigerant bearing equipment, ozone depletion and the new legislation, technician categories covered and the certification examination.
Learning Outcomes
1. Use oral communication effectively, use written communication effectively.
2. Accurately perform calculations related to refrigeration.
3. Accurately perform calculations related to refrigeration.
4. Accurately perform calculations related to air conditioning.
5. Accurately perform conversions between various units.

HVAC 1125. Electrical and Mechanical Controls I
4 Credits (3+2P)
Applications of basic electrical and mechanical controls. Reading and drawing diagrams of simple refrigerating equipment. Safe use of testing equipment.
Prerequisite: HVAC 1105 and HVAC 1110, or consent of instructor.
Learning Outcomes
1. Use oral communication and written communication effectively.
2. Determine the appropriate ethical action that should occur in a given circumstance.
3. Perform technician duties safely.
4. Service refrigeration systems, repair refrigeration systems, maintain refrigeration systems.
5. Accurately perform calculations related to refrigeration.
6. Work effectively as a team.
7. Troubleshoot refrigeration systems.
8. Accurately perform conversions between various units.

HVAC 1233. Professional Development and Leadership
1 Credit (1)
As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. Students competing in Skills USA are required to register for the course. May be repeated up to 6 credits.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.

HVAC 1238. Introduction to Sheet Metal Fabrication
4 Credits (3+2P)
Introduction to sheet metal fabrication to include hands-on practical laboratory applications, cutting and forming procedures, identifying types and gauges. Design and layout techniques.
Prerequisite: OETS 118 or equivalent math or consent of instructor.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.
3. Demonstrate sheet metal design and layout techniques to fabricate ducting and associated fittings accurately.
4. Determine the appropriate ethical action that should occur in a given circumstance.
5. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.

HVAC 1243. Residential Air Conditioning Systems
4 Credits (3+2P)
Applications and types of equipment used in comfort cooling. Preventive maintenance, service, and repairs common to evaporative coolers and refrigerated air conditioning systems. Air properties and psychometrics. May be repeated up to 4 credits.
Prerequisite: C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Use oral and written communication effectively.
2. Work effectively as a team.
3. Determine the appropriate ethical action that should occur in a given circumstance.
4. Troubleshoot heating systems accurately perform conversions between various units, accurately perform calculations related to heating systems.

HVAC 1245. Gas Heating Furnaces
4 Credits (3+2P)
The study and application of gas furnaces including installation, operation, service, maintenance and controls. The students will learn about natural gas, and electric heating systems used for residential and/or light commercial heating systems including furnace and boiler package systems and alternative heating sources. Highlights electrical and electronic trouble shooting, service, maintenance, repair and replacement of residential and light commercial heating systems. The course will include service, maintenance and troubleshooting.
Prerequisite: C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Identify the components and describe the sequence of operation of gas furnaces.
2. Use proper procedures to troubleshoot gas furnaces.
3. Describe and demonstrate proper procedures for conducting service calls and delivering customer service.
4. Demonstrate the use of proper procedures for preventative maintenance of gas furnaces.
5. Describe how gas pressure is measured, what unit of measurement is used and what is the purpose of a water manometer, gas combustion, four means of proof flame, why there is a fan-on and fan-off delay, flue gas venting systems, gas piping adjacent to the gas valve, calculate the correct orifice size, derate sea level input for altitude, calculate the correct gas pipe sizing for a one-story building with several gas appliances.

HVAC 1250. Heat Pump Systems
4 Credits (3+2P)
The student will acquire the knowledge to identify heat pump components, explain the sequence of operation, and develop troubleshooting skills for both mechanical and electrical issues associated with reverse cycle refrigeration systems used in comfort heating and cooling, a while utilizing the proper tools and equipment.
Prerequisite: C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose HVAC/R systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of HVAC/R equipment and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of HVAC/R equipment and systems.
7. Determine the appropriate ethical action that should occur in each circumstance.

HVAC 1338. New Mexico Mechanical Codes: HVAC
1-4 Credits
Principles and regulations developed for HVAC, sheet metal, and plumbing occupations to include terminology, ventilation air supply, exhaust systems, duct systems, combustion air, chimneys and vents, boilers/water heaters, refrigeration, panel and hydronic panel heating, fuel gas piping, storage systems, solar systems, and workmanship standards. May be repeated up to 12 credits.
Learning Outcomes
1. Use oral and written communication effectively.
2. Accurately perform conversions between various units.
3. Determine the appropriate ethical action that should occur in a given circumstance.

HVAC 1410. Commercial Refrigeration Systems
4 Credits (3+2P)
This course covers the installation, service, and maintenance of a wide range of refrigeration equipment, including reach-in and walk-in coolers, ice machines, ice cream machines, as well as mechanical and electrical troubleshooting of refrigeration systems. Encompassing the service and maintenance of commercial refrigeration equipment, which involves procedures for evacuation and charging, understanding electrical diagrams, and handling compressors and related accessories.
Prerequisite: Grade of C- or better in HVAC 1105 and HVAC 1110.
Learning Outcomes
1. Read and interpret model numbers, nomenclature, and component capacities.
2. Use industry techniques and equipment for diagnosing and repairing HVAC/R systems.
3. Perform service and maintenance on HVAC/R equipment and systems.
4. Determine ethical actions in given circumstances.
5. Demonstrate safe HVAC/R Technician duties.
6. Work effectively in a team-based environment.
7. Accurately perform HVAC/R calculations and interpret results.
8. Communicate professionally, both orally and in writing.
9. Perform leak checks, repairs, recovery, evacuation, and recharging of refrigeration systems. 1
10. Identify components and troubleshoot parallel refrigeration systems. 1
11. Start up, troubleshoot, and explain Lab Systems.1
12. Address various refrigeration accessories. 1
13. Assemble, pipe, pressure test, and operate systems. 1
14. Troubleshoot refrigeration defrost timer systems. 1
15. Calculate heat gain and specify refrigeration systems. 1
16. Understand the use of water and brines as secondary refrigerants. 1
17. Diagnose and repair refrigerant side problems. 1
18. Set controls for temperature regulation. 1
19. Locate information in reference sources. 2
20. Evaluate system performance using data. 2
21. Size and assemble refrigeration systems to meet customer needs. 2
22. Handle refrigerant, including recovery, recycling, and reclamation. 2
23. Identify and troubleshoot various safety controls. 2
24. Troubleshoot line voltage thermostats and compressor contactors. 2
25. Diagnose and repair air side problems. 2
26. Troubleshoot electrical problems using schematics. 2
27. Use pressure/enthalpy charts and understand the refrigeration cycle.

HVAC 2098. Heating, Ventilating, Air Conditioning, and Refrigeration Field Experience
1 Credit (1)
The course will provide students with actual hands-on exposure to HVAC/R fieldwork, offering insights into the expectations of field technicians as they shadow experienced HVAC/R professionals. Students will gain practical experience through supervised training at an approved Heating, Ventilation, Air Conditioning, and Refrigeration workplace.
Learning Outcomes
1. Effectively utilize verbal and written communication, collaborate efficiently within a team, diagnose issues in refrigeration systems, precisely execute unit conversions, accurately conduct refrigeration-related calculations, identify the ethical course of action in specific situations, safely execute technician responsibilities, provide maintenance for refrigeration systems, conduct repairs on refrigeration systems, and service refrigeration systems.

HVAC 2210. Commercial Air Conditioning and Heating Systems
4 Credits (3+3P)
Covers troubleshooting mechanical and electrical problems associated with HVAC equipment in commercial buildings. Includes gas, electric, and heat pump systems.
Prerequisite: Grade of C- or better in HVAC 1105 & HVAC 1110.
Learning Outcomes
1. Professionally communicate in oral and written forms.
2. Determine the appropriate ethical action that should occur in a given circumstance.
3. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.
4. Demonstrate the use of current industry techniques and equipment in the installation of HVAC/R equipment and systems.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of HVAC/R equipment and systems.

6. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
7. Demonstrate the use of current industry techniques and equipment to diagnose HVAC/R systems and perform appropriate repairs.
8. Work effectively in a team-based environment.

HVAC 2990. Practicum
3 Credits (3)
Working in the field with journeymen service technicians. Develop and apply job skills.
Prerequisite: HVAC 2098.
Learning Outcomes
1. Varies.

HVAC 2996. Special Topics
1-6 Credits
Topics to be announced in the Schedule of Classes. May be repeated up to 12 credits.
Learning Outcomes
1. Varies.

I E-INDUSTRIAL ENGINEERING (I E)

I E 151. Computational Methods in Industrial Engineering
3 Credits (3)
History, social implications, and application of computers and an introduction to computer programming, word processing, and database management systems. Satisfies General Education computer science requirement. May be repeated up to 3 credits.
Prerequisite: MATH 1220G.
Learning Outcomes
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

I E 200. Special Problems-Sophomore
1-3 Credits
Directed individual projects. May be repeated up to 3 credits.
Learning Outcomes
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to communicate effectively with a range of audiences.

I E 217. Manufacturing Processes
3 Credits (2+3P)
Introduction to manufacturing and processing, including: casting, forming, and machining. Emphasis on creating products with the appropriate techniques. Crosslisted with: E T 217.
Prerequisite(s): A grade of C- or better in either E T 110 or ENGR 110 and C- or better in MATH 1220G.
Learning Outcomes
1. Identify the different manufacturing processes and their applications.
2. Use, set up, and calibrate measuring tools.
3. Apply geometric tolerances to engineering drawings.
4. Demonstrate basic knowledge of materials and material properties.
5. Demonstrate basic knowledge of GM codes and their application.
6. Proficiently use CAM packages such as SolidWorks CAM.
7. Identify different tooling, their use, and manufacturing application.

INST-INSTRUMENT & CONT TECH

INST 133. Process Technology and Systems
4 Credits (4)
Provides instruction in the use of common process equipment. Students will use appropriate terminology and identify process equipment components such as piping and tubing, valves, pumps, compressors, turbines, motors, engines, heat exchangers, heaters, furnaces, boilers, filters dryers and other miscellaneous vessels. Included are the basic functions, scientific principles and symbols. Students will identify components on typical Process Flow Diagrams and Process and Instrument Diagrams. Restricted to: Instrumentation and Control Technology majors. Restricted to Carlsbad campus only.
Learning Outcomes
1. Explain the different pieces of equipment used in moving fluids through a process plant such as piping, valves, pumps, compressors, motors, engines, turbines, and power transmission devices. Explain the purpose of each component. Understand the applications for the different types of equipment in each classification and their operating principles.
2. Explain the different types of heat exchangers and cooling towers used in the Process Industry as well as their components. Describe their operating principles and the operator's role in their operation.
3. Explain the different types of boilers and furnaces as well as their components. Describe their operating principles and the operator's role in their operation.
4. Explain the function of filters and dryers along with their principles of operation and the operator's role in their operation.
5. Explain the different types of vessels used in the process industry and well as their components and auxiliary systems. Define what happens internally in the different vessels.
6. Demonstrate reading Process Flow Diagrams and Piping and Instrumentation Diagrams.
7. Apply terms used when describing the various pieces of equipment

INST 165. Equipment Processes
4 Credits (4)
This course introduces Thermal Energy and Mechanical alignment in equipment and machinery components. Students will learn the operation, maintenance, and troubleshooting of these types of equipment. Consent of Instructor required. Restricted to: Instrumentation and Control majors. Restricted to Carlsbad campus only.
Learning Outcomes
1. Explain how Thermal Process System works.
2. Identify parts of Thermal System and Steam machines.
3. Identify troubleshooting of thermal machine.
4. Explain the steps of how to operate the Thermal Systems

INST 205. Programmable Logic Controllers and Applications
4 Credits (4)
This learning system is set up in a self-directed format where students can proceed forward at their own pace. The directions are provided in a series of Learning Activity Packets (LAPs), which include text and lab activity directions. LAPs book will be handed out at the start of every class day and must be returned before the class day begins. This learning system can be used as a stand-alone teaching learning system within any class to give hands-on experience in electrical systems.

Computer Literacy and internet literacy is required to enroll in this course. Restricted to: Instrumentation and Control Technology majors. Restricted to Carlsbad campus only.

Learning Outcomes

1. Explain the basics of PLCs.
2. Describe how PLCs are used in industrial environments.
3. Demonstrate ability to program a PLC unit to solve a problem

INST 251. Instrumentation and Measurement
5 Credits (5)

The overall aim of this course is to present the students with the basic principles and techniques required for the design and analysis of measurement systems. The course introduces the theory of measurement as well as the sensors and instruments typically used for measuring various physical quantities. Restricted to: Instrumentation and Control Technology majors. Restricted to Carlsbad campus only.

Learning Outcomes

1. Understand measurement principles and apply them within measurement systems
2. Select and specify suitable instrumentation for measurement of physical quantities
3. Analyze and interpret experimental data
4. Perform analog and digital signal processing
5. Identify various sensor technologies and their use in measurement systems

JAPN-JAPANESE

JAPN 1110. Japanese I
4 Credits (4)

This course focuses on the basics of the Japanese language with a balanced approach to the development of four skills: listening, speaking, reading and writing. The course is designed to teach students to communicate with Japanese socially and to utilize culturally appropriate manners to engage in Japanese daily life. While conversational skills are emphasized, the student will also be introduced to the various Japanese scripts.

Learning Outcomes

1. Become introduced to the sound system of the Japanese language.
2. Gain a basic understanding of Japanese scripts.
3. Learn and utilize vocabulary needed for basic conversation.
4. Converse and write on topics related to immediate personal needs, greetings, introductions, personal data, daily routines and school.
5. Comprehend both artificial and authentic written and aural texts of short length on familiar topics.
6. Comprehend and use essential grammar concepts.
7. Identify patterns of cultural behavior or customs in Japan, including gestures, greetings, and body language.
8. Gain the ability to converse using Japanese idiomatic expressions.

JAPN 1120. Japanese II
4 Credits (4)

This course focuses on building upon the basics of the Japanese language with a balanced approach to the development of four skills: listening, speaking, reading and writing. The course is designed to teach students to communicate with Japanese socially and to utilize culturally appropriate manners to engage in Japanese daily life. Along with further developing conversational skills, the student will also continue to learn about and utilize various Japanese scripts.

Prerequisite: grade of C or better in JPNS 1110 or consent of instructor.

Learning Outcomes

1. Understand and utilize in more depth the sound system of the Japanese language.
2. Gain a greater understanding of Japanese scripts.
3. Utilize expanded vocabulary in conversation.
4. Converse and write on topics related to personal, social, geographical, and political life.
5. Comprehend both artificial and authentic written and aural texts of longer, but still brief length, such as personal letters, messages, journals, and narrative accounts.
6. Comprehend and use essential and more complex grammatical concepts.
7. Continue to develop a sense of culturally appropriate conduct.
8. Build upon the ability to converse using Japanese idiomatic expressions.

JAPN 2110. Japanese III
3 Credits (3)

This course is designed for students who have completed 12 credit hours or the equivalent of Japanese study. This course continues to expand vocabulary, grammar and 209 Kanji to deal with daily activities. Its objective is to teach students to communicate in a meaningful way using all four language skills: speaking, listening comprehension, reading and writing. Students will be able to manage not-complicated daily situation. Students will attain ACTFL intermediate-low level in four skills.

Prerequisite: grade of C or better in JPNS 1120 or consent of instructor.

Learning Outcomes

1. Participate in conversations on familiar topics, such as applying part-time job, gift giving/receiving,planning a trip, lost and found, using sentences and short series of sentences.
2. Handle short social interactions in everyday situations by asking and answering a variety of questions.
3. Usually say what they want to say about themselves and their everyday life.
4. Write on a variety of familiar topics in Japanese characters using connected sentences.
5. Understand the main idea in messages and presentations in Japanese on a variety of topics related to everyday life and personal interests and studies.
6. Sometimes understand the main idea of conversations that they overhear.
7. Understand the main idea of texts in Japanese characters related to everyday life and personal interests or studies.
8. Describe and make comparisons between cultures about beliefs, behaviors and cultural artifacts in Japan.

JAPN 2120. Japanese IV
3 Credits (3)

This course is designed for students who have completed 15 credit hours or the equivalent of Japanese study. This course continues to expand vocabulary, grammar and 271 Kanji to deal with not-complicated daily situation with ease. Also students acquire a competence for Japanese pragmatic usage. This course follows ACTFL language guidelines, integrating the five C's: communication, cultures, connections, comparisons and communities, to offer the student a well- rounded classroom experience. Students will attain ACTFL intermediate-mid level in four skills.

Prerequisite: grade of C or better in JPNS 2110 or consent of instructor.

Learning Outcomes

1. Participate with ease and confidence in conversations on familiar topics, such as relationships, par-time job, shopping with a variety of request, meeting socially superiors.
2. Usually describe people, places,and things, and talk about events and experiences in various time frames.
3. Handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
4. Write about topics related to school, work, and community in a generally organized way in Japanese characters.
5. Write some simple paragraphs in Japanese characters about events and experiences in various time frames.
6. Easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
7. Usually understand a few details of what they overhear in conversations, even when something unexpected is expressed.
8. Sometimes follow what they hear about events and experiences in various time frames.
9. Understand the main idea of texts in Japanese characters with topics related to everyday life, personal interests, and studies, as well as sometimes follow stories and descriptions about events and experiences in various time frames. 1
10. Describe and make comparisons between cultures about beliefs, behaviors and cultural artifact in Japan. 1
11. Start using languages in a culturally appropriate way based on the understanding of cultural similarities and differences, including the use of “honorific” and “humble” expression.

JAPN 320. Oral Practicum in Japanese
1-3 Credits
Service training for facilitators leading informal conversation groups in Japanese. May be repeated up to 4 credits.
Prerequisite: fluency in Japanese and consent of instructor.

JAPN 453. Independent Studies in Japanese
1-3 Credits (1-3)
Individualized, self-paced projects for advanced students. May be repeated up to 6 credits.

JOUR-JOURNALISM (JOUR)

JOUR 105G. Media and Society
3 Credits (3)
Functions and organization of the mass media system in the United States; power of the mass media to affect knowledge, opinions, and social values; and the impact of new technologies.
Learning Outcomes

1. Describe the structure and functions of major US media institutions and their roles in shaping public knowledge and opinion.
2. Analyze the social, political, and cultural impacts of mass media on audiences and communities, with attention to issues of power and representation.
3. Evaluate the influence of emerging technologies on media practices, audience behavior, and the future of journalism.

JOUR 110. Media Writing I
3 Credits (2+2P)
Introduction to media writing basics including news writing for print and web, feature writing, sports writing and writing for public relations. Course emphasizes fundamental news values, journalism ethics and Associated Press style. Restricted to all Campuses. May be repeated up to 3 credits.
Learning Outcomes

1. Know and put into practice news writing basics including the five W's, inverted pyramid, basic news leads, quotations, interviews, attributions and cutlines.
2. Know how to cover scheduled and breaking news events, and put knowledge into practice.
3. Know how to write for different media, including print, web and broadcast, and put knowledge into practice.
4. Know fundamentals of writing news stories, features, editorials, obituaries, and press releases, and put knowledge of each into practice.
5. Develop and practice basic copy editing skills.

JOUR 201. Introduction to Multimedia Journalism
3 Credits (2+2P)
Introduction to journalistic storytelling using text, photos, audio, video and infographics. Students produce their own multimedia stories in intensive, hands-on environment using digital cameras and audio recorders, mobile phones, external microphones and digital editing software applications including Adobe Premiere Pro, Audition and Photoshop. May be repeated up to 3 credits.
Learning Outcomes

1. Learn how to recognize and accurately define multimedia journalism.
2. Improve visual literacy by viewing and analyzing a variety of work produced by professional multimedia journalists.
3. Know the basic requirements and parts of a story, and know how to map and structure a story.
4. Know and put into practice news writing basics including the five W's.
5. Know what makes a good image, and put into practice composing and framing photographs and videos.
6. Understand and put into practice still photography, video and audio capture and editing fundamentals using a variety of tools.
7. Know how to combine different media to create a logical and effective story.

JOUR 210. Copyediting
3 Credits (2+2P)
Introduction to various aspects of copyediting with an emphasis on accuracy and style. Includes hands-on, directed practice in editing for Associated Press style, punctuation and grammar. Includes headline and cutline writing. May be repeated up to 3 credits.
Prerequisite: JOUR 110.
Learning Outcomes

1. Know and put into practice news writing basics including the five W's, inverted pyramid, basic news leads, quotations, interviews and attributions.
2. Know fundamentals of writing news stories, sports stories, features and editorials, and put knowledge of each into practice.
3. Know how to write for different media, including print, web and social media, and put knowledge into practice.
4. Develop and practice basic copy editing skills.
5. Understand fundamentals of media law and ethics, and know basic press rights.
6. Understand basic math principles used by reporters.
7. Practice and understand the importance of meeting deadlines.
8. Develop a habit of consuming news and monitoring daily headlines.

L SC-LIBRARY SCIENCE (L SC)

L SC 110. Reference and Information Resources I
3 Credits (3)
Overview of reference services. Introduction to, and evaluation of, basic types of information resources (both print and electronic) and their application in libraries.

L SC 111. Introduction to Information Literacy in an Electronic Environment
3 Credits (3)
Introduction to the basics of the research process; the organization, location and evaluation of information using print, non-print and electronic resources. Restricted to: Community Colleges only.

L SC 130. Introduction to Technical Services in Libraries
3 Credits (3)
Introduction to technical services in libraries, including acquisitions, bindery, cataloging, gifts, and serials. Restricted to Dona Ana campus only.

L SC 200. Collection Management and Development in Libraries
3 Credits (3)
Principles of identifying, selecting, acquiring, managing, and evaluating resources for libraries. Restricted to Dona Ana campus only.

L SC 210. Technology Planning in Libraries
3 Credits (3)
Overview of computer applications in libraries. Topics may include automated systems and electronic resources, introduction to evaluation of technology, and writing a technology plan. Restricted to Dona Ana campus only.

L SC 221. Experiential Learning I
1-3 Credits
Student is employed (paid or non-paid) in an approved work site and evaluated by their supervisor. Each credit requires a specified number of hours of on-the job work experience. Consent of Instructor required. Graded: S/U Grading (S/U, Audit). Restricted to Dona Ana campus only.
Prerequisite(s): Consent of instructor.

L SC 240. Internet Resources and Research Strategies
3 Credits (3)
Introduction to retrieving and evaluating information found on the Internet and in selected Internet-accessible databases. Restricted to: Dona Ana campus only.

L SC 255. Special Topics
1-3 Credits
Special topics to be announced in Schedule of Classes. May be repeated for a maximum of 12 credits. Restricted to: Dona Ana campus only.

L SC 298. Independent Study
1-3 Credits
Individual studies directed by consenting faculty with prior approval of department chair. May be repeated for a maximum of 12 credits. Restricted to: Dona Ana campus only.

LANG-LANGUAGE (LANG)

LANG 111. Beginning Language I
4 Credits (4)
Developing language skills through study abroad for languages not offered at NMSU main campus. Specific languages to be identified with course subtitles. Main campus only.
Prerequisite: Language placement exam or consent of the instructor.

LAWE-LAW ENFORCEMENT (LAWE)

LAWE 180. Public Safety First Line Supervisor
3-6 Credits (3-6)
This course is designed to enhance public safety personnel's human resource management and reduce organizational liability. Consent of Instructor required. Restricted to Community Colleges campuses
Learning Outcomes
1. Describe and explain police administration.
2. Explain and discuss the various leadership and management theories.
3. Define and discuss the various types of leadership skills and management styles.
4. Express and discuss the role of the police administrator and police administration.
5. Explain the leadership required of police administrators for an effective Law Enforcement administration.
6. Describe and interpret the "quality approach to managing community relations"
7. Explain and discuss the necessities of introducing organizational change.
8. Explain and discuss the planning, programming and budgetary process including: variables that affect the decision-making process.
9. Analyze and discuss the role of effective communications in a police organization including negotiations and conflict resolution. 1
10. Explain and analyze the role of human resources in the organization including: their role in the recruitment and selection process; training; performance evaluations; promotions; and assessment centers. K) Discuss the role of police unions and explain their significance in labor relations.

LAWE 201. Introduction to Juvenile Delinquency
3 Credits (3)
An introductory overview of the juvenile justice system of due process, custody, detention and release. Note: course does not meet upper division requirements towards completion of Bachelor of Science in Criminal Justice. Restricted to: Community Colleges Only.
Learning Outcomes
1. Explain the foundations of today's juvenile justice system - including the history and philosophy behind contemporary practices.
2. Identify and explain theories of juvenile offending and victimization.
3. Communicate what risk and protective factors contribute to juvenile victimization and offending.
4. Describe juvenile involvement with police, courts, and corrections.
5. Compare and contrast the effectiveness of interventions that can prevent delinquency or decrease recidivism rates.
6. Articulate and analyze potential avenues for reforming the juvenile justice system.
7. Exhibit familiarity and comfort with original source materials in the field of juvenile delinquency.
8. Demonstrate competency in writing about juvenile delinquency, utilizing original source materials.

LAWE 202. Police Patrol Procedures
3 Credits (3)
A critical review of police procedures and the influences on police behavior; policy development, including the police role; discretion; police community interaction and arrest, search and seizure. Restricted to: Community Colleges only.

Learning Outcomes

1. Define and discuss the definition of police patrol and operations including their significance within the criminal justice system.
2. Identify and discuss the special proceedings in the criminal law process including detention, arrest, as well as search and seizure.
3. Explain and discuss the exceptions to search warrant requirements including stop and frisk, search incident to arrest, consent searches, plain view doctrine, search and seizure of vehicles, and containers, as well as abandoned property.
4. Identify and explain the police patrol functions and responsibilities and the need for building credibility by maintaining ethics and integrity in the application of law.
5. Identify and discuss the most frequent incidents encountered by the law enforcement officer and the suggested method for handling.
6. List and discuss the methods, modes and techniques of conducting police patrol including goals of crime detection, keeping the peace, maintenance of equipment, and their impact on the community.
7. Review and discuss the New Mexico Uniform Traffic Laws including apprehension methods of citation, and traffic investigations.

LAWE 203. Introduction to Police Supervision
3 Credits (3)
An introductory overview of police supervision and concerns as it applies to law enforcement. (Note: Course does not meet upper division requirements toward completion of Bachelor of Science in Criminal Justice.) Restricted to: Community Colleges only.

Learning Outcomes

1. Describe and explain police administration.
2. Explain and discuss the various leadership and management theories.
3. Define and discuss the various types of leadership skills and management styles.
4. Express and discuss the role of the police administrator and police administration.
5. Explain the leadership required of police administrators for an effective law enforcement administration.
6. Describe and interpret the "quality approach to managing community relations".
7. Explain and discuss the necessities of introducing organizational change.
8. Explain and discuss the planning, programming and budgetary process including variables affecting the decision-making process.
9. Analyze and discuss the role of effective communications in a police organization including negotiations and conflict resolution. 1
10. Explain and analyze the role of Human Resources in the organization including their role in the recruitment and selection process, training, performance and evaluations, promotions, and assessment centers. 1
11. Discuss the role of police unions and explain their significance in labor relations.

LAWE 204. Introduction to Homeland Security
3 Credits (3)
A historical perspective of international and domestic terrorist threats and the need to develop cohesive response policies and practices in the interest of National Security. Course does not meet requirements towards completion of Bachelor of Science in Criminal Justice. Restricted to: Community Colleges only.

Learning Outcomes

1. Describe the rationale for the creation of the Department of Homeland Security.
2. Analyze the purpose of the DHS, its component agencies, and their specific function and role.
3. Understand and discuss the politico-social ramifications of DHS, including legal complications and issues.
4. Discuss terrorist organizations - their rationale, motivation, methodology, and its impact on DHS.
5. Discuss intelligence efforts, to include counter-intelligence, both within the United States and internationally.
6. Describe and analyze the creation of the United States Department of Homeland Security in its proper historical context.
7. Describe and analyze methodologies utilized by DHS to achieve its goals.
8. Describe and analyze the impact of security measures on American politics, culture, and international relations.

LAWE 206. Traffic Enforcement and Crash Investigations
3 Credits (3)
History and development of traffic laws and regulations, including basic elements of traffic violations, detection, apprehension, impaired drivers and guidelines and procedures for effective crash investigations and reporting. Restricted to: Community Colleges only.

Learning Outcomes

1. Students will analyze the application of the constitutional case studies and their relationships to due process.
2. Students will analyze the relationship between ethics and morality in relation to Criminal Justice and Law Enforcement practices.
3. Students will demonstrate how to conduct a traffic stop and felony stop.
4. Students will be able to perform a standardized field sobriety test.
5. Students will demonstrate how to take measurements at a crash scene and draw a field sketch.
6. Students will research online for medi and department of motor vehicle documents and present to the class.
7. Students will complete a FEMA online class.

LAWE 207. Legal Aspects of Law Enforcement
3 Credits (3)
An evaluation of police authority including responsibilities, civil liability, liability implications, legal obligations, legal restraints, laws of arrest, and search and seizure. Restricted to: Community Colleges only.

Learning Outcomes

1. Explain what constitutes evidence, including rules of evidence and role of the prosecution and defense.
2. Analyze the sequence of events in a typical criminal trial, from arrest through pretrial including the use of witnesses and types of questioning allowed during trial.
3. Identify and explain the basic concepts of evidence used in the American legal system.
4. Explain the general concepts involving witnesses' competency and privileged communications.
5. Analyze the basic elements including credibility and impeachment as it relates to serving as both a lay and expert witness.
6. Explain the rules and exceptions to hearsay testimony.
7. Discuss and explain the law of evidence as it relates to statements including admissions and confessions made by the accused in a criminal case.

8. Analyze the Fourth Amendment as it relates to the law of search and seizure, and the exclusionary rule as it relates to lineups and other identification procedures.
9. Discuss and explain the rules surrounding circumstantial evidence and admissibility of other crimes, acts, or wrongs.

LAWE 221. Law Enforcement Internship
3 Credits (3)
Application of knowledge, skills and abilities, in an agency as an intern and integrated member of a law enforcement affiliated agency.
Prerequisite: consent of instructor.

LAWE 233. Practical Approach to Terrorism
3 Credits (3)
Gives responders an overall safety approach in recognizing and responding to incidents involving terrorism. Presents an overview in types of harm, explosive weapons, chemical weapons, biological weapons and radiological weapons. Restricted to: Community Colleges only.
Learning Outcomes
1. Define Terrorism.
2. Explain the various harm threats that pose a significant risk to response personnel.
3. Define the response challenges terrorism acts pose to response personnel.
4. Explain the management of terrorism incidents.
5. Describe the various materials used in criminal/terrorist acts.
6. Explain the importance of developing in-depth response plans.
7. Explain the importance of preparing for terrorist acts.
8. Describe the various locations that may be subject to terrorist acts.
9. Describe the warning signs that may indicate a terrorist attack. 1
10. Explain the consideration that responders face during crime scene management. 1
11. Discuss the self-protective measures used by response personnel. 1
12. Explain the decontamination process involving weapons of mass destruction.

LAWE 255. Special Topics
1-3 Credits (1-3)
Introductory special topics of lower division level work that provides a variety of timely subjects and content material. Specific subjects to be announced in the Schedule of Classes. A passing grade of C- or better is required. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses
Learning Outcomes
1. Obtaining foundational skills in the administration of justice by differentiating the role of police and corrections in contemporary America.
2. Competence in the legal elements of constitutional, criminal, and substantive law, rules of evidence, search and seizure, and the role of the courts in the adjudication of the law in America.
3. Ability to identify, analyze, and synthesize knowledge from discipline-specific courses in criminalistics, legal aspects, homeland security, terrorism, and patrol operations to effectively conduct a practical field investigation and traffic crash investigation.
4. Ability to develop a criminal justice ethical perspective consistent with 21st century America to, effectively and ethically, perform a criminal justice role in law enforcement or corrections.
5. Basic crime scene management, crime scene note-taking techniques, collection of evidence, and case presentations.
6. An application of knowledge, skills, and abilities, as an intern or integrated member of a criminal justice affiliated agency.

LAWE 298. Independent Study
3 Credits (3)
Individual studies directed by the consenting faculty with prior approval of the department chair. A passing grade of C- or better is required. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses
Prerequisite(s): Sophomore standing with a 3.0 or better GPA.
Learning Outcomes
1. Obtaining foundational skills in the administration of justice by differentiating the role of police and corrections in contemporary America.
2. Competence in the legal elements of constitutional, criminal, and substantive law, rules of evidence, search and seizure, and the role of the courts in the adjudication of the law in America.
3. Ability to identify, analyze, and synthesize knowledge from discipline-specific courses in criminalistics, legal aspects, homeland security, terrorism, and patrol operations to effectively conduct a practical fietd investigation and traffic crash investigation.
4. Ability to develop a criminal justice ethical perspective consistent with 21 st century America to, effectively and ethically, perform a criminal justice role in law enforcement or corrections.
5. Basic crime scene management, crime scene note-taking techniques, collection of evidence, and case presentations.
6. An application of knowledge, skills, and abilities, as an intern or integrated member of a criminal justice affiliated agency.
7. Effective communication, orally and in writing, using appropriate references and technologies.
8. Analytical and critical thinking skills when solving complex issues in criminology and the criminal justice system.
9. Competence using and applying appropriate criminological theories on crime causation. 1
10. Competence in understanding and describing how gender, race, ethnicity, age, social class, and sexuality contribute to differing experiences in the criminal justice system. 1
11. Competence in understanding how the inter-dependence of the major components of the criminal justice system (i.e., police, courts, correctional agencies) affect victims, offenders, justice professionals, and society. 1
12. Competence in understanding and applying the fundamental elements of both criminal and constitutional law. 1
13. Competence in the legal foundation of criminal justice and the importance of due process.

LIBR-LIBRARY SCIENCE

LIBR 1110. Introduction to Research
1 Credit (1)
The goal of this course is to provide students with techniques and tools to become better researchers. This course introduces students to the research process, and the organization, location, and evaluation of information.
Learning Outcomes
1. Develop a research plan based on an information need.
2. Find information efficiently and effectively using a variety of search tools.

3. Evaluate the reliability of an information resource.
4. Practice ethical behavior in using information.

LING-LINGUISTICS (LING)

LING 2110G. Introduction to the Study of Language and Linguistics
3 Credits (3)
This course presents an introduction to the study of language through the basic aspects of linguistic analysis: the sound system (phonetics and phonology), the structure of words and sentences (morphology and syntax), and the ways in which language is used to convey meaning (semantics and pragmatics). In addition, the course will investigate how language is acquired and stored in the brain, and how differences in speech styles and dialects reflect different social and cultural backgrounds of individual speakers.
Learning Outcomes
1. Understand the basic concepts and terminology associated with phonetics, phonology, morphology, syntax, semantics, and pragmatics.
2. Comprehend how language evolves over history and over an individual's lifespan.
3. Describe some common, but mistaken, beliefs about language and to distinguish between descriptive and prescriptive approaches to language.
4. Describe the social, psychological, geographic and historical influences that lead to language dominance or language endangerment.
5. Be aware of the relations among various languages in the world, between dialects and slang, and between human and non-human languages.
6. Apply methods of linguistic analysis as introduced in the course.
7. Critically engage with the works of linguistic researchers.
8. Stimulate curiosity about language and what it reveals about the human mind.

M E-MECHANICAL ENGINEERING (M E)

M E 228. Engineering Analysis I
3 Credits (3)
Introduction to engineering analysis with emphasis on engineering applications. Topics include ordinary differential equations, linear algebra, and vector calculus with focus on analytical methods. May be repeated up to 3 credits.
Prerequisite: C- or better grades in MATH 2530G.
Learning Outcomes
1. An ability to derive differential equation models of phenomena relevant to mechanical and aerospace engineering.
2. An ability to use basic methods for solution of these ordinary and partial differential equations.
3. An ability to apply the solutions to simple analysis and design situations.

M E 234. Mechanics-Dynamics
3 Credits (3)
Kinematics and dynamic behavior of solid bodies utilizing vector methods. May be repeated up to 3 credits.
Prerequisite: A grade of C- or better grade in the following: C E 233 and PHYS 1310G and MATH 1521G or MATH 1521H.
Learning Outcomes
1. Student will be able to apply concepts of kinematics and accelerated motion.

M E 240. Thermodynamics
3 Credits (3)
First and second laws of thermodynamics, irreversibility and availability, applications to pure substances and ideal gases.
Prerequisite: C- or better grades in PHYS 1310G.
Learning Outcomes
1. An ability to apply the first law of thermodynamics to energy systems.
2. Understanding and application of thermodynamic concepts and properties to analyze systems with pure substances and ideal gases.

M E 261. Numerical Methods
3 Credits (2+3P)
Introduction to programming syntax, logic, and structure. Numerical techniques for root finding, solution of linear and nonlinear systems of equations, integration, differentiation, and solution of ordinary differential equations will be covered. Multi function computer algorithms will be developed to solve engineering problems. May be repeated up to 3 credits.
Prerequisite: C- or better grades in MATH 1521G or MATH 1521H or ENGR 190.
Learning Outcomes
1. Ability to use a variety of numerical methods in both basic and advanced engineering calculations.
2. Ability to formulate algorithms and write programs to solve engineering problems.
3. Ability to develop an appreciation for the hazards and limitations of numerical solutions, including accuracy, stability, and computer limitations of memory and speed.

MAST-MEDICAL ASSISTANT

MAST 1112. Electrocardiogram Technician Basic
4 Credits (3+2P)
Prepares students for employment as an Electrocardiogram Technician. Includes basic theory of the cardiovascular system, cardiac rhythm interpretation, 12 lead ECG lead placement, and ECG equipment trouble shooting. The course includes an advanced skills laboratory for "hands-on" practice and 16 hours of supervised clinical in the work environment assisting with ECG testing. Attendance is mandatory. Course requires a grade of "C" or better to pass. Upon successful completion of course, student has the opportunity to test for National Healthcareer Certification.
Learning Outcomes
1. Perform ECG's, including patient preparation, electrode placement, recording ECG's, mounting upload of ECG to patient's chart.
2. Calculate a patient's heart rate and identify the heart rhythm from an ECG tracing.
3. Identify artifacts; waveform elements of the cardiac cycle, including variances related to ischemia, injury or infarction; as well as, major classifications of arrhythmias.
4. Prepare and monitor patient's for Holter monitoring and telemetry.
5. Prepare, conduct and monitor patients during stress testing.
6. Recognize factors that affect procedures and results, and take appropriate actions within predetermined limits when indicated, including patient compromise or complications.

7. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
8. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
9. Apply basic scientific principles in learning new techniques and procedures. 1
10. Relate electrocardiogram findings to common disease processes.

MAST 1190. Clinical Skills & Concepts for Medical Assisting I
6 Credits (3+6P)
A core course designed to provide an introduction to the theory, concepts, and skills needed for entry-level medical assisting positions. Content includes basic theory and concepts designed to support safe and effective practice as a medical assistant in ambulatory care settings. Includes a skills laboratory for hands-on practice and 96 hours of supervised clinical in the work environment.
Learning Outcomes
1. Apply theoretical knowledge associated with medical assisting in providing basic healthcare services.
2. Perform essential clinical skills within the medical assistant scope of practice in ambulatory clinic settings.
3. Recognize factors that affect procedures and results, and take appropriate actions with predetermined limits when indicated, including patient compromise or complications.
4. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
5. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
6. Apply basic scientific principles in learning new techniques and procedures.
7. Relate vital sign and laboratory findings to common disease processes.

MAST 1540. Medical Assistant Administrative Skills
4 Credits (2+4P)
Administrative topics include office technology, oral and written communications, new patient registration, appointment scheduling, application of HIPAA rules, handling of medical records, daily operations, self-awareness and patient orientation to office policies.
Learning Outcomes
1. Identify critical elements of an emergency plan for response to a natural disaster or other emergency.
2. Coach patients regarding office policies.
3. Demonstrate professional telephone techniques.
4. Using technology, compose clear and correct correspondence.
5. Manage appointment schedule using established priorities.
6. Schedule a patient procedure.
7. Input patient data using an electronic system.
8. Apply HIPAA rules in regard to privacy.
9. Document patient care accurately in the medical record. 1
10. Demonstrate critical thinking skills, empathy for patients' concerns, active listening, and self-awareness.

MAST 2160. Clinical Skills & Concepts for Medical Assisting II
6 Credits (3+6P)
A core course designed to provide the theory, concepts, and skills needed in preparation for entry-level medical assisting positions. Content includes theory and concepts related to specialty areas of healthcare practice, as well as consideration for conditions affecting persons throughout the life span. The course includes a skills laboratory for hands-on practice and 96 hours of supervised clinical in the work environment with specialized populations and procedures in both ambulatory and acute care settings.
Learning Outcomes
1. Apply theoretical knowledge associated with medical assisting in providing basic healthcare services.
2. Perform essential clinical skills within the medical assistant scope of practice in ambulatory clinic settings where specialized care is given, as well as, acute care settings.
3. Recognize factors that affect procedures and results, and take appropriate actions within predetermined limits when indicated, including patient compromise or complications.
4. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
5. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
6. Apply basic scientific principles in learning new techniques and procedures.
7. Relate vital sign and laboratory find is to common disease processes.

MAST 2210. Medical Assisting Clinical Procedures II
4 Credits (1)
This course expands on procedures performed in outpatient settings. It includes patient preparation, assisting with physical and specialty exams, office surgeries, and medical emergencies. Students will learn techniques for administering injections, performing ECGs, diagnostic imaging, and rehabilitative modalities. The course also covers pharmacology, medication administration, and drug calculations, diseases, and treatments of major body systems ensuring they are well-equipped for both routine procedures and critical situations in a healthcare environment.
Prerequisite: C- or better HLSC 1510; MATH 1130G; BIOL 1130G or (BIOL 2210, 2210L and BIOL 2225, 2225L); MAST 1190; PHLB 1110; HITP 2208; (HITP 2228); HITP 2248.
Learning Outcomes
1. Patient Centered Care and Safety: Perform diagnostic tests, managing patient care, maintaining sterile fields, and proper documentation.
2. Evidenced Based Practice, Teamwork and Collaboration, Quality Improvement, and Informatics: Teamwork and Collaboration, Quality Improvement and Informatics: Develop critical thinking, empathy, and effective communication, ensuring they can provide comprehensive care, manage emergencies, and support diverse patient needs in ambulatory settings.
3. Patient Centered Care and Safety: Demonstrate medical and surgical asepsis, gain proficiency in medication administration, injections, assisting with exams, minor surgeries and phlebotomy.

MAST 2990. Medical Assistant Practicum
12 Credits (12+12P)
Varies. Consent of Program Director/Instructor required due to clinical compliance requirements.
Prerequisite: NUAS 1110, PHLB 1190, (NUAS 1110 & NUAS 1110L) HLSC 1510, BIOL 1130, BOT 208, HITP 2288, HITP 2248.
Prerequisite/Corequisite: MAST 2999.

Learning Outcomes

1. Varies.

MAST 2999. Medical Assistant Capstone
6 Credits (6)
This course provides the student with entry-level theory and limited "hands-on" training in basic and routine clinical office tasks. The course will equip the Medical Assistant (MA) student with the competencies required to perform in a medical office under the direct supervision of a physician. The graduate will be able to assist the physician with physical exams, ECGs, phlebotomy, and minor surgical procedures.
Prerequisite: MAST 1112, PHLB 1190, NA 114, HLSC 1510, BIOL 1130, HITP 2248.
Learning Outcomes

1. Choose patient care initiatives that are based on respect for patient preferences, values, and needs.
2. Evaluate ones own ability to function as a medical assistant effectively within the inter-professional team.
3. Demonstrate current evidenced based practice methods that are integrated with patient/family preferences for delivery of optimal health care.
4. Formulate a plan to use data to monitor patient outcomes of care process.
5. Apply strategies to minimize risk of harm to patients and the health care team.
6. Apply information and technology to assist with providing patient care and support sound decision making.

MAT-AUTOMATION & MANUFACTURING (MAT)

MAT 101. General Industry Safety
1 Credit (1)
Overview of general industry safety for entry-level individuals. Students will have the opportunity to earn a 10-hour general industry OSHA card. Restricted to Community Colleges campuses only.
Learning Outcomes

1. Discuss the general history of OSHA.
2. Discuss the general history of the U.S. safety movement.
3. Utilize the OSHA web site as a basic safety resource.
4. Recognize industry-related hazards.
5. Identify industry-related hazards.
6. Avoid industry-related hazards.
7. Follow proper basic first aid procedures in an emergency.
8. Avoid exposure to blood-borne pathogens in an emergency situation.
9. Interpret hazard communication. 1
10. Recognize proper lifting techniques. 1
11. Recognize personal protective equipment.

MAT 102. Print Reading for Industry
3 Credits (2+2P)
Reading, interpretation, and revisions of industrial technical drawings common to manufacturing, Aerospace, machine parts, electrical, hydraulic, and pneumatic drawings. Interpretation of engineering drawings and related shop calculations.
Learning Outcomes

1. Recognize fundamentals of shape descriptions.
2. Recognize fundamentals of size description and annotations.
3. Recognize industrial drawing types.
4. Recognize Industrial drawing types.
5. Understand basic geometric dimensioning and tolerances practices that applied to working drawings.
6. Identify standard threads and fasteners callouts and specifications.

MAT 105. Introduction to Manufacturing
3 Credits (2+2P)
Introduction to manufacturing evolution from basic assembly process to modern automated processes. Covers history, employability, soft skills, quality measurements, teamwork concept, production requirements, and considerations in plan layout and design. Minimum math proficiency of CCDM 114 required or math placement into MATH 1215 or higher. Restricted to: Community Colleges only.
Learning Outcomes

1. Classify Hazardous Materials.
2. Perform an Electrical Lockout/Tagout.
3. Locate and Interpret a Safety Data Sheet.
4. Interpret a Hazardous Material Identification Label.

MAT 106. Applied 3D Manufacturing Practices
3 Credits (2+2P)
Introduction to part production and manufacturing utilizing 3D printing processes. Introduction to creating 3D solid models utilizing CAD software and the creation of 3d printed parts utilizing filament or resin style 3D printers. Students will learn how to make selected parts starting from drawings/prints to completed projects. Basic elements of quality control will be introduced.
Learning Outcomes

1. Produce 3D solid models in CAD Software.
2. Read basic 2D technical drawings.
3. Manage Electronic files.
4. Utilize slicing software to prepare 3D solid models for 3d printing.
5. Apply industry standard design practices to produce desired 3D printed parts.
6. Produce 3D printed parts.
7. Apply elements of quality control in the 3D printing process.

MAT 110. Machine Operation and Safety
3 Credits (2+2P)
Introduction to the operation and safety aspects of various types of machinery and equipment, including both mechanical and electrical machines, Rigid Tubing, and Flexible Lines. Maintenance and safety operation of industrial equipment will also be covered. Restricted to: Community Colleges only. Crosslisted with: AERT 115
Learning Outcomes

1. Identify and analyze potential hazards associated with the operation of machinery and equipment, and apply appropriate safety measures to mitigate risks.
2. Demonstrate proficiency in implementing safety protocols and procedures when operating machinery and equipment, adhering to industry standards and regulations.
3. Apply critical thinking and problem-solving skills to troubleshoot issues related to the operation and safety of machinery and equipment, fostering a proactive approach to maintenance and risk management.
4. Gain practical skills in the maintenance and upkeep of industrial equipment, ensuring optimal performance, reliability, and safety.

5. Foster a safety-oriented mindset by recognizing the importance of personal protective equipment (PPE), safe work practices, and the responsibility to create a secure working environment for oneself and others.
6. Gain a deep understanding of file management principles, including folder structures, naming conventions, and version control, to ensure easy accessibility and retrieval of files.

MAT 130. Applied Industrial Electricity I
4 Credits (3+2P)
Electrical safety, AC and DC circuits, use and care of common measuring instrumentation, schematic and wiring diagrams, electromagnetism, National Electric Code branch circuits. Restricted to: Community Colleges only.
Prerequisite(s): MATH 1215 or ELT 120 or OETS 118.

MAT 135. Applied Industrial Electricity II
4 Credits (3+2P)
Relationship between motor power, speed, and torque, basic application of relay circuits, motor control circuits, inductance and capacitance factors, transformers, solid state devices circuits and applications. Restricted to: Community Colleges only.
Prerequisite(s): MAT 130.

MAT 221. Cooperative Experience I
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and rated by employer and instructor. Student meets in a weekly class. Graded S/U.
Prerequisite: consent of instructor.

MAT 234. Industrial Electricity Maintenance
3 Credits (2+2P)
Introduction into electrical systems, theory and uses for the different types of motors used in the industry and related industrial safety practices. DC, AC stepper and servo motors, motor speed and torque, motor performance, and efficiency, motor control fundamentals using variable frequency drives, vector controls, servo and stepper drives. Restricted to: Community Colleges only.

MAT 265. Special Topics
1-6 Credits
Course subtitled in the Schedule of Classes. May be repeated up to 12 credits.
Learning Outcomes
1. Learning goals will vary with the special topic selected for the course.

MATH-MATHEMATICS (MATH)

A student may not receive credit for a lower-division mathematics course if it serves as a prerequisite to a lower-division math course that the student had previously passed with a grade of C- or better.

Students without adequate placement to enroll in MATH 1134, MATH 1215 or MATH 1130G can gain admission to the course by earning a C- or better in CCDM 114 N at an NMSU Community College campus, or in ARSC 1120.

Students wishing to enroll in MATH 1220G, MATH 1430G, MATH 1250G, MATH 1511G, or MATH 1350G must satisfy one of the following:

1. have passed the stated prerequisite course or an equivalent transfer course with a C- or better
2. have placed into the course with an adequate ACT Math score or through the Mathematics Placement Examination (MPE), the results of which will be made available to the student's advisor. The MPE is given daily in Walden Hall when school is in session and during new student orientation programs.

MATH 1130G. Survey of Mathematics
3 Credits (3)
This course will develop students' ability to work with and interpret numerical data, to apply logical and symbolic analysis to a variety of problems, and/or to model phenomena with mathematical or logical reasoning. Topics include financial mathematics used in everyday life situations, statistics, and optional topics from a wide array of authentic contexts.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in CCDM 113 N or CCDM 114 N.
Learning Outcomes
1. Construct and analyze graphs and/or data sets: Gather and organize information; Understand the purpose and use of various graphical representations such as tables, line graphs, tilings, networks, bar graphs, etc.; Interpret results through graphs, lists, tables, sequences, etc.; Draw conclusions from data or various graphical representations.
2. Use and solve various kinds of equations: Understand the purpose of and use appropriate formulas within a mathematical application; Solve equations within a mathematical application; Check answers to problems and determine the reasonableness of results.
3. Understand and write mathematical explanations using appropriate definitions and symbols: Translate mathematical information into symbolic form; Define mathematical concepts in the student's own words; Use basic mathematical skills to solve problems.
4. Demonstrate problem solving skills within the context of mathematical applications; Show an understanding of a mathematical application both orally and in writing; Choose an effective strategy to solve a problem; Gather and organize relevant information for a given application.

MATH 1134. Fundamentals of Elementary Mathematics I
3 Credits (3)
Numbers and the four operations of arithmetic. Understanding and comparing multiple representations of numbers and operations, in particular how these representations build from whole numbers to integers to fractions and decimals. Applying properties of numbers and operations in contextual situations. Reasoning, communicating, and problem solving with numbers and operations. Applications to ratio, and connections with algebra. Taught primarily through student activities and investigations. Restricted to: EDUC,EPAR,E ED,ECED majors.
Prerequisite: C- or better in ENGL 1110G; adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1215.
Learning Outcomes
1. As future elementary teachers you will be teaching mathematics to children.
2. In order to teach a subject well you need not only to know the material that you will teach, but you need to know more than what you will teach, and know it well,in order to be able to answer questions, understand student reasoning, give alternate explanations when your students do not understand something, and be able to adjust to changes in the mathematical curriculum.
3. Furthermore, even if you hope to teach a given grade, you should be prepared to teach a variety of grades since what a person ends up teaching is often not what they planned to do.

4. We will explore ideas of arithmetic in a way to help you improve your mathematical ability, gain confidence in your ability, introduce to you different ideas and models, and to see a variety of mathematical activities that are appropriate for people of all ages.
5. Everything we study will be done with the aim of developing your ability to relate to the mathematics of elementary school and to help children develop mathematical understanding.

MATH 1215. Intermediate Algebra
3 Credits (3)
A study of linear and quadratic functions, and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. A development of strategies for solving single-variable equations and contextual problems.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in CCDM 113 N or CCDM 114 N.
Learning Outcomes
1. Students will build on their knowledge of linear and quadratic functions and will begin to build an understanding of absolute value, polynomial, rational, power, radical, exponential and logarithmic functions in the following contexts: Demonstrate appropriate use of basic function language and notation; Convert between equivalent forms of algebraic expressions; Solve single-variable equations of the types listed above; Interpret and communicate algebraic solutions graphically and numerically; Demonstrate contextual problem-solving skills that include setting up and solving problems, and interpreting solutions in context; Apply appropriate problem solving methods from among algebraic, graphical, and numerical.

MATH 1217. General Supplemental Instruction I
1 Credit (2P)
Collaborative workshop for students enrolled in Intermediate Algebra.
Corequisite: MATH 1215.
Learning Outcomes
1. Intermediate Algebra Workshop provides time for students to work on problems from Intermediate Algebra under the guidance of their instructor.

MATH 1220G. College Algebra
3 Credits (3)
The study of equations, functions and graphs, reviewing linear and quadratic functions, and concentrating on polynomial, rational, exponential and logarithmic functions. Emphasizes algebraic problem solving skills and graphical representation of functions.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1215.
Learning Outcomes
1. Use function notation; perform function arithmetic, including composition; find inverse functions.
2. Identify functions and their transformations given in algebraic, graphical, numerical, and verbal representations, and explain the connections between these representations.
3. Graph and interpret key feature of functions, e.g., intercepts, leading term, end behavior, asymptotes.
4. Solve equations algebraically to answer questions about graphs, and use graphs to estimate solutions to equations.
5. Solve contextual problems by identifying the appropriate type of function given the context and creating a formula based on the information given.
6. Communicate mathematical information using proper notation and verbal explanations.

MATH 1221. General Supplemental Instruction II
1 Credit (1+2P)
Collaborative workshop for students enrolled in College Algebra.
Corequisite: MATH 1220G.
Learning Outcomes
1. College Algebra Workshop provides time for students to work on problems from College Algebra under the guidance of their instructor.

MATH 1250G. Trigonometry & Pre-Calculus
4 Credits (3+2P)
Trigonometry & Pre-Calculus includes the study of functions in general with emphasis on the elementary functions: algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Topics include rates of change, limits, systems of equations, conic sections, sequences and series, trigonometric equations and identities, complex number, vectors, and applications.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1220G.
Learning Outcomes
1. (Trigonometry) Students will be able to define and evaluate the trigonometric functions as functions of angle in both degree and radian measure using the definitions in terms of x, y, and r; as the ratio of sides of a right triangle; using the unit circle; using reference angles, commonly used (0 o, 30 o, 45 o, 60 o, 90o) angles and using a calculator.
2. (Trigonometry) Students will be able to solve right triangles. They will be able to draw a sketch in an applied problem when necessary.
3. (Trigonometry) Students will be able to solve non-right triangles using the law of sines and the law of cosines.
4. (Trigonometry) Students will be able to prove trigonometric identities and apply addition and subtraction, doubleangle, half-angle and power reduction formulas.
5. (Trigonometry) Students will be able to graph the six trigonometric functions, their transformations and their inverses.
6. (Trigonometry) Students will be able to use algebraic methods, including the use of identities and inverses, to solve trigonometric equations and demonstrate connections to graphical and numerical representations of the solutions.
7. (Trigonometry) Students will be able to add and subtract vectors in two dimensions. They will be able to use the dot product to project one vector onto another and to determine the angle between two vectors. They will be able to solve a variety of word problems using vectors.
8. (Trigonometry) Students will be able to work with polar coordinates; this includes graphing in polar coordinates and transforming an equation with polar coordinates into one with rectangular coordinates, and vice versa.
9. (Trigonometry) Students will be to work with the trigonometric form of complex numbers, including using De Moivre's formula. 1
10. (Pre-Calculus) Functions: Reinforce recognizing a function from its graph and from its algebraic expression; Reinforce identification of a one-to-one function graphically and from its algebraic expression; Reinforce identification of inverse functions graphically and algebraically; Reinforce combining functions arithmetically and compositionally; Be able to calculate the average rate of change of a function using the difference quotient and depict it graphically; Be

able to find a limiting value of a function and be able to identify and use the notation that describes this. 1

11. (Pre-Calculus) Graphing: Reinforce using key characteristics of functions to graph them; Be able to graph conic sections from their key characteristics such as foci, eccentricity and asymptotes; Be able to identify all functions mentioned from their graphs, describing their key aspects. 1
12. (Pre-Calculus) Solving: Exponential/Logarithmic equations using the rules of exponents and logarithms; Systems of linear equations by elimination; Non-linear systems algebraically and graphically. 1
13. (Pre-Calculus) Applications: Modeling with functions with an emphasis on exponential and logarithmic functions, growth and decay. 1
14. (Pre-Calculus) Sequences and series: Understand the concept and notation of a sequence; Understand the concept and notation of a series; Be able to find limits of basic sequences; Be able to find sums of basic series.

MATH 1350G. Introduction to Statistics
3 Credits (3)
This course discusses the fundamentals of descriptive and inferential statistics. Students will gain introductions to topics such as descriptive statistics, probability and basic probability models used in statistics, sampling and statistical inference, and techniques for the visual presentation of numerical data. These concepts will be illustrated by examples from a variety of fields.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1215 or higher.
Learning Outcomes

1. Explain the general concepts of statistics: Explain and evaluate statistics used in the real world (from a news article, research project, etc.); Use statistical vocabulary appropriately; Distinguish between descriptive and inferential statistics; Distinguish between qualitative and quantitative data; Distinguish between populations and samples, and parameters and statistics; Give examples of independent and dependent variables.
2. Presentation and description of data: Present data graphically using histograms, frequency curves and other statistical graphs; Interpret graphs of data, including histograms and shapes of distributions.
3. Summarize data using measures of central tendency and variation: Calculate and interpret the mean, median, and mode to describe data; Calculate and interpret range, variance, and standard deviation to describe data.
4. Present the concepts of probability: Interpret basic probabilities; Calculate probabilities using compound probability rules and the binomial distribution; Calculate probabilities using the standard normal distribution and relate them to areas under the curve; Determine if the binomial distribution can be approximated with the normal distribution; Describe the relationship between the sampling distribution and the population distribution; Use the central limit theorem to approximate the probability distribution and calculate probabilities.
5. Compute point and interval estimates: Determine the confidence interval for a parameter; Interpret the confidence level and margin of error; Determine whether a statistical technique is appropriate under stated conditions.
6. Perform hypothesis tests: Determine whether a statistical test is appropriate under stated conditions; Identify null and alternative hypothesis; Perform and interpret statistical tests (e.g. z-test, t-test, one-tailed and two-tailed, one-sample, two-sample) and determine whether data is statistically significant; State the conclusion of a hypothesis test; Interpret a p-value as compared to a significance level; Explain why a test can lead us to reject a null hypothesis, not accept one; Distinguish between Type I and Type II errors.
7. Analyze data using regression and correlation: Explain the difference between correlation and causation; Construct and interpret scatter plots; Calculate and interpret the linear correlation coefficient; Determine and use the equation of a least-squares regression line between two variables to make predictions; Interpret the meaning of the coefficient of determination.
8. Optional topics: Inter-quartile range, box-plots, stem-and-leaf plots; Combinations and permutations; The Poisson distribution; Statistical power; Chi-square; Analysis of variance.

MATH 1430G. Applications of Calculus I
3 Credits (2+2P)
An algebraic and graphical study of derivatives and integrals, with an emphasis on applications to business, social science, economics and the sciences.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1220G or higher.
Learning Outcomes

1. Find limits algebraically and graphically, and use limits to analyze continuity.
2. Find the derivative of a function by applying appropriate techniques (limit of the difference quotient, general derivative rules, product rule, quotient rule, chain rule, and higher order derivatives).
3. Perform implicit differentiation. Use implicit differentiation to solve related rate application problems.
4. Use the derivative to describe the rate of change and slope of a curve in general and at particular points. Compare and contrast average rates of change to instantaneous rates of change.
5. Find the maxima, minima, points of inflections, and determine concavity of a function by applying the first and second derivatives. Use these results to sketch graphs of functions and to solve optimization problems in context.
6. Find the antiderivative and indefinite integral functions to include integration by substitution. Apply the Fundamental Theorem of Calculus in computing definite integrals of functions.
7. Approximate the area under the curve using Riemann sums.
8. Use the integral to determine the area under a curve and to find the accumulated value of a function in context.
9. Solve contextual problems by identifying the appropriate type of function given the context, creating a formula based on the information given, applying knowledge of algebra and calculus, and interpreting the results in context. 1
10. Communicate mathematical information using proper notation and verbal explanations.

MATH 1435. Applications of Calculus I
3 Credits (3)
Intuitive differential calculus with applications to engineering.
Prerequisite(s): C- or better in MATH 1250G.
Learning Outcomes

1. Find limits algebraically and graphically, and use limits to analyze continuity.

2. Find the derivative of a function by applying appropriate techniques (limit of the difference quotient, general derivative rules, product rule, quotient rule, chain rule, and higher order derivatives).
3. Learn derivative rules for polynomial, exponential, logarithmic, trigonometric and inverse trigonometric functions.
4. Perform implicit differentiation. Use implicit differentiation to solve related rate application problems.
5. Find the maxima, minima, points of inflections, and determine concavity of a function by applying the first and second derivatives. Use these results to sketch graphs of functions and to solve optimization problems in context.
6. Find partial derivatives and find maxima, minima in three dimensions.
7. Find the linear approximation of a function.
8. Find Maclaurin and Taylor series.
9. Find limits via L'Hospital's rule. 1
10. Communicate mathematical information using proper notation and verbal explanations.

MATH 1440. Applications of Calculus II
3 Credits (3)
Topics in this second course of Applications of Calculus include functions of several variables, techniques of integration, an introduction to basic differential equations, and other applications.
Prerequisites: C or better in MATH 1435 or in MATH 1521G, or in MATH 1521H.
Learning Outcomes
1. Find definite and indefinite integrals using integration by parts, integral tables, and numerical integration.
2. Analyze multivariable functions using partial derivatives and double integrals, and apply these techniques to applications such as optimization, least squares, and volumes.
3. Solve differential equations graphically, numerically, and algebraically using separation of variables, and apply differential equations in context.
4. Apply differentiation and integration to other areas, for example to Taylor polynomials and Taylor series, probability, trigonometric functions, etc.

MATH 1511G. Calculus and Analytic Geometry I
4 Credits (4)
Limits and continuity, theory and computation of derivatives, applications of derivatives, extreme values, critical points, derivative tests, L'Hopital's Rule.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1250G.
Learning Outcomes
1. The goals are to present the concepts of calculus, stressing techniques, applications, and problem solving, and emphasizing numerical aspects such as approximations and order of magnitude.
2. Overall, the goals are to illustrate the power of calculus as a tool for modeling situations arising in physics, science, engineering and other fields.
3. In fulfillment of these goals, this and later courses will stress topics such as polynomial approximation, setting up integrals, as well as the use of appropriate technology.

MATH 1511H. Calculus and Analytic Geometry I Honors
4 Credits (4)
Limits and continuity, theory and computation of derivatives, applications of derivatives, extreme values, critical points, derivative tests, L'Hopital's Rule. This is an Honors version of MATH 1511G. It is taught with MATH 1511G with differentiated assignments.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1250G or higher.
Learning Outcomes
1. The goals are to present the concepts of calculus, stressing techniques, applications, and problem solving, and emphasizing numerical aspects such as approximations and order of magnitude.
2. Overall, the goals are to illustrate the power of calculus as a tool for modeling situations arising in physics, science, engineering and other fields.
3. In fulfillment of these goals, this and later courses will stress topics such as polynomial approximation, setting up integrals, as well as the use of appropriate technology.
4. Gain a deeper understanding of the mathematics behind Limits and Derivatives and be able to use mathematical ideas (such as the Intermediate Value Theorem, the Mean Value Theorem, and the Extreme Value Theorem) in applied contexts.

MATH 1521G. Calculus and Analytic Geometry II
4 Credits (4)
Riemann sums, the definite integral, antiderivatives, fundamental theorems, techniques of integration, applications of integrals, improper integrals, Taylor polynomials, sequences and series, power series and Taylor series.
Prerequisite: C- or better in MATH 1511G.
Learning Outcomes
1. Recognize the interplay between Riemann sums and definite integrals.
2. Use the Fundamental Theorem of Calculus to compute definite and indefinite integrals.
3. Demonstrate an understand of the relationship between the derivative and the definite integral.
4. Evaluate integrals numerically using standard rules (midpoint, trapezoid, Simpson's).
5. Evaluate integrals analytically using standard methods (substitution, integration by parts, trigonometric substitution and identities, inverse functions and partial fractions.
6. Use integration to solve problems in geometry, physics, science, engineering and other fields.
7. Use appropriate methods such as L'Hopital's Rule to evaluate improper integrals.
8. Approximate functions using Taylor polynomials.
9. Apply standard tests to determine convergence or divergence of sequences and series. 1
10. Find a power series representation for a function and determine where it converges. 1
11. Identify and evaluate first order differential equations.

MATH 1521H. Calculus and Analytic Geometry II Honors
4 Credits (4)
A more advanced treatment of the material of MATH 1521G with additional topics. Consent of Instructor required. Restricted to Las Cruces campus only.
Learning Outcomes
1. Recognize the interplay between Riemann sums and definite integrals.

2. Use the Fundamental Theorem of Calculus to compute definite and indefinite integrals.
3. Demonstrate an understand of the relationship between the derivative and the definite integral.
4. Evaluate integrals numerically using standard rules (midpoint, trapezoid, Simpson's).
5. Evaluate integrals analytically using standard methods (substitution, integration by parts, trigonometric substitution and identities, inverse functions and partial fractions.
6. Use integration to solve problems in geometry, physics, science, engineering and other fields.
7. Use appropriate methods such as L'Hopital's Rule to evaluate improper integrals.
8. Approximate functions using Taylor polynomials.
9. Apply standard tests to determine convergence or divergence of sequences and series. 1
10. Find a power series representation for a function and determine where it converges. 1
11. Identify and evaluate first order differential equations.

MATH 1531. Introduction to Higher Mathematics
3 Credits (3)
Logic; sets, relations, and functions; introduction to mathematical proofs.
Prerequisite(s): C- or better in MATH 1521G or MATH 1521H.
Learning Outcomes
1. The primary objective of this course is to serve as a bridge between the calculus courses you have taken, where the focus is on computations and solving problems, to more abstract mathematics courses.
2. In particular, we will discuss logical reasoning, definitions, proofs, and certain basic building blocks such as sets, functions, and relations.
3. By the end of the course, you should be able to understand and construct well-written proofs of basic mathematical arguments involving simple properties of the real numbers, integers, sets, functions, and relations using universal and existential quantifiers, absolute values and inequalities, modular arithmetic, and proof by induction.

MATH 1531H. Introduction to Higher Mathematics Honors
3 Credits (3)
Logic; sets, relations, and functions; introduction to mathematical proofs. A more advanced treatment of the material of MATH 1531 with additional topics and/or assignments. Consent of Instructor required. Restricted to Las Cruces campus only.
Prerequisite: C- or better in MATH 1521G or MATH 1521H.
Learning Outcomes
1. The primary objective of this course is to serve as a bridge between the calculus courses you have taken, where the focus is on computations and solving problems, to more abstract mathematics courses.
2. In particular, we will discuss logical reasoning, definitions, proofs, and certain basic building blocks such as sets, functions, and relations.
3. By the end of the course, you should be able to understand and construct well-written proofs of basic mathematical arguments involving simple properties of the real numbers, integers, sets, functions, and relations using universal and existential quantifiers, absolute values and inequalities, modular arithmetic, and proof by induction.
4. Since this is an honors course, you should be able to understand higher-level properties of the mathematical objects and ideas arising in the class. You should also be able to write, edit, revise, and ultimately construct well-written proofs and mathematical arguments.

MATH 1996. Topics in Mathematics
1-3 Credits
Topics to be announced in the Schedule of Classes. Maximum of 3 credits per semester. Total credit not to exceed 6 credits. Community Colleges only.
Prerequisite: consent of instructor.
Learning Outcomes
1. Varies

MATH 2134G. Fundamentals of Elementary Math II
3 Credits (3)
Geometry and measurement. Multiple approaches to solving problems and understanding concepts in geometry. Analyzing and constructing two- and three-dimensional shapes. Measurable attributes, including angle, length, area, and volume. Understanding and applying units and unit conversions. Transformations, congruence, and symmetry. Scale factor and similarity. Coordinate geometry and connections with algebra. Reasoning and communicating about geometric concepts. Taught primarily through student activities and investigations.
Prerequisite: C- or better in MATH 1134.
Learning Outcomes
1. The primary objectives are mathematical: to understand some of the basic concepts of geometry, and measurement with an appropriate level of rigor; to appreciate the historical, cultural and educational contributions and potential applications in real life situations; and to gain problem solving skills using these concepts.
2. The secondary goal is to appreciate the importance of this material in the elementary school curriculum.

MATH 2350G. Statistical Methods
3 Credits (3)
Exploratory data analysis. Introduction to probability, random variables and probability distributions. Concepts of Central Limit Theorem and Sampling Distributions such as sample mean and sample proportion. Estimation and hypothesis testing single population parameter for means and proportions and difference of two population parameters for means and proportions. Analysis categorical data for goodness of fit. Fitting simple linear regression model and inference for regression parameters. Analysis of variance for several population means. Techniques in data analysis using statistical packages.
Prerequisite: Adequate scoring on the Mathematics Placement Exam, or any ACT/SAT and GPA combination that is considered equivalent, or a C- or better in MATH 1215 or higher.
Learning Outcomes
1. Summarize Data through graphs and Descriptive statistics: Define qualitative and quantitative data; Provide examples of a population, a sample, independent and dependent variables, parameters and statistics; Construct and interpret histograms, stem plots, bar charts, and boxplot; Summarize distributions with numerical measures such as mean, median, standard deviation, percentiles, interquartile range.
2. Present the concepts of probability: Explain related to probability axioms (e.g. mutually exclusive events and independent events); Apply applications of probability rules; Apply Conditional probability and Bayes Rule.
3. Distinguish between discrete and continuous random variables: Calculate probabilities using Binomial and Poisson distributions; Calculate probabilities using the standard normal distribution by finding the area underneath the curve.

4. Explain the Central Limit Theorem: Introduce the concept of a sampling distribution; Discuss the distribution of the sample mean and sample proportion under repeated sampling; Generate and interpret a sampling distribution using repeated sampling; Determine if the Binomial and Poisson distribution can be approximated with the normal distribution.
5. Estimate a population parameter: Determine confidence interval for population mean, proportion, difference of means, and difference of proportions; Interpret the confidence interval and margin of error; Explain the dependence of margin of error on sample size and confidence level.
6. Perform hypothesis tests for population parameters (population mean, proportion, difference of means, and difference of proportions); Describe the logic and framework of the inference of hypothesis testing; Make a decision using a p-value and draw an appropriate conclusion; Distinguish between Type I and Type II errors; Explain power of the test.
7. Perform Hypothesis Tests for Categorical data: Determine and analyze Chi-square test for Independence; Determine and analyze Chi-square test for Goodness of fit.
8. Analyze data using regression and correlation: Construct scatterplots and analyze the scatter plots; Calculate the linear correlation coefficient and determine whether a linear relationship exists between two variables; Fit the least-squares regression line between two variables; Predict the response variable from the regression line; Apply statistical inference to regression parameters.
9. Perform analysis of variance: State hypotheses for the test of several population means; Construct the AVOVA Table; Explain the significance of multiple comparisons. 1
10. Demonstrate the appropriate use of technology (e.g., Excel, an appropriate graphing calculator or other software (Minitab, SAS)

MATH 2415. Introduction to Linear Algebra
3 Credits (3)
Systems of equations, matrices, vector spaces and linear transformations. Applications to computer science.
Prerequisite(s): Grade of C- or better in MATH 1521G or MATH 1521H.
Learning Outcomes

1. Use row reduction and echelon forms of a matrix to solve linear systems of equations.
2. Use matrix operations, inverse matrices, and matrix factorizations to solve matrix equations.
3. Study the properties of vector spaces and subspaces (e.g., the null and column spaces of a matrix); linear transformations, isomorphisms and kernels; linear independence, bases, and dimension.
4. Apply appropriate matrix manipulations to perform a change of basis.
5. Understand determinants and their properties.
6. Find eigenvalues and eigenvectors and use them to diagonalize matrices.
7. Understand inner product spaces and apply them to real-world problems.

MATH 2530G. Calculus III
3 Credits (3)
Continuation of Calculus II including multivariate and vector calculus, level curves and surfaces, partial derivatives, gradient, directional derivatives, tangent planes, optimization, multiple integrals in Cartesian, cylindrical and spherical coordinate systems.
Prerequisite: Grade of C- or better in MATH 1521G or MATH 1521H.
Learning Outcomes

1. Use vector notation correctly.
2. Perform vector operations, including dot product, cross product, differentiation and integration, and demonstrate their geometric interpretations.
3. Perform operations on vector valued functions and functions of a parameter.
4. Identify and graph the equations of cylinders and quadratic surfaces in 3-dimensional space.
5. Determine the domain of continuity of a vector valued function and of a function of multiple variables.
6. Compute partial derivatives, generally and at a point, and sketch their graphical representation on a surface in space.
7. Recognize when the chain rule is needed when differentiating functions of multiple variables, parametric equations and vector valued functions, and be able to use the chain rule in these situations.
8. Compute curvature of a parameterized vector representation of a curve in 2- and 3-dimensional space and be able to explain its meaning.
9. Compute the unit tangent and unit normal vectors to a curve and be able to sketch them with the curve. 1
10. Computationally move among position vector, velocity vector, speed, and acceleration vectors; recognize and demonstrate their use as applied to motion in space. 1
11. Determine the equation of the tangent plane to a surface at a point. 1
12. Use the tangent plane to a surface to approximate values on the surface and estimate error in approximation using differentials 1
13. Compute directional derivatives and represent them graphically relative to the inherent surface. 1
14. Compute the gradient vector; represent it graphically relative to the inherent surface and use it to maximize or minimize rate of change of the function. 1
15. Locate local and global maxima and minima of a function. 1
16. Use Lagrange multipliers to maximize output with one or two constraints. 1
17. Compute arc length and be able to explain its derivation as a limit. 1
18. Calculate double and triple integrals independently and with their geometric representations as surfaces, areas and volumes. 1
19. Calculate iterated integrals in polar, cylindrical and spherical coordinate systems.

MATH 2992. Directed Study
1-3 Credits
May be repeated for a maximum of 6 credits. Graded S/U.
Prerequisite: consent of the instructor.
Learning Outcomes

1. Varies

MGMT-MANAGEMENT

MGMT 2110. Principles of Management
3 Credits (3)
An introduction to the basic theory of management including the functions of planning, organizing, staffing, leading, and controlling; while considering management's ethical and social responsibilities.

Learning Outcomes

1. Explain the major functions of management including planning, organizing, communications, controlling, motivating, leading, and staffing.
2. Recognize major developments in the history of management thought.
3. Describe the basic managerial processes including decision-making and other key skills necessary for managers to perform their roles.
4. Identify an organization's stakeholders and the importance of social and ethical responsibility of managers.
5. Explain the formulation and implementation of strategic planning, including the relationship between goals, plans, vision statements, and mission statements.
6. Describe the strategies managers use to help organizations adapt to changing internal and external environments.
7. Explain organizational change, forces for change, sources of resistance to change, and the techniques managers can use to implement and facilitate change.

MKTG-MARKETING (MKTG)

MKTG 1111. Level 1, PGA's PGM Education Program (Part 1)
3 Credits (3)
Level 1 Part 1 of the PGA PGM Education Program. Introduction to the Policies and Procedures of the PGA Golf Mgt. Program and the PGA of America. Students will complete the PGA Qualifying Level, Facility Management 1A (Tournament Ops A, Rules of Golf B, and Career Enhancement B), and the corresponding Work Experience Activities. Additional course fee required.
Learning Outcomes

1. Knows the career opportunities, challenges, and benefits of PGA.
2. Can distinguish significant differences between Teaching and Player Development and the Facility Operations Management pathways to PGA membership.
3. Understands the structure and requirements of the PGM Program.
4. Knows how to maintain acceptable progress.
5. Knows the courses at each level of the PGM Program.
6. Knows how to access resources that facilitate progress through the PGM Program.
7. Discuss how the PGA of America began and evolved and be familiar with key milestones in PGA history.
8. State the mission of the PGA of America and the structure of the PGA Constitution, Bylaws and Regulation.
9. Describe how the PGA of America is organized, including its Officers, Board of Directors, The Chief Executive Officer and headquarters staff. 1
10. Describe the role of Sections and Districts, the PGA Officers and Board of Directors, The Chief Executive Officer and headquarters staff. 1
11. Recognize the requirements for PGA Recognized Golf Facilities and employment definitions. 1
12. Describe the importance of the PGA of America's dedication to professionalism and ethical practices, what constitutes a Code of Ethics violation, and the procedures for processing Code of Ethics violations. 1
13. Identify eligibility requirements for apprentices and members, the rights of membership, the different membership classifications, how to maintain active status, and the process for appealing to the Board of Control on membership issues. 1
14. Review the organization of The Rules of Golf. 1
15. Understand proper etiquette of the game of golf. 1
16. Review the history and development of the Rules. 1
17. Understand how the Rules are maintained and changed. 1
18. Prepare a professional resume and cover letter for an employment interview.

MKTG 1112. Level 1, PGA's PGM Education Program (Part 2)
3 Credits (3)
Level 1 Part 2 of the PGA PGM Education Program. This class will focus on Teaching and Coaching 1, the corresponding PGA Work Experience Activities, and PGA Teaching Seminars. Additional course fee required.
Learning Outcomes

1. Know how students learn and process golf knowledge and skills, and identify the implications for teaching.
2. Know how to define and distinguish between learning and performance.
3. Understand how juniors learn golf knowledge and skills, and identify implications for teaching.
4. Conduct a physical evaluation of a junior golfer and create developmentally appropriate exercise and training programs.
5. Establish student/teacher relationships that promote greater student learning and enjoyment.
6. Develop a communication style that fits the student and increases instructional effectiveness.
7. Analyze student's instructional needs and set clear, purposeful learning and practice goals.
8. Know the format for an effective golf lesson.
9. Deliver effective explanations and demonstrations during a golf lesson. 1
10. Engage in self-assessment of teaching skills and competencies. 1
11. Recognize the appropriate clubhead path and clubface position information to improve a golfer's performance. 1
12. Conduct appropriate assessments to determine the short game skill level of the golfer. 1
13. Gain understanding of the short game elements to help lower scores and improve the player. 1
14. Define club performance terms and specifications, including lie angle and clubface angle or position, and describe their effect on ball flight and player performance: Define what information is require to properly assess a player's golf equipment. 1
15. Define club performance terms and specifications, including lie angle and clubface angle or position, and describe their effect on ball flight and player performance: Observe a player's swinging motion, ball flight, and equipment to evaluate the effectiveness of their equipment.

MKTG 1210. Advertising
3 Credits (3)
A survey of currently available advertising media. A psychological approach to consumer persuasion; applied techniques in media selection, layout mechanics, production methods, and campaign structures.
Prerequisite: MKTG 2110.
Learning Outcomes

1. Define advertising and the relevant application of psychology in delivering the message.

2. Explain the importance of various advertising media in the marketing mix.
3. Identify and explain the social, ethical and legal issues advertisers must consider.
4. Describe the significance of the marketing function in business.
5. Explain the importance of advertising and other marketing communication tools.
6. Demonstrate application of the planning process as it applies to marketing and advertising.
7. Describe the factors that are weighted when considering the use of radio and television in the creative advertising mix.
8. Describe the relationship between market segment, consumer behavior and selection of advertising campaign types.
9. List the alternative means of reaching a target market and the technical challenges of each.

MKTG 1220. Small Business Marketing
3 Credits (3)
An overview of public relations principles, practices and purposes as applied to small business. Topics include basics of news release writing, media awareness, development and maintenance of a positive public image, branding, ethical marketing, and the relationships of public relations with advertising and marketing. Methods and practices used in small business are explored.
Prerequisite/Corequisite: MKTG 2110.
Learning Outcomes
1. Explain the importance of creating and sustaining a positive public awareness and image.
2. Identify public relations practices as they relate to the management and marketing processes.
3. Define branding and discuss its importance for small business.
4. Describe the value of business event management and promotion for small business.
5. Discuss how media relations, public relations, advertising and marketing efforts are interrelated and the importance of each.

MKTG 180. Level 1, PGA's PGM Education Program (Part 1)
3 Credits (3)
Level 1 Part 1 of the PGA PGM Education Program. Introduction to the Policies and Procedures of the PGA Golf Mgt. Program and the PGA of America. Students will complete the PGA Qualifying Level,Facility Management 1A (Tournament Ops A, Rules of Golf B, and Career Enhancement B), and the corresponding Work Experience Activities. Additional course fee required. Consent of Instructor required. Restricted to: MKTG majors.

MKTG 181. Level 1, PGA's PGM Education Program (Part 2)
3 Credits (3)
Level 1 Part 2 of the PGA PGM Education Program. This class will focus on Teaching and Coaching 1, the corresponding PGA Work Experience Activities, and PGA Teaching Seminars. Additional course fee required. Consent of Instructor required. Restricted to: MKTG majors.
Learning Outcomes
1. Know how students learn and process golf knowledge and skills, and identify the implications for teaching
2. Know how to define and distinguish between learning and performance
3. Understand how juniors learn golf knowledge and skills, and identify implications for teaching
4. Conduct a physical evaluation of a junior golfer and create developmentally appropriate exercise and training programs
5. Establish student/teacher relationships that promote greater student learning and enjoyment
6. Develop a communication style that fits the student and increases instructional effectiveness
7. Analyze student's instructional needs and set clear, purposeful learning and practice goals
8. Know the format for an effective golf lesson
9. Deliver effective explanations and demonstrations during a golf lesson 1
10. Engage in self-assessment of teaching skills and competencies 1
11. Recognize the appropriate clubhead path and clubface position information to improve a golfer's performance 1
12. Conduct appropriate assessments to determine the short game skill level of the golfer 1
13. Gain understanding of the short game elements to help lower scores and improve the player 1
14. Define club performance terms and specifications, including lie angle and clubface angle or position, and describe their effect on ball flight and player performance: Define what information is require to properly assess a player's golf equipment 1
15. Define club performance terms and specifications, including lie angle and clubface angle or position, and describe their effect on ball flight and player performance: Observe a player's swinging motion, ball flight, and equipment to evaluate the effectiveness of their equipment

MKTG 2110. Principles of Marketing
3 Credits (3)
Survey of modern marketing concepts and practices focusing on the marketing mix: product, pricing, promotion, and distribution strategies. Topics include: the marketing environment, consumer behavior, marketing research, target marketing, and the ethical and social responsibilities of marketers. May be repeated up to 6 credits.
Prerequisite: BUSA 1110.
Learning Outcomes
1. Describe the professional, ethical, and social responsibilities of marketers.
2. Explain the role of the product in the marketing mix, including the product life cycle, the relevance of product innovation, and product classifications.
3. Illustrate the role of promotion in the marketing mix, including the communication process and the promotional mix.
4. Explain the role of price in the marketing mix, including pricing objectives, pricing policies, and pricing methods.
5. Describe the operation of channels of distribution and supply chains, including functions of intermediaries and degrees of coverage.
6. Define the concepts of target markets and market segmentation with respect to elements of the marketing mix.
7. Explain the importance of market research and information systems in supporting marketing decision making.
8. Describe the dynamic environment(s) in which marketing decisions must be made.

MKTG 2111. Level 1, PGA's PGM Education Program (Part 3)
3 Credits (3)
Level 1 Part 3 of the PGA PGM Education Program. This class will focus on Facility Management 1B (Business Planning A, Customer Relations A, Golf Car A, Merchandising A, Turfgrass A), Level 1 Checkpoint Exams, and

the corresponding PGA Work Experience Activities. Students will also be required to provide an internship evaluation report. Additional course fee required.

Learning Outcomes

1. Understand the PGA Business Planning Model.
2. Use case studies to apply business planning concepts.
3. Define the business at the facility in terms of vision, core values, facility characteristics, and mission.
4. Assess the current state of the business by conducting a SWOT analysis.
5. Develop appropriate business goals and objectives.
6. Develop strategies to achieve goals and objectives.
7. Analyze financial history to create a financial forecast and operating budget.
8. Monitor performance and make necessary modifications to the plan.
9. Utilize the PGA PGM Work Experience Portfolio to display relevant training and experience. 1
10. Describe the golf industry job market and the knowledge and skills required to succeed. 1
11. Access PGA employment resources and participate in professional growth and development. 1
12. Utilize negotiation strategies for a compensation package. 1
13. Understand the major components of an employment agreement or contract. 1
14. Understand the business value of customer relations. 1
15. Describe the components of the PGA Customer Relations Model. 1
16. Utilize the four Interaction Strategies in a variety of routine and challenging customer situations. 1
17. Utilize the seven Interpersonal Skills in a variety of routine and challenging customer situations. 1
18. Initiate the PGA Experience using a systematic engagement routine. 1
19. Understand the importance of the golf car to the customer, the golf professional, and the facility. 2
20. Know the characteristics of a well-managed golf car fleet. 2
21. Utilize policies and procedures necessary for the operation of a safe and efficient golf car program. 2
22. Evaluate the components and potential benefits of an effective maintenance program and a proper storage facility. 2
23. Determine golf car needs in order to acquire a fleet that supports the facility's mission, customers, and physical characteristics. 2
24. Project fleet revenue, costs, and profit, and identify how budgeting changes impact the bottom line. 2
25. Evaluate the advantages and disadvantages of lease-purchase options. 2
26. Determine optimal rental fees. 2
27. Define key terms used in the Rules of Golf. 2
28. Locate and apply Rules to frequently encountered situations. 2
29. Encourage the use of the Rules and etiquette at your facility. 3
30. Understand how to define, assess, and develop tournament business at a facility. 3
31. Identify and define a tournament's purpose to develop an event that meets the needs of the customer and the facility. 3
32. Know how golf courses and facilities prepare for an event. 3
33. Define staff requirements for tournament operations. 3
34. Understand and communicate tasks required for tournament execution. 3
35. Manage situations and make rulings during events. 3
36. Review tournaments and suggest improvements for future events.

MKTG 2112. Level 2, PGA's PGM Education Program (Part 1)
3 Credits (3)

Level 2 Part 1 of the PGA PGM Education Program. This class will focus on Teaching and Coaching 2, Teaching and Coaching Seminars, and the corresponding PGA Work Experience Activities. Additional course fee required.

Learning Outcomes

1. Explain how students learn golf knowledge and skills, and identify the implications for teaching.
2. Explain how students process information when learning golf skills.
3. Identify and explain the principles of effective practice.
4. Explain how juniors learn golf knowledge and skills, and identify the implications for teaching.
5. Structure an effective golf lesson.
6. Analyze student's instructional needs and set clear, purposeful learning and practice goals.
7. Deliver effective explanations and demonstrations during a golf lesson.
8. Engage in self-assessment of teaching skills and competencies.
9. Recognize and apply the appropriate clubhead path and clubface position information to improve a golfer's performance. 1
10. Conduct appropriate assessments to determine the skill level of the golfer. 1
11. Demonstrate basic knowledge of anatomy and physiology, and conduct a physical observation to identify movement capabilities and limitations that may affect a golfer's performance. 1
12. Define club performance terms and specifications, and describe their effect on ball flight and player performance.

MKTG 2220. Digital Marketing
3 Credits (3)

This course focuses on planning to create and market a website. Internal 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.

Prerequisite: MKTG 2110.

Learning Outcomes

1. Describe how search engines work. (Use knowledge to make recommendations to a website on how it can improve its organic search rankings - perform search engine optimization).
2. Describe the various methods of online display advertising.
3. Determine the appropriate key performance indicators (KPIs) for any type of website.
4. Describe and implement best practices in marketing to a database of current and potential customers via email.
5. Utilize knowledge of social media tactics to design an effective social media campaign.
6. Implement online reputation management tactics to improve the online reputation of a brand.
7. Develop and present a digital marketing plan for a small, local business.

MKTG 280. Level 1, PGA's PGM Education Program (Part 3)
3 Credits (3)

Level 1 Part 3 of the PGA PGM Education Program. This class will focus on Facility Management 1B (Business Planning A, Customer Relations A, Golf Car A, Merchandising A, Turfgrass A), Level 1 Checkpoint Exams, and the corresponding PGA Work Experience Activities. Students will also be required to provide an internship evaluation report. Additional course fee required. Consent of Instructor required. Restricted to: MKTG majors.

MKTG 281. Level 2, PGA's PGM Education Program (Part 1)
3 Credits (3)
Level 2 Part 1 of the PGA PGM Education Program. This class will focus on Teaching and Coaching 2, Teaching and Coaching Seminars, and the corresponding PGA Work Experience Activities. Additional course fee required. Consent of Instructor required. Restricted to: MKTG majors.
Learning Outcomes
1. Explain how students learn golf knowledge and skills, and identify the implications for teaching
2. Explain how students process information when learning golf skills
3. Identify and explain the principles of effective practice
4. Explain how juniors learn golf knowledge and skills, and identify the implications for teaching
5. Structure an effective golf lesson
6. Analyze student's instructional needs and set clear, purposeful learning and practice goals
7. Deliver effective explanations and demonstrations during a golf lesson
8. Engage in self-assessment of teaching skills and competencies
9. Recognize and apply the appropriate clubhead path and clubface position information to improve a golfer's performance 1
10. Conduct appropriate assessments to determine the skill level of the golfer 1
11. Demonstrate basic knowledge of anatomy and physiology, and conduct a physical observation to identify movement capabilities and limitations that may affect a golfer's performance 1
12. Define club performance terms and specifications, and describe their effect on ball flight and player performance

MLSL-MILITARY SCIENCE

MLSL 1110. Introduction to Army Leadership
2 Credits (1+1,2P)
This course provides an introduction to the Army and basic Soldier skills. Students receive an introduction to the Army Profession and examine what it means to be a professional in the U.S. Army. The overall focus is on developing fundamental knowledge and comprehension of the Army Leadership Requirements Model (ALRM) while understanding the Reserve Officers' Training Corps (ROTC) program, its purpose in the Army, and its advantages for the student. Students also begin learning map reading and land navigation.
Learning Outcomes
1. Identify and describe the Army leader attribute and competency categories described in the Army Leadership Requirements Model.
2. Analyze and demonstrate methods for creating and sustaining an organizational climate of trust, ensuring all individuals are treated with dignity and respect.
3. Develop and implement plans for prioritizing, planning, preparing, executing, evaluating, and assessing training within a military context.
4. Apply critical and creative thinking to solve problems and make decisions in Army scenarios.

MLSL 1110L. Introduction to Army Leadership I Laboratory
1-3 Credits (1-3)
In this weekly lab, students will apply initial instruction from MLSL 1110 on fieldcraft, first aid, and team building. The lab will be facilitated by MS III Cadets and supervised by MS IV's and cadre.
Learning Outcomes
1. Demonstrate proficiency in individual Soldier skills such as fieldcraft and first aid through practical exercises and assessments.
2. Explain and practice Army customs and courtesies in various scenarios, demonstrating appropriate behavior and respect.
3. Execute team, squad, and platoon movements, showcasing knowledge of tactical formations and commands.

MLSL 1120. Introduction to Army Leadership II
2 Credits (1+1,2P)
This course introduces students to the personal challenges and competencies that are critical for effective leadership. Students learn how to develop personal life skills such as critical thinking, time management, goal setting, and communication. Students learn the basics of the communication process and the importance for leaders to develop the essential skills to effectively communicate in the Army.
Learning Outcomes
1. Identify and describe the Army leader attribute and competency categories as outlined in the Army Leadership Requirements Model.
2. Demonstrate methods for creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect.
3. Develop plans for prioritizing, planning, preparing, executing, evaluating, and assessing training within a military context.
4. Apply critical and creative thinking skills to solve problems and make decisions in Army scenarios.

MLSL 1120L. Introduction to Leadership Lab
1 Credit (1P)
Planning, coordination, execution and evaluation of training and activities in a collaborative training environment with both basic and advanced course students from within the ROTC program. Students develop and refine leadership skills in positions of responsibility. Restricted to Las Cruces campus only.
Prerequisite: MLSL 1110.
Learning Outcomes
1. Leadership Development: Demonstrate an understanding of leadership theories and principles, Apply leadership skills in a real-world context Reflect on personal leadership strengths and areas for growth.
2. Effective Communication: Develop effective communication skills to peers, cadre, and instructors, Foster positive and open communication, Demonstrate the ability to adapt to constructive feedback and guidance.
3. Reflective Practice: Engage in reflective practice to assess personal growth and learning throughout the course, Identify strategies for continuous improvement in leadership skills.
4. Teamwork and Collaboration: Collaborate effectively within the ROTC cadet cohort, Work as a team to address challenges and enhance the ROTC program.
5. Time Management and Goal Setting: Learn time management techniques, Learn and apply study skills, Learn to develop SMART goals and implement plans to achieve them.

MLSL 1129. Introduction to Military Fitness I
2 Credits (2)

This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to, and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.

Learning Outcomes

1. Identify and describe the key physical requirements for successful service in the U.S. Army.
2. Complete the Army Combat Fitness Test (ACFT) and achieve a passing score.
3. Complete the Combat Water Survival Test (CWST) and achieve a passing score.

MLSL 1130. Introduction to Military Fitness II
2 Credits (2P)

This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.

Learning Outcomes

1. Describe the physical requirements for service in the U.S. Army.
2. Pass the Army Combat Fitness Test (ACFT).
3. Pass the Combat Water Survival Test (CWST).

MLSL 2110. Foundations of Army Leadership I
3 Credits (2+1,2P)

This course focuses on leadership and ethics. The course adds depth to the Cadets knowledge of the different leadership styles. Cadets will conduct a leadership analysis of famous leaders and self-assessment of their leadership style. The Army Profession is presented through understanding Culture Awareness, Values, Ethics, and how to apply both to different situations they may encounter as a leader. Army Values and Ethics and their relationship to the Law of Armed Conflict (LOAC) and philosophy of military service are presented through video clips and historical vignettes followed small group discussions with cadets.

Learning Outcomes

1. Apply the Army leader attributes and competency categories described in the Army Leadership Requirements Model.
2. Design and implement strategies for creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect.
3. Develop a systematic approach to prioritizing, planning, preparing, executing, evaluating, and assessing training exercises and demonstrate their execution.
4. Use critical and creative thinking skills to analyze historical leaders and develop a personal leadership philosophy.

MLSL 2110L. Foundations of Army Leadership I Laboratory
1,3 Credits (1,3P)

Planning, coordination, execution and evaluation of training and activities in a collaborative training environment with both basic and advanced course students from within the ROTC program. Students develop and refine leadership skills in positions of responsibility. Restricted to Las Cruces campus only.

Learning Outcomes

1. Demonstrate proficiency in individual Soldier skills.
2. Apply Army customs and courtesies.
3. Demonstrate effective team, squad, and platoon movement drills by conducting exercises and adhering to tactical procedures.

MLSL 2120. Foundations of Army Leadership II
3 Credits (2+1,2P)

This course focuses on Army doctrine and decision-making. The course begins with analytical techniques, creative thinking skills, and the Army problem-solving process related to situations faced by leaders when making decisions. Troop Leading Procedures (TLPs) and Operations Orders (OPORDs) will lead Cadets to understand Army Doctrine and Symbology. Squad tactics will be covered in classes on Offensive Operations and Defensive Operations inside of the Army's operating environmental concept of Multidomain Operations.

Learning Outcomes

1. Apply the Army leader attribute and competency categories from the Army Leadership Requirements Model by demonstrating their integration into various leadership plans.
2. Implement strategies to create and sustain an organizational climate of trust by developing plans that promote dignity and respect for all individuals.
3. Develop and apply an approach to prioritizing, planning, preparing, executing, evaluating, and assessing training by creating and demonstrating successful exercise plans in a practical setting.
4. Demonstrate critical and creative thinking to analyze complex decision-making scenarios related to Army doctrine and tactics, develop solutions, and present a decision-making strategy that addresses the challenges of Multidomain Operations, Offensive Operations, and Defensive Operations.

MLSL 2120L. Foundations of Army Leadership II Lab
1 Credit (1,3P)

Cadets apply their knowledge outside the classroom in hands-on performance-oriented environments during the weekly lab, which is facilitated by MS III Cadets and supervised by MSIVs and cadre.
Prerequisite: MLSL 2120.

Learning Outcomes

1. Demonstrate proficiency in individual Soldier skills by successfully executing practical exercises as assessed by MS IVs and cadre.
2. Apply Army customs and courtesies in various lab scenarios and perform protocols correctly.
3. Coordinate team, squad, and platoon exercises by leading these exercises in a lab setting and adhering to tactical procedures.

MLSL 2129. Foundations of Military Fitness I
2 Credits

This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to, and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.

Learning Outcomes

1. Summarize the physical requirements for service in the US Army.
2. Pass the Army Combat Fitness Test (ACFT).
3. Pass the Combat Water Survival Test (CWST).

MLSL 2130. Foundations of Military Fitness II
2 Credits (2P)

This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.

Learning Outcomes

1. Summarize the physical requirements for service in the United States Army.
2. Pass the Army Combat Fitness Test (ACFT).
3. Pass the Combat Water Survival Test (CWST).

MLSL 2992. Directed Studies in Military Science
1-3 Credits
Independent projects conducted under the direction of designated faculty.

Learning Outcomes

1. Identify and articulate key concepts and theories relevant to the specific topic of study by preparing a comprehensive research paper, report, portfolio, or presentation that synthesizes current knowledge and insights.

MLSL 3103. Recent American Military History
3 Credits (3)
History explains the present and informs the future. We will cover America's major military engagements from the Colonial Period to today's headlines. Whatever challenges you encounter as a leader – conflict resolution, resource limitations, teamwork deficiencies – leaders who served before you confronted many of the same issues. You can draw from their experiences to create your own solution. History teaches that while we may learn from our mistakes, it is generally much less painful to learn from the mistakes of others.

Learning Outcomes

1. Describe the military's role in society.
2. Examine the evolution of war and the progression of military professionalism.
3. Analyze the major wars fought by the US Army, using the Principles of War.
4. Discuss the role of the US military in joint operations.
5. Discuss the role of the US Army in humanitarian operations and nation-building at home and abroad.
6. Analyze lessons learned from military history to the Contemporary Operating Environment.

MLSL 3110. Leading Small Organizations I
3 Credits (3)
Part of the Senior ROTC Advanced Course, this course provides a Focus on training management and the warfighting functions. It is an academically challenging course were Cadets study, practice, and apply the fundamentals of Training Management and how the Army operates through the Warfighting functions. At the conclusion of this course, Cadets will be capable of planning, preparing, and executing training for a squad conducting small unit tactics. Includes one lab meeting per week using peer facilitation overseen by MSL IV, supervised by ROTC Cadre and three physical fitness sessions per week. Students must meet Basic Course of Military Science requirements to enroll in this course.
Corequisite: MLSL 3110L.

Learning Outcomes

1. Demonstrate an understanding of leadership theories and principles.
2. Foster positive and open communication.
3. Engage in reflective practice to assess personal growth and learning throughout the course.
4. Collaborate effectively within the ROTC cadet cohort.
5. Develop effective communication skills to peers, cadre, and instructors.
6. Apply leadership skills in a real-world context Reflect on personal leadership strengths and areas for growth.
7. Demonstrate the ability to adapt to constructive feedback and guidance.
8. Identify strategies for continuous improvement in leadership skills.
9. Work as a team to address challenges and enhance the ROTC program.

MLSL 3110L. Leading Small Organizations I Lab
1 Credit (1,3P)
Planning, coordination, execution and evaluation of training and activities with advance course students and ROTC program. Students develop and refine leadership skills in positions of responsibility. Open only to students taking MLSL 3110.
Corequisite(s): MLSL 3110.

Learning Outcomes

1. Collaborate effectively within the ROTC cadet cohort.
2. Demonstrate an understanding of leadership theories and principles.
3. Apply leadership skills in a real-world context Reflect on personal leadership strengths and areas for growth.
4. Develop effective communication skills to peers, cadre, and instructors.
5. Foster positive and open communication.
6. Demonstrate the ability to adapt to constructive feedback and guidance.
7. Engage in reflective practice to assess personal growth and learning throughout the course.
8. Identify strategies for continuous improvement in leadership skills.
9. Work as a team to address challenges and enhance the ROTC program.

MLSL 3120. Leading Small Organizations II
3 Credits (3)
Part of the Senior ROTC Advanced Course, this course provides a focus on applied leadership in small unit operations. Cadets will be capable of planning, coordinating, navigating, motivating and leading a platoon in the execution of a mission. This includes one lab meeting per week using peer facilitation overseen by MSL IVs, supervised by ROTC Cadre and three physical fitness sessions per week. Successful completion of this course is a requirement to Cadet Summer Training Advance Camp during the summer, at Fort Knox, KY. Successful in completion of this course is a requirement to attend Summer Camp or Advanced Camp during the summer.
Prerequisite: MLSL 3110.
Corequisite: MLSL 3120L.

Learning Outcomes

1. Focus on applied leadership in small unit operations.
2. Cadets study, practice, and apply the fundamentals of direct level leadership and small unit tactics at the platoon level.
3. Cadets will be capable of planning, coordinating, navigating, motivating and leading a platoon in the execution of a mission.

MLSL 3120L. Leading Small Organizations II Lab
1 Credit (1,3P)
Practice and refinement of leadership skills. Different roles assigned for students at different levels in the program. Planning, coordination, execution and evaluation of training and activities with advance course students and ROTC program. Open to students taking MLSL 3120.
Corequisite: MLSL 3120.

Learning Outcomes

1. Leadership Development: Demonstrate an understanding of leadership theories and principles, Apply leadership skills in a real-world context Reflect on personal leadership strengths and areas for growth.
2. Effective Communication: Develop effective communication skills to peers, cadre, and instructors, Foster positive and open communication, Demonstrate the ability to adapt to constructive feedback and guidance.
3. Reflective Practice: Engage in reflective practice to assess personal growth and learning throughout the course, Identify strategies for continuous improvement in leadership skills.
4. Teamwork and Collaboration: Collaborate effectively within the ROTC cadet cohort, work as a team to address challenges and enhance the ROTC program.
5. Time Management and Goal Setting: Learn time management techniques, Learn and apply study skills, Learn to develop SMART goals and implement plans to achieve them.

MLSL 3129. Military Fitness III
2 Credits (2)

A general program that focuses on activities and principles that promote physical fitness, achieve and maintain athletic prowess, and accomplish related research and service goals. Includes instruction in human movement studies, motivation studies, rules and practice of specific sports, exercise and fitness principles and techniques, basic athletic injury prevention and treatment, and organizing and leading fitness and sports programs.

Prerequisite: MLSL 2229.

Learning Outcomes

1. Demonstrate an understanding of leadership theories and principles.
2. Work as a team to address challenges and enhance the ROTC program.
3. Collaborate effectively within the ROTC cadet cohort.
4. Identify strategies for continuous improvement in leadership skills.
5. Engage in reflective practice to assess personal growth and learning throughout the course.
6. Demonstrate the ability to adapt to constructive feedback and guidance.
7. Foster positive and open communication.
8. Develop effective communication skills to peers, cadre, and instructors.
9. Apply leadership skills in a real-world context Reflect on personal leadership strengths and areas for growth.

MLSL 3130. Remember Bataan
2 Credits (2)

This will be a history course that explores the impacts of WWII on the state of New Mexico, with a particular emphasis on the Battle of Bataan. This course will incorporate a few different approaches to achieve the desired learning objectives listed below. 1) Historical Approach: The traditional lecture-based approach to history will be utilized to cover some of the course content. Two texts will largely inform the discussion: Dorothy Cave's Beyond Courage and It Tolled for New Mexico by Eva Matson. 2) Living History: Examining living history artifacts that exist throughout the state; discussions with families of survivors; discussions about what the legacy of Bataan means to today's society. 3) Service-based learning: This is an educational approach that integrates meaningful community service with academic learning. In a service-based learning course, students engage in hands-on experiences that address real community needs while reflecting on and applying academic concepts. The goal is to enhance students' understanding of course content, develop their civic responsibility, and foster a sense of social awareness. Only one module of the course will be devoted to this style of learning. Instructors will steer students towards volunteering with the Remember Bataan Foundation, volunteering at White Sands Missile Range to support the Bataan Memorial Death March, or designed and implementing their own community service initiative in close coordination with and incorporating guidance from the instructors if they decide to go this third route. May be repeated up to 8 credits.

Learning Outcomes

1. Understanding the Context of World War II: Define the key events and factors that led to the outbreak of World War II, explain the geopolitical and economic situation of New Mexico before the war.
2. Analyzing New Mexico's Role in the War Effort: Assess the contributions of New Mexico to the war effort, including the development of the Manhattan Project and the establishment of military bases.
3. Examining Social Changes on the Home Front: Describe the social and economic changes that occurred in New Mexico during World War II, analyze the impact of wartime policies on women, minorities, and everyday life in the state.
4. Exploring the Battle of Bataan: Summarize the key events and significance of the Battle of Bataan, evaluate the role of New Mexican units and individuals in the battle.
5. Examining the Experiences of POWs and Veterans: Explore the experiences of New Mexican soldiers as prisoners of war in Bataan, analyze the challenges faced by veterans upon their return to New Mexico and their integration into post-war society.
6. Assessing Economic and Technological Changes: Evaluate the economic boom in New Mexico after World War II, examine the technological advancements that occurred and their long-term effects on the state.
7. Analyzing the Legacy and Commemoration: Assess how the Battle of Bataan is memorialized in New Mexico, analyze the lasting impact of World War II on the state and its modern perspectives.
8. Research and Communication Skills: Conduct independent research on specific aspects of New Mexico's history during World War II, communicate findings effectively through written assignments and discussions.
9. Critical Thinking and Synthesis: Apply critical thinking skills to analyze historical sources and perspectives, synthesize information to form well-reasoned arguments about the impact of World War II on New Mexico. 1
10. Cultural Competency: Recognize and appreciate the diverse contributions of individuals from different backgrounds in New Mexico during World War II, understand the cultural implications of wartime experiences on various communities within the state.

MLSL 3992. Advanced Directed Studies
1,3 Credits (1,3)

Directed individual study of advanced subjects under the guidance of ROTC Instructors.

Learning Outcomes

1. Demonstrate an understanding of leadership theories and principles.
2. Demonstrate the ability to adapt to constructive feedback and guidance.
3. Engage in reflective practice to assess personal growth and learning throughout the course.
4. Identify strategies for continuous improvement in leadership skills.

5. Collaborate effectively within the ROTC cadet cohort.
6. Work as a team to address challenges and enhance the ROTC program.
7. Foster positive and open communication.
8. Develop effective communication skills to peers, cadre, and instructors.
9. Apply leadership skills in a real-world context Reflect on personal leadership strengths and areas for growth.

MLSL 3999. Cadet Summer Training Advanced Course
3 Credits (3)
Advanced Camp is a 31-day training event which takes place at Fort Knox, KY. Cadets are mentally and physically tested during a 12-day consequence driven field training exercise that replicates a combat training center rotation. Successful completion of the Advanced Camp is a requirement for commissioning. Each cadet will be evaluated during the time they are at Advanced Camp.
Prerequisite: MLSL 3110, MLSL 3110L, MLSL 3120, MLSL 3120L.
Learning Outcomes
1. Designed for the cadet to demonstrate proficiency to the Advanced Camp Instructor.
2. Cadets are evaluated on their ability to lead at the Squad and Platoon levels, both in garrison and tactical environments.
3. Assess a Cadet's ability to demonstrate proficiency in basic officer leadership tasks.

MLSL 4110. Leadership Challenges and Goal Setting
3 Credits (3)
Part of the Senior ROTC Advanced Course, this course provides a focus on development of the Army Officer. It is an academically challenging course were Cadets develop knowledge, skills, and abilities to plan, resource, and assess training at the small unit level. Cadets also learn about Army programs that support counseling subordinates and evaluating performance, values and ethics, career planning, and legal responsibilities. At the conclusion of this course, Cadets will be familiar with how to plan, prepare, execute, and continuously assess the conduct of training at the company or field grade officer level. Includes a lab per week overseeing MSL IV lesson facilitation and supervised by ROTC Cadre and three physical fitness sessions per week.
Prerequisite: MLSL 3120.
Corequisite: MLSL 4110L.
Learning Outcomes
1. Leadership and the Army Profession: Proficiency in creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect, Proficiency in the Army leader attribute and competency categories described in the Leadership Requirements Model, Proficiency in developing others (i.e. setting conditions, creating opportunity, providing feedback, and enhancing learning) across the institutional, operational, and self-development domains, Proficiency as an Army professional who embraces the Army's culture of service, instills discipline, and lives the Army Values.
2. Mission Command: Proficiency in the principles of mission command, Proficiency in the elements of command and the elements of control, Proficiency in C2 Warfighting Function tasks and employment of the C2 system to generate and apply combat power, Proficiency in the fundamentals of the operations process to enable leaders to understand, visualize, describe, direct, lead, and assess operations, Proficiency in critical creative thinking.
3. Operations: Proficiency in synchronizing all Warfighting Functions in Multi-Domain Operations in support of Joint Operations, Proficiency in understanding the Operational Environment across all domains, Proficiency in sustainment functions supporting Army Operations.
4. Training: Proficiency in prioritizing, planning and preparing, executing, evaluating and assessing training.

MLSL 4110L. Leadership Challenges and Goal Setting Lab
1,3 Credits (1,3P)
Different roles assigned for students at different levels in the program. Practice and refinement of leadership skills. Planning coordination, execution and evaluation of training and activities with basic course students and ROTC program. This course is a leadership lab and its for all MLSL levels of the program as they all work together in getting all of the drills and trainings done with one another.
Corequisite: MLSL 4110.
Learning Outcomes
1. Leadership and the Army Profession: Proficiency in creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect, Proficiency in the Army leader attribute and competency categories described in the Leadership Requirements Model, Proficiency in developing others (i.e. setting conditions, creating opportunity, providing feedback, and enhancing learning) across the institutional, operational, and self-development domains, Proficiency as an Army professional who embraces the Army's culture of service, instills discipline, and lives the Army Values.
2. Mission Command: Proficiency in the principles of mission command, Proficiency in the elements of command and the elements of control, Proficiency in C2 Warfighting Function tasks and employment of the C2 system to generate and apply combat power, Proficiency in the fundamentals of the operations process to enable leaders to understand, visualize, describe, direct, lead, and assess operations, Proficiency in critical creative thinking.
3. Operations: Proficiency in synchronizing all Warfighting Functions in Multi-Domain Operations in support of Joint Operations, Proficiency in understanding the Operational Environment across all domains, Proficiency in sustainment functions supporting Army Operations.
4. Training: Proficiency in prioritizing, planning and preparing, executing, evaluating and assessing training.

MLSL 4120. Transition to Lieutenant
3 Credits (3)
The final course within the Senior ROTC Advanced Course, this course is an academically challenging course were Cadets further develop knowledge, skills, and abilities required of junior officers pertaining to the Army in Unified Land Operations and Company Grade Officer roles and responsibilities. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and an Oral Practicum as the final exam. The Oral Practicum explores the Cadet's knowledge of how they will be prepared for the 20 Army Warfighting Challenges (AWFC) covered throughout the ROTC Advanced Course. Successful completion of this course will assist in preparing Cadets for their BOLC B course following graduation and commissioning. It is a mandatory requirement for commissioning. Includes a lab per week overseeing MSL III lesson facilitation and supervised by ROTC Cadre and three physical fitness sessions per week.
Prerequisite: MLSL 4110.
Corequisite: MLSL 4120L.
Learning Outcomes
1. Leadership and the Army Profession: Proficiency in creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect, Proficiency in the Army leader

attribute and competency categories described in the Leadership Requirements Model, Proficiency in developing others (i.e. setting conditions, creating opportunity, providing feedback, and enhancing learning) across the institutional, operational, and self-development domains, Proficiency as an Army professional who embraces the Army's culture of service, instills discipline, and lives the Army Values.
2. Mission Command: Proficiency in the principles of mission command, Proficiency in the elements of command and the elements of control, Proficiency in C2 Warfighting Function tasks and employment of the C2 system to generate and apply combat power, Proficiency in the fundamentals of the operations process to enable leaders to understand, visualize, describe, direct, lead, and assess operations, Proficiency in critical creative thinking.
3. Operations: Proficiency in synchronizing all Warfighting Functions in Multi-Domain Operations in support of Joint Operations, Proficiency in understanding the Operational Environment across all domains, Proficiency in sustainment functions supporting Army Operations.
4. Training: Proficiency in prioritizing, planning and preparing, executing, evaluating and assessing training.

MLSL 4120L. Transition to Lieutenant Lab
1,3 Credits (1,3P)
Different roles assigned for students at different levels in the program. Practice and refinement of leadership skills. Planning, coordination, execution, and evaluation of training and activities with basic course students and ROTC program.
Corequisite: MLSL 4120.
Learning Outcomes
1. Leadership and the Army Profession: Proficiency in creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect, Proficiency in the Army leader attribute and competency categories described in the Leadership Requirements Model, Proficiency in developing others (i.e. setting conditions, creating opportunity, providing feedback, and enhancing learning) across the institutional, operational, and self-development domains, Proficiency as an Army professional who embraces the Army's culture of service, instills discipline, and lives the Army Values.
2. Mission Command: Proficiency in the principles of mission command, Proficiency in the elements of command and the elements of control, Proficiency in C2 Warfighting Function tasks and employment of the C2 system to generate and apply combat power, Proficiency in the fundamentals of the operations process to enable leaders to understand, visualize, describe, direct, lead, and assess operations, Proficiency in critical creative thinking.
3. Operations: Proficiency in synchronizing all Warfighting Functions in Multi-Domain Operations in support of Joint Operations, Proficiency in understanding the Operational Environment across all domains, Proficiency in sustainment functions supporting Army Operations.
4. Training: Proficiency in prioritizing, planning and preparing, executing, evaluating and assessing training.

MLSL 4129. Military Fitness IV
2 Credits (2)
A general program that focuses on activities and principles that promote physical fitness, achieve and maintain athletic prowess, and accomplish related research and service goals. Includes instruction in human movement studies, motivation studies, rules and practice of specific sports, exercise and fitness principles and techniques, basic athletic injury prevention and treatment, and organizing and leading fitness and sports programs. May be repeated up to 6 credits.
Prerequisite: MLSL 3329.
Learning Outcomes
1. Proficiency in developing others (i.e. setting conditions, creating opportunity, providing feedback, and enhancing learning) across the institutional, operational, and self-development domains.
2. Proficiency in creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect.
3. Proficiency as an Army professional who embraces the Army's culture of service, instills discipline, and lives the Army Values.
4. Proficiency in the Army leader attribute and competency categories described in the Leadership Requirements Model.

MLSL 4992. Practicum
1,3 Credits (1,3+1,3P)
Independent projects conducted under the direction of the Professor of Military Science, and concerned with analysis of selected leadership or management problems. Course not eligible for S/U grade.
Learning Outcomes
1. Leadership and the Army Profession.
2. Proficiency in creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect.
3. Proficiency as an Army professional who embraces the Army's culture of service, instills discipline, and lives the Army Values.
4. Proficiency in developing others (setting conditions, creating opportunity, providing feedback, and enhancing learning) across the institutional, operational, and self-development domains.
5. Proficiency in the Army leader attribute and competency categories described in the Leadership Requirements Model.

MUSC-MUSIC

MUSC 1110G. Music Appreciation: Jazz
3 Credits (3)
This course explores the ideas of music in society and its cultural relevance and is designed to increase the students' appreciation of music as well as to enhance their listening skills. Students are introduced to various periods, styles, and composers of music and become acquainted with knowledge and appreciation of Jazz from various cultures and times.
Learning Outcomes
1. Develop a vocabulary of musical terms, and be able to describe music using those terms
2. Demonstrate knowledge of composers, their music and their relationship to historical periods
3. Recognize how music played and plays a political, social, and cultural function
4. Identify well-known pieces and the historical and social context in which they were composed
5. Demonstrate basic understanding of music notation and musical communication

MUSC 1130G. Music Appreciation: Western Music
3 Credits (3)
This course explores the ideas of music in society and its cultural relevance and is designed to increase the students' appreciation of music as well as to enhance their listening skills. Students are introduced to various periods, styles, and composers of music and become acquainted with knowledge and appreciation of Western music from various cultures and times.

Learning Outcomes

1. Develop a vocabulary of musical terms, and be able to describe music using those terms
2. Demonstrate knowledge of composers, their music and their relationship to historical periods
3. Recognize how music played and plays a political, social, and cultural function
4. Identify well-known pieces and the historical and social context in which they were composed
5. Demonstrate basic understanding of music notation and musical communication

MUSC 1210. Fundamentals of Music for Non-majors
3 Credits (3)
A beginning course in the fundamentals of music, this course includes notation, scales, key signatures and intervals. Aural comprehension is introduced through singing intervals, scales and triads and dictating simple rhythmic and melodic patterns and students explore the basic components of music. Traditional Grading with RR.

Learning Outcomes

1. Demonstrate and apply standard notation of pitch, rhythm, scales, intervals, key signatures, triads, and simple melodic and harmonic composition
2. Develop and improve basic aural skills
3. Read musical notation
4. Improve and expand understanding of fundamental musical techniques and concepts

MUSC 1310. Recital Attendance
0.5 Credits (.5+1P)
This course is for music students to attend and participate in a good number of convocation, concert, and recital performances, creating a wider appreciation for the performing arts. May be repeated up to 4 credits. Restricted to: Music and Music Education majors. S/U Grading with RR. Restricted to Las Cruces campus only.

Learning Outcomes

1. Encourage student observation of serious music
2. Provide opportunities for public performances
3. To create a greater sense of community within the student body

MUSC 1410. Introduction to Music Education
2 Credits (2)
This course is an overview of teaching in the music classroom through readings and observations. Students will be introduced to the skills needed to become a reflective educator, develop observation techniques, and demonstrate knowledge of the current state of the profession. Restricted to Las Cruces campus only.

Learning Outcomes

1. Make observations and analyze the current state of musical education in public schools
2. Describe characteristics of good teaching in music
3. Articulate a personal philosophy of music education
4. Reflect on personal strengths and weaknesses as a teacher of music

MUSC 1440. Class Voice I
1 Credit (1)
Group instruction in voice and vocal pedagogy for instrumental Music Education majors, offering basic principles of healthy vocal production with particular attention to diction, development of vocal range, and the ability to impart that knowledge to elementary, junior and/or high school age students. Restricted to: Music Education majors. Traditional Grading with RR. Restricted to Las Cruces campus only.

Learning Outcomes

1. Provide the basic understanding of healthy vocal production. Including, but is not limited to, the following topics: Expanding vocal range; Learning how to practice and learn songs effectively and efficiently; Provide basic understanding of vocal pedagogy; Introduction to diction
2. Aims to equip students with the ability to impart that knowledge to elementary, junior and/or high school age students.

MUSC 1450. Ear Training I
1 Credit (1)
To develop the ability to accurately hear, identify, sing and notate musical elements including rhythm, melody, intervals and harmony Traditional Grading with RR. Restricted to Las Cruces campus only. May be repeated up to 1 credit.

Learning Outcomes

1. Counting rhythms at sight using the Eastman Counting System.
2. Singing melodies at sight using solfege syllables.
3. Writing out rhythmic patterns.
4. Writing out melodic patterns.
5. Identifying and singing intervals.
6. Identifying and singing chord / triad qualities.

MUSC 1451. Ear Training II
1 Credit (1)
To develop the ability to accurately hear, identify, sing and notate musical elements including rhythm, melody, intervals and harmony Restricted to Las Cruces campus only.
Prerequisite(s): Grade of C- or better in MUSC 1450.

Learning Outcomes

1. Counting rhythms at sight using the Eastman Counting System
2. Singing melodies at sight using solfege syllables
3. Writing out rhythmic patterns
4. Writing out melodic patterns
5. Identifying and singing intervals
6. Identifying and singing chord / triad qualities

MUSC 1460. Music Theory I
3 Credits (3)
Introduction to vocabulary and syntax of 4-voice 18th c. chorale music through study and harmonic analysis. May be repeated up to 3 credits.

Learning Outcomes

1. To learn the vocabulary and syntax of 4-voice 18th c. chorale music through study and harmonic analysis.

MUSC 1461. Music Theory II
3 Credits (3)
Expansion of vocabulary and syntax of 4-voice 18th c. chorale music through study, harmonic analysis, and part writing.
Prerequisite(s): Grade of C or better in MUSC 1460.

Learning Outcomes

1. To expand and apply the vocabulary and syntax of 4-voice, 18th c. chorale music through study, harmonic analysis, and part writing.

MUSC 1470. Functional Piano I
2 Credits (2)
Scales, chords, memorization. Harmonization of simple melodies with the ability to play simple melodies and rhythms. May be taken for unlimited credit. Restricted to music majors. No S/U option.

Learning Outcomes

1. 5 finger hand position in all keys
2. I-IV-I-V7-I cadences in all keys
3. One octave scales with hands together in C, G, D and F (major and minor)
4. Root position cross--over triads, solid and broken (major and minor)
5. Simple sight reading, harmonizing and transposition
6. Prepared pieces from the textbook
7. Simple improvisation
8. Play 2 simple vocal exercises
9. Identify intervals, key signatures and chords 1
10. Correct posture and hand position 1
11. Musical issues such as phrasing, slurs and dynamics 1
12. Good practice habits and techniques

MUSC 1471. Functional Piano II
2 Credits (2)
Scales, chords, memorization. Harmonization of simple melodies with the ability to play simple melodies and rhythms. May be taken for unlimited credit. Restricted to music majors. No S/U option.
Prerequisite: MUSC 1470 or consent of instructor.
Learning Outcomes

1. Two octave scales with hands separate in C, G, D, A, E, B and F (major and minor)
2. I-IV-I-V-V7-I cadences in above mentioned keys in root position and 1st inversion
3. Simple sight reading, harmonization and transposition
4. Prepared pieces from the book
5. Simple improvisation
6. Identify intervals, key signatures and chords
7. Correct posture and hand position
8. Musical issues such as phrasing, slurs and dynamics
9. Good practice habits and techniques

MUSC 1472. Functional Piano III
2 Credits (2)
For music majors preparing for the Piano Proficiency Examination. May be taken for unlimited credit. Restricted to music majors. No S/U option.
Prerequisite: MUSC 1471 or consent of instructor.
Learning Outcomes

1. Keys learned in previous semesters, adding F# and C# (D flat)
2. Secondary dominant chords added to cadence patterns
3. Two-octave, , root position arpeggios, major and minor
4. Intro to chord charts, harmonization
5. More difficult sight--reading and transpositions
6. More difficult prepared pieces
7. Accompany a piece for any instrument on the Mid-Term Recital (required)

MUSC 1992. Applied Music
1-2 Credits (1-2)
Private or group instruction for non-music majors, secondary instruments, and music majors preparing for 2000-level applied music. May be taken for unlimited credit. May be repeated up to 99 credits.
Learning Outcomes

1. Development of Musical Abilities.
2. Development of Technical Abilities.

MUSC 2110. Chamber Ensemble
1 Credit (1)
This course is an exploration of chamber ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of chamber ensemble through study of musical history, as well as various practice exercises and performances. May be repeated up to 16 credits. Restricted to Las Cruces campus only.
Prerequisite(s): by audition only.
Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage

MUSC 2120. Major Ensemble
1 Credit (1)
This course is an exploration of major ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of major ensemble through study of musical history, as well as various practice exercises and performances. May be repeated up to 24 credits.
Prerequisite: by audition only.
Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage

MUSC 2130. Jazz Ensemble
1 Credit (1)
This course is an exploration of jazz ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of jazz ensemble through study of musical history, as well as various practice exercises and performances. May be repeated up to 10 credits. Restricted to Las Cruces campus only.
Prerequisite(s): By audition only.
Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage
6. Develop and improve improvisation skills

MUSC 2132. Percussion Ensemble
1 Credit (1)
Study and performance of contemporary percussion ensemble literature. May be repeated up to 5 credits. Restricted to Las Cruces campus only.
Prerequisite(s): by audition only.
Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history

4. Refine and improve technical ability
5. Demonstrate proper technique and usage

MUSC 2151. An Introduction to World Music, Jazz and Music Research
3 Credits (3)
Introduces world music and jazz within a historical and cultural context, considering significant musical figures, forms, genres, styles, and representative works. A major component will be the development of effective research and scholarly writing skills for the music major or minor. May be repeated up to 3 credits. Restricted to: Music majors and minors. Restricted to Las Cruces campus only.
Learning Outcomes
1. This course will cover fundamental concepts and styles associated with world music (ethnomusicology), jazz and popular music, an overview of the Western European tradition, and an intense focus on research and writing about music.
2. Emphasis will be placed on writing skills as they apply to the college experience in general and the world of music education and performance in particular.
3. Students will become acquainted with the diverse ways cultures create and are affected by their respective musical arts.
4. Focus will be on style evolution, forms, genres, composers, literature, and, where appropriate, performers

MUSC 2210. Diction I
2 Credits (2)
This course is designed to prepare students for singing in multiple languages using concepts of the International Phonetic Alphabet. Students will work to master the basics of phonetic singing to improve their overall musical abilities. Restricted to Las Cruces campus only.
Learning Outcomes
1. Correctly and consistently form vowel and consonant sounds when speaking and singing in multiple languages
2. Correctly and consistently transcribe texts in multiple languages using the International Phonetic Alphabet
3. Understand and explain the International Phonetic Alphabet's usage and symbols
4. Develop and apply the concept of lyric diction to singing
5. Gain fluency, accuracy, and confidence in pronunciation of sung text

MUSC 2220. Diction II
2 Credits (2)
This course serves as a continuing study in the concepts of the International Phonetic Alphabet. Students will continue to improve and practice their diction to develop their singing and musical abilities in order to begin the mastery of lyric diction. Restricted to music majors. Restricted to Las Cruces campus only.
Prerequisite: MUSC 2210 or consent of instructor.
Learning Outcomes
1. Correctly and consistently form vowel and consonant sounds when speaking and singing in multiple languages
2. Correctly and consistently transcribe texts in multiple languages using the International Phonetic Alphabet
3. Understand and explain the International Phonetic Alphabet's usage and symbols
4. Develop and apply the concept of lyric diction to singing.
5. Gain fluency, accuracy, and confidence in pronunciation of sung text.
6. Demonstrate ability to notate song texts according to IPA standards

MUSC 2240. Music History and Literature: Antiquity through Baroque
3 Credits (3)
Surveys Western art music within a historical and cultural context, considering significant musical figures, forms, genres, styles, and representative works from antiquity through the end of the Baroque era. An additional emphasis will be given to effective research and scholarly writing skills. May be repeated up to 3 credits.
Prerequisite: A grade of C- or better in MUSC 1450 and 1460.
Learning Outcomes
1. The purpose of the course is to survey the beginning history of music from the earliest ancient times through the Baroque period, ca.

MUSC 2310. Sound and Music Technology
1 Credit (1)
This course serves as an overview of current technologies and principles for the recording and production of sound, and the use of computer-based technologies for the production of music. Restricted to: MUSC,M ED majors. Traditional Grading with RR. Restricted to Las Cruces campus only.
Prerequisite(s): MUSC 1460.
Learning Outcomes
1. Demonstrate fundamental knowledge of techniques and practices of music recording and production
2. Demonstrate ability to properly use computer-based technologies to produce and record music
3. Demonstrate ability to create music recordings
4. Work with a variety of recording, production, and sound reinforcement tools
5. Apply basic and mixed editing techniques
6. Use audio editing and file management techniques
7. Demonstrate knowledge of music technology vocabulary
8. Explain and understand the development of various music technologies

MUSC 2451. Ear Training III
1 Credit (1)
Continuation of MUSC 1451, advanced sight singing, dictation. Restricted to Las Cruces campus only.
Prerequisite(s): Grade of C- or better in MUSC 1451.
Learning Outcomes
1. Count rhythms at sight using the Eastman Counting System
2. Sing melodies at sight and prepared using Solfege syllables
3. Write out rhythmic patterns
4. Write out melodic patterns
5. Identify and singing intervals
6. Identify and sing chord / triad qualities
7. Write out harmonic dictation

MUSC 2452. Ear Training IV
1 Credit (1)
Continuation of MUS 2451, advanced sight singing, dictation. Restricted to Las Cruces campus only.
Prerequisite(s): Grade of C or better in MUSC 2451 and MUSC 2460.
Learning Outcomes
1. Count rhythms at sight using the Eastman Counting System
2. Sing scales and sequences as assigned for the level
3. Sing melodies at sight using solfege syllables
4. Write out rhythmic patterns in both simple and compound meters
5. Write out melodic patterns in both major and minor tonalities

6. Identify, label and sing intervals
7. Identify, label and sing chords and extended harmonic qualities, i.e. V7 and inversions
8. Write out harmonic progressions in both two and four part forms including secondary dominants and modulations.
9. Accurately detect melodic and rhythmic errors in dictation examples.

MUSC 2460. Music Theory III
3 Credits (3)
Analysis of Baroque and Classical Music. Vocabulary and syntax of 18th and 19th c. Western art music through study, chordal/formal analysis, and composition. Restricted to Las Cruces campus only.
Prerequisite(s): Grade of C or better in MUSC 1461.
Learning Outcomes
1. To learn and apply the vocabulary and syntax of 18th and 19th c. Western art music through study, chordal/formal analysis, and composition.
2. Topics covered include: Two-Voice Eighteenth Century Counterpoint; Fugue; Borrowed Chords; Neapolitan 6th Chords; Augmented 6th Chords; Sonata Form; Rondo Form.

MUSC 2461. Music Theory IV
3 Credits (3)
Analysis of Romantic, Post-Romantic, Impressionist, and Twelve-Tone Music. Vocabulary and syntax of late 19th and early 20th c. Western art music through study, micro/macro analysis, and composition. Restricted to Las Cruces campus only.
Prerequisite(s): Grade of C or better in MUSC 2460.
Learning Outcomes
1. To learn and apply the vocabulary and syntax of late 19th and early 20th c. music through study, micro/macro analysis, and composition.

MUSC 2470. Functional Piano IV
2 Credits (2)
For music majors preparing for Piano Proficiency Examination. May be taken for unlimited credit. Restricted to music majors. No S/U option. May be repeated up to 99 credits.
Prerequisite: MUSC 1472 or consent of instructor.
Learning Outcomes
1. Keys learned in previous semesters, adding A flat, E flat, and B flat
2. Secondary dominant chords added to cadence patterns, all inversions
3. Arpeggios, all inversions
4. More difficult sight--reading and transpositions
5. More difficult prepared pieces
6. Four part pieces (hymns)
7. Accompany a piece for any instrument onthe Mid-Term Recital (required) Score reading and transposition

MUSC 2510. Applied Music I
1-4 Credits
Individual instruction to develop technique, musicianship, performance and improvisational skills, as well as knowledge of significant repertoire. Prerequisite of an audition to register for course. May be repeated up to 16 credits.
Learning Outcomes
1. Individual instruction to develop technique, musicianship, performance and improvisational skills.

MUSC 2740. Pride Marching Band
1 Credit (1)
The Pride Marching Band performs at all NMSU home football games and select away games. The marching band is open to all students at NMSU and supports both instrumental and visual units. May be repeated up to 8 credits.
Learning Outcomes
1. To cultivate within the student a value system that encourages community service.
2. To provide the performer with experiences that will enable them to communicate thoughts/ideas/emotions in a unique and personal manner using his/her instrument, body, and physical motion.
3. To instill in students a commitment to life-long learning.
4. To promote personal growth through the rehearsal and performance of music, choreography, and drill of high quality.
5. To encourage students to continuously participate in and support artistic performances following graduation.

MUSC 2993. Opera Workshop
1 Credit (1)
Study, translation, analysis, rehearsal and performance of opera. Entry into course by audition. May be repeated up to 10 credits.
Learning Outcomes
1. Students will learn fundamentals of acting for singers, stage technique, movement, role preparation, character development, and audition techniques.
2. Students will prepare and perform Opera/Musical Theatre Scenes.

MUSC 2996. Special Topics I
1-3 Credits
Emphasis on special areas of music; designed for highly motivated students. May be repeated up to 99 credits.
Learning Outcomes
1. Varies.

NATV-NATIVE AMERICAN STUDIES

NATV 1150G. Introduction to Native American Studies
3 Credits
This course surveys the significance of Native American Studies through an inter-disciplinary approach to two areas of academic concentration: Indigenous Learning Communities, and Leadership and Building Native Nations.
Learning Outcomes
1. Students will develop a general understanding of the various concentration areas in Native American Studies throughout the United States.
2. Students will identify the contributions of various academic disciplines to Native American Studies.
3. Students will understand the intricacies and intersections of Indigenous scholarship in Native American Studies.
4. Students will articulate the importance of Native American Studies as a stand-alone discipline in academia.
5. Students will be able to connect community issues in both Native and Non-Native America to concepts taught in Native American Studies.

NATV 2120. Native American Experience
3 Credits (3)
Introductory survey of Native American History, culture an contemporary issues. Students read literature by and about Native Americans covering a variety of topics including tribal sovereignty, federal policy, activism, economic development, education and community life.

Learning Outcomes

1. Apply cultural and historical context to text about Native Americans (by Natives and non-Natives).
2. Analyze texts about Native Americans in relation to tribal sovereignty, federal policy, activism, economic development, education and community life.
3. Evaluate texts by and about Native Americans from an NAS perspective.

NAV-NAVAJO (NAV)

NAV 101. Introduction to Navajo Studies
3 Credits (3)
Covers geography, demography, institutions of modern Navajo society with historical overview. Restricted to: Community Colleges only.

NAV 111. Elementary Navajo I
4 Credits (4)
Navajo for beginners with emphasis on speaking skills.
Prerequisite: not open to Navajo-speaking students except by consent of instructor.

NGEC-NATURAL GAS ENGINE COMP

NGEC 133. Natural Gas Engine Repair Technology
5 Credits (5)
This course will cover the engine fundamentals, cylinder head and valve trains, engine block, engine servicing, lubrication and cooling Systems. Restricted to: Natural Gas Engine Compression majors. Restricted to Carlsbad campus only.
Learning Outcomes

1. A basic knowledge about engine operation.
2. Practice shop safety, ability to identify potential hazards, tool identification, proper rigging and crane operation.
3. Ability to identify specific components of a natural gas engine and their function.
4. Locate and identify various components on and off an engine.
5. Safely start large stationary industrial natural gas engines.
6. List the steps of preventive maintenance on natural gas engines.
7. Completely disassemble a natural gas engine, clean and organize parts, and measure critical clearances using appropriate precision measuring tools.
8. Replace or repair any defects that are found on assigned engine, compile a list of parts needed to make repairs, assemble engine correctly, and start and run the engine.

NGEC 175. Natural Gas Compression Technology I
4 Credits (4)
This course delivers an introduction to the theory, application, rotary, and centrifugal natural gas compressor including operating principles, maintenance, and repair of the reciprocating, identification of the component parts and their functions, methods of balancing, and lubrication systems, and design characteristics. This course will also include calculations of gas flow, compressor sizing, rod loads, compressor analysis charts and horsepower ratings. In addition, this course will cover safety, precision measurement, use of the manuals, use of tools, and proper adjustments will be included with overhaul exercises. Restricted to: Natural Gas Engine Compression majors. Restricted to Carlsbad campus only.
Learning Outcomes

1. Identify and analyze the re-usability of basic compressor parts.
2. Accurately diagnose failure of key core components of basic compressors.
3. Identify basic preventive maintenance tasks on natural gas compressors.
4. Identify the key concept of troubleshooting of natural gas compressors by applying failure analysis techniques to arrive at the root cause of the failure.
5. Demonstrate safety procedures in the workshop and follow appropriate steps to work with the compressor.

NGEC 246. Fuel and Emissions Technology
5 Credits (5)
This course delivers operational and application studies of fuel components and emissions control system. Restricted to: Natural Gas Engine Compression majors. Restricted to Carlsbad campus only.
Learning Outcomes

1. Identify specific components of a natural gas engine and their function.
2. List the steps of preventive maintenance on natural gas engines.
3. Know the fuel components and operation
4. Locate and identify various components on and off an engine.
5. Safely start stationary industrial natural gas engines.

NGEC 295. Special Topics
2 Credits (2)
Topics are to be announced in the Schedule of Classes. The topic and project are to be discussed and implemented between faculty member and student. Student gives presentation to class at the end of the term of study. All-Natural Gas Compression Technology classes in the NGEC Program must be completed or in progress before enrolling in this course. Restricted to: Natural Gas Engine Compression majors. Restricted to Carlsbad campus only.
Learning Outcomes

1. The student should provide an overall meaning during the individual time in the NGEC Program for this final project.

NUAS-NURSING ASSISTANT

NUAS 1110. Nursing Assistant Theory and Laboratory
5 Credits (4+2P)
Equips students with the fundamental knowledge and skills necessary for providing safe and effective care to patients in various healthcare settings. Through a combination of theoretical instruction and practical experience, students will gain a comprehensive understanding of the Nursing Assistant role. Students experience a practical application of the Nursing Assistant role.
Corequisite: NUAS 2110.
Learning Outcomes

1. Identify factors that promote safe, effective, age appropriate, ethical and culturally competent care.
2. Provide safe, effective, age appropriate, and culturally competent care in an ethical manner.
3. Perform basic nursing assistant skills related to various healthcare settings and various populations, respecting patients mental health and social needs.
4. Communicate effectively with patients, families, and members of the healthcare team.

NUAS 1115. Nursing Assistant Clinical
4 Credits (3+3P)
Synthesizes fundamental skills necessary for providing safe and effective care to patients in various healthcare settings. Students experience a practical application of the Nursing Assistant role. Requires a C or better to pass. Restricted to: Community Colleges only.
Prerequisite: C or better in NUAS 1110 or consent of instructor.
Learning Outcomes
1. Provide safe, effective, age appropriate, and culturally competent care in an ethical manner.
2. Perform basic nursing assistant skills related to various healthcare settings and various populations, respecting patients mental health and social needs.
3. Communicate effectively with patients, families, and members of the healthcare team.

NUAS 2110. Nursing Assistant Theory and Clinical
1 Credit (2P)
Nurse aide skills with emphasis on a bio-psychosocial-cultural approach to resident/client/patient care. Students will practice the nursing assistant roles, responsibilities, and recognize the scope of practice while learning, developing, and practicing clinical skills in the clinical setting. With successful completion of NA 101 and NA 201, the student meets the New Mexico Department of Health training requirements and is eligible to take the Nurse Aide Training & Competency Evaluation Program (NATCEP) nursing assistant certification exam. Students must have current Basic Life Support for Health Care Providers. Requires a C (80%) or better to pass.
Corequisite: NUAS 1110.
Learning Outcomes
1. Apply theoretical knowledge associated with nursing assisting in providing basic healthcare services.
2. Perform essential clinical skills within the nursing assistant scope of practice in long-term, acute care, and ambulatory care settings.
3. Recognize factors that affect procedures and results, and take appropriate actions within predetermined limits when indicated, including resident/patient compromise or complications.
4. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
5. Recognize the responsibilities of other health care personnel and interact with them with respect for their healthcare roles and resident/patient care.
6. Apply basic scientific principles and evidenced-based practice in learning new techniques and procedures.
7. Relate vital signs, point-of-care testing, and physical psychological findings to common disease processes.
8. Evaluate occupational exposures, environmental safety hazards, high risk situations, and emergency responses related to health care professions.
9. Demonstrate soft skills related to assisting with patient assessment, mobility, safety, nutrition, and care of the environment. 1
10. Demonstrate professionalism when interacting with patient populations across the lifespan; including patient education and emergent situations. 1
11. Explain legal and ethical considerations, including HIPAA and scope of practice related to healthcare settings.

NURS-NURSING (NURS)

NURS 1110. Pre-Nursing Freshman Seminar
1 Credit (1)
This Freshman seminar provides an introduction to the university and its resources, an orientation to the pre-nursing curriculum, and overview of concepts for professional nursing practice. Emphasis is placed on exploring the nurse's role as an integral member of the healthcare team across multiple contexts and settings, and developing a professional identity. Consent of Instructor required.
Learning Outcomes
1. Develop strategies for transitioning to university life and a pathway to the nursing program, through evaluating knowledge, skill, and experience strengths and deficits.
2. Understand the role nurses and other interprofessional partners play in addressing issues regarding the patient experience across multiple healthcare settings.
3. Identify and examine cultural, professional and personal beliefs and values of nurses as they relate to patient care and working in multidisciplinary teams.
4. Begin to explore nursing careers in a variety of healthcare settings, across the nation.

NURS 1120. Fundamentals of Nursing Lecture and Laboratory
6 Credits (4+6P)
This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan. Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems. May be repeated up to 6 credits.
Corequisite: NURS 1154.
Learning Outcomes
1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, standards of care and nursing leadership and management skills related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1121. Foundations of Nursing Practice
4 Credits (4)
This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan. Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems.
Prerequisite/Corequisite: NURS 1134, NURS 1134L, NURS 1121L.

Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1121L. Foundations of Nursing Lab
2 Credits (6P)
This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan. Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems.
Prerequisite/Corequisite: NURS 134, NURS 134L, NURS 136.
Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, standards of care and nursing leadership and management skills related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1125. Medical Surgical Nursing I
4 Credits (4)
This course introduces nursing care and management of the adult client with common medical-surgical conditions.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1130, NURS 1125L.
Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 1125L. Medical/Surgical Nursing I Clinical
2 Credits (6P)
Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to adults in a variety of settings.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1130, NURS 1125L.
Learning Outcomes

1. Patient Centered Care: Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Teamwork and Collaboration: Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Evidenced Based Practice: Prepare an individualized patient care plan utilizing an evidence- based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Quality Improvement: Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Safety: Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Informatics: Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 1131. Foundations of Pharmacology
5 Credits (5)
This course provides the nursing student with an introduction to the foundations of pharmacology including: science of drug action, principles of medication administration, accurate calculation of drug doses, medication therapy across the lifespan, application of medications to treat health alterations, normal and adverse responses by the client to medication therapy, medication safety, medication regulation, national patient safety goals, and appropriate nursing interventions to achieve the desired goals of medication therapy.
Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to pharmacological therapy.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly related to adverse or side effects of pharmacological therapy throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes related to the administration of pharmacological therapy.
4. Demonstrate adherence to policies, procedures, and standards of care for the administration of pharmacological therapy in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.

6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for the administration of pharmacological therapy across the lifespan.

NURS 1134. Foundation of Nursing Skills and Assessment
1 Credit (1)
This course provides nursing students with introductory nursing knowledge related to performance of nursing skills and assessment including: techniques of fundamental nursing care, basic and intermediate nursing skills, and foundational physical assessment techniques associated with care across the lifespan.
Corequisite: NURS 1134L, NURS 1121, NURS 1121L.
Learning Outcomes
1. Describe personally held values, attitudes, and beliefs related to health and wellness as measured by: Describe modifications to nursing care based on client cultural and religious influences; Demonstrate physical assessment skills for clients across the lifespan utilizing appropriate equipment and techniques.
2. Describe scopes of practice, roles and values of health care team members as measured by: Identify independent and collaborative nursing interventions.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan as measured by: Demonstrate safe performance of basic nursing procedures; Identify quality sources of information to verify skills and interventions are based on evidence.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care as measured by: Identify need/situation where reporting of incident/event/irregular occurrence/variance is appropriate.
5. Describe strategies that reduce the risk of harm to self and others as measured by: Identify methods utilized to provide safe and effective care; Identify and document changes in patient status.
6. Identify essential information that must be available in a common database to support patient care across the lifespan as measured by: Select standard technology utilized to provide basic care to clients across the lifespan; Identify approved abbreviations and standard terminology for documenting care.

NURS 1134L. Foundation of Nursing Skills and Assessment Laboratory
2 Credits (6P)
This course provides nursing students with introductory nursing knowledge related to performance of nursing skills and assessment including: techniques of fundamental nursing care, basic and intermediate nursing skills, and foundational physical assessment techniques associated with care across the lifespan.
Corequisite: NURS 1134, NURS 1121, NURS 1121L.
Learning Outcomes
1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1150. Medical Terminology
3 Credits (3)
Study and understanding of medical terminology. Emphasis will be placed on learning the basic elements of medical words, appropriate spelling and use of the terms, and abbreviations.
Learning Outcomes
1. Demonstrate proficient interpretation of medical abbreviations.
2. Explain the importance of utilizing medical terms/abbreviations in the medical field.
3. Define medical terms correctly.
4. Interpret medical language including roots, prefixes and suffixes.
5. Pronounce medical terms correctly.
6. Spell medical terms correctly.

NURS 1153. Medication & Dosage Calculation
2 Credits (2)
Techniques of dosage calculation for medication and fluid administration. May be repeated up to 2 credits.
Learning Outcomes
1. Utilize the nursing process, clinical judgment, evidenced based information and knowledge from the arts and sciences to provide safe client centered care.
2. Coordinate and collaborate effectively through verbal, nonverbal, and technological means with individuals, families and the interdisciplinary team.
3. Integrate accountability and responsibility for practice within the legal and ethical standards of the nursing profession.
4. Apply the principles of delegation, management and leadership in providing client centered care.
5. Participate in activities that promote professional development and personal growth.

NURS 1154. Physical Assessment
2 Credits (2)
Beginning techniques of physical assessment by systems will be presented using the nursing process as a guide for providing safe client centered care throughout the life span. Laboratory experiences provide an opportunity to practice assessment skills on patients across the lifespan in a variety of settings.
Prerequisite: BIOL 1130 or BIOL 2210.
Corequisite: NURS 1153, NURS 1120.
Learning Outcomes
1. Discuss the purpose, guidelines, safety factors, and equipment necessary for performing a physical exam.
2. Discuss and demonstrate techniques necessary to facilitate communication to obtain a health history.
3. Identify and demonstrate correct documentation of each body system.
4. Define ethical/legal implications as they relate to documentation and the physical assessment exam.
5. Identify and discuss the nutritional implications as they relate to the physical assessment exam.
6. Recognize key terms, exam techniques, and the anatomy and physiology on the assessment of each body system.
7. Discuss developmental and cultural differences in performing a physical assessment.
8. Identify and discuss components of the nursing process focusing on assessment and beginning to recognize self-care deficits.

9. Identify opportunities to promote self-care assessment within the physical exam. 1
10. Identify methods by which airing behaviors facilitate the nurse-patient relationship in the performance of a physical assessment.

NURS 1157. Maternal/Child Health Deviations Lecture
5 Credits (5)
This course provides the intermediate nursing student with an in-depth review of care of the childbearing woman, family structures and roles, and nursing care of the child from birth through adolescence. Emphasis includes the care of pre-partum, intra-partum and postpartum clients, the neonate and health deviations in pediatric clients. Clinical experiences in the simulation laboratory, the community, and acute care settings will provide the student with the opportunity to apply learned skills to provide total care to meet needs of up to two adult, neonatal, or pediatric clients and to apply care planning skills related to actual, psychosocial and potential problems. Students must be concurrently enrolled in both the lecture and laboratory sections of the course. Students must be admitted into the Nursing Program to enroll in this course.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L.
Prerequisite/Corequisite: NURS 1157L.
Learning Outcomes
1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the child bearing woman (19-65 years) and pediatric client (newborn-18).
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to deliver care to individuals and families across the lifespan with complex health alterations as it relates to the child bearing woman (19-65 years) and pediatrics.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to patients with chronic or acute illness across the lifespan as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).

NURS 1157L. Maternal/Child Health Deviations Laboratory
2 Credits (6P)
This course provides the intermediate nursing student with an in-depth review of care of the childbearing woman, family structures and roles, and nursing care of the child from birth through adolescence. Emphasis includes the care of pre-partum, intra-partum and postpartum clients, the neonate and health deviations in pediatric clients. Clinical experiences in the simulation laboratory, the community, and acute care settings will provide the student with the opportunity to apply learned skills to provide total care to meet needs of up to two adult, neonatal, or pediatric clients and to apply care planning skills related to actual, psychosocial and potential problems.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L.
Prerequisite/Corequisite: NURS 1157.
Learning Outcomes
1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the childbearing woman (19-65 years) and pediatric client (newborn-18).
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to deliver care to individuals and families across the lifespan with complex health alterations as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures, and standards of care as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to patients with chronic or acute illness across the lifespan as it relates to the childbearing woman (19-65 years) and pediatric client (newborn-18).

NURS 2210. Pharmacological Requisites of the Childbearing Family
1 Credit (1)
Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care will be discussed focusing on medications commonly utilized with the childbearing family. Medication classes to be discussed include labor and delivery, analgesic, vitamins, respiratory, gynecological, endocrine, and anti-microbial/anti-infective drugs. May be repeated up to 1 credit.
Prerequisite: NURS 1154 and NURS 1120.
Learning Outcomes
1. Incorporate the values, preferences and expressed needs of maternal/child and pediatric clients in the administration of pharmacotherapeutics to these clients.
2. Apply principles of teaching/learning in education maternal/child and pediatric clients on the use, adverse effects and interactions of pharmacotherapeutic agents.
3. Explain how members of the health care team collaborate in the delivery of pharmacotherapeutics to maternal/child and pediatric clients.
4. Discuss pharmacokinetics and pharmacodynamics of drugs specific to the maternal/child and pediatric client.
5. Apply evidenced based information to the administration of pharmacotherapeutics to maternal/child and pediatric clients.
6. Give examples of policies, procedures and standards of care related to pharmacotherapeutics utilized in the care of maternal/child and pediatric clients.

NURS 2214. Psychiatric Mental Health Nursing Theory
3 Credits (3)

This course will allow the nursing student to develop skills necessary to provide nursing care for clients with mental health problems in various health care settings including: common mental health disorders, psychosocial dysfunction, psychosocial safety/substance abuse issues, violence, suicide, restraints, developmental age related pathophysiology, psychopharmacology, cultural/religious considerations, grief/loss, promotion of mental health, and therapeutic communication.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1130, NURS 2214L.

Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness. wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 2214L. Psychiatric Mental Health Nursing Clinical
1 Credit (3P)

This course will allow the nursing student to develop skills necessary to provide nursing care for clients with mental health problems in various health care settings including: common mental health disorders, psychosocial dysfunction, psychosocial safety/substance abuse issues, violence, suicide, restraints, developmental age related pathophysiology, psychopharmacology, cultural/religious considerations, grief/loss, promotion of mental health, and therapeutic communication. Selected clinical learning experiences in the simulation Laboratory, acute care, and community settings will allow the student to develop ability to develop: proficiency in performance of nursing skills, collaborative skills with clients, families, peers and health care team members, care planning skills related to patient actual, psychosocial, and potential problems in the delivery of total nursing care to meet needs of one client across the life span with acute/chronic mental health needs.
Prerequisite: NURS 1134, NURS 1134L, NURS 1121, NURS 1121L.
Prerequisite/Corequisite: NURS 1134, NURS 2214.

Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 2225. Medical Surgical Nursing II
4 Credits (4)

This course focuses on the care of adult clients with complex medical/surgical health problems. Emphasis is placed on helping clients and their families cope with alterations in body functions. Concepts of pharmacology, health promotion and education, evidence-based practice, and interdisciplinary collaboration will be integrated throughout the course.

Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the adult client with acute illness.
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to adult clients with acute illness.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to adult clients with acute illness.
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to adult clients with acute illness.
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to adult clients with acute illness.
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to adult clients with acute illness.

NURS 2225L. Medical Surgical Nursing Clinical II
2 Credits (6P)

Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L.
Corequisite: NURS 2225, NURS 1157, NURS 1157L.

Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the adult client with acute illness.
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to adult clients with acute illness.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to adult clients with acute illness.
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to adult clients with acute illness.
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to adult clients with acute illness.
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to adult clients with acute illness.

NURS 2235. Medical Surgical Nursing III
3 Credits (3)
This course focuses on advanced concepts of nursing care as they relate to patients across the lifespan with complex, multisystem alterations in health. Emphasis is placed on implementing time management and organizational skills while managing the care of patients with multiple needs and collaborating with the interdisciplinary team. Complex clinical skills, as well as priority setting, clinical judgment, and tenets of legal and ethical practice, are integrated throughout the course.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L, NURS 1157, NURS 1157L, NURS 2225, NURS 2225L.
Prerequisite/Corequisite: NURS 2996, NURS 2235L.
Learning Outcomes
1. Integrate the values, preferences, attitudes, and expressed needs of the acutely ill patient into the plan of care related to the care of the adult client with complex health deviations.
2. Integrate the contributions of other members of the healthcare team into the delivery of nursing care for individuals across the lifespan with complex or multi-system health alterations related to the care of the adult client with complex health deviations.
3. Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences in the creation of a plan of care for delivery and evaluation of care for patients across the lifespan related to the care of the adult client with complex health deviations.
4. Evaluate the use of policies, procedures and standards of care in healthcare delivery systems and adapt the care as appropriate related to the care of the adult client with complex health deviations.
5. Interpret and analyze effective use of strategies to reduce risk of harm to self or others while providing professional nursing care, creating a structure for implementation of evidence- based practice, national patient safety goals, and core measures in the care of the adult client with complex health deviations.
6. Integrate use of appropriate technology and information management tools to support safe delivery of care to the adult client with complex health deviations.

NURS 2235L. Medical Surgical Nursing III Clinical
4 Credits (12P)
Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings. Experiences that facilitate entry into practice are included in this practicum.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L, NURS 1157, NURS 1157L, NURS 2225, NURS 2225L.
Prerequisite/Corequisite: NURS 2996, NURS 2235.
Learning Outcomes
1. Integrate the values, preferences, attitudes, and expressed needs of the acutely ill patient into the plan of care related to the care of the adult client with acute, chronic, or complex health deviations.
2. Integrate the contributions of other members of the healthcare team into the delivery of nursing care for individuals across the lifespan with complex or multi-system health alterations related to the care of the adult client with acute, chronic, or complex health deviations.
3. Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences in the creation of a plan of care for delivery and evaluation of care for patients across the lifespan related to the care of the adult client with acute, chronic, or complex health deviations.
4. Evaluate the use of policies, procedures, and standards of care in healthcare delivery systems and adapt the care as appropriate related to the care of the adult client with acute, chronic, or complex health deviations.
5. Interpret and analyze effective use of strategies to reduce risk of harm to self or others while providing professional nursing care, creating a structure for implementation of evidence- based practice, national patient safety goals, and core measures in the care of the adult client with acute, chronic, or complex health deviations.
6. Integrate use of appropriate technology and information management tools to support safe delivery of care to the adult client with acute, chronic, or complex health deviations.

NURS 2996. Nursing Topics
3 Credits (3)
Varies.
Prerequisite: NURS 1130, NURS 1134, NURS 1134L, NURS 1121, NURS 1121L, NURS 1125, NURS 1125L, NURS 2214, NURS 2214L, NURS 1157, NURS 1157L, NURS 2225, NURS 2225L.
Corequisite: NURS 2235, NURS 2235L.
Learning Outcomes
1. Varies.

NUTR-NUTRITION

NUTR 1120. Dietary Guidelines
4 Credits (4)
A presentation and explanation in detail of the Dietary Guidelines for Americans developed by the U.S. Department of Agriculture (U.S.D.A.) and the U.S. Department of Health and Human Services.
Learning Outcomes
1. Recall, interpret and explain each of the Dietary Guidelines and U.S.D.A. nutrition education tools.
2. Translate the Dietary Guidelines into a diet and exercise program.
3. List and describe methods to select and prepare food which are consistent with the Dietary Guidelines for Americans.
4. Identify risk factors related to disease prevention.

NUTR 2110. Human Nutrition
3 Credits (3)
This course provides an overview of nutrients, including requirements, digestion, absorption, transport, function in the body and food sources. Dietary guidelines intended to promote long-term health are stressed.
Learning Outcomes
1. Evaluate sources of nutrition information for reliability
2. Identify elements of a nutritious diet
3. Describe the digestion, transport, and absorption of nutrients
4. Describe the importance of nutrition in weight control and health
5. Identify nutritional needs as they relate to the life cycle and performance
6. Describe behavior modification techniques that promote good health
7. Evaluate popular nutrition trends for scientific accuracy and effectiveness
8. Develop skills in the planning and assessing of healthy meal plans

9. Describe the role of food choices in the development of chronic disease 1
10. Describe the role of food in the promotion of a healthful lifestyle

NUTR 2120. Seminar I - Becoming a Nutrition Professional
1 Credit (1)
This course will introduce students to the field experience, careers, and professions in nutrition. This course is required for students pursuing a Didactic Program in Dietetics verification statement.
Learning Outcomes
1. Describe career options within the fields of Nutrition Dietetics.
2. Outline the HNDS field experience process.
3. Explain the educational pathways in HNDS.
4. List requirements for admission into the HNDS Dietetics pathway.
5. Begin an HNDS student portfolio.
6. Discuss the importance of personal responsibility accountability.

OECS-COMPUTER TECHNOLOGY (OECS)

OECS 105. Introduction to Information Technology
3 Credits (3)
Examination of information systems and their impact on commerce, education, and personal activities. Utilization of productivity tools for communication, data analysis, information management and decision-making.
Learning Outcomes
1. Describe the social impact of information literacy and systems in relation to commerce, education, and personal activities.
2. Explain how to use the information resources legally, safely, and responsibly in relation to ethical, security, and privacy issues.
3. Evaluate bias, accuracy and relevance of information and its sources.
4. Use productivity tools for communications, data analysis, information management and decision-making.
5. Describe and use current information systems and technologies.

OECS 110. Introduction to Power Point
1-3 Credits (1-3)
An introduction to Power Point software to develop business presentations. Includes concepts of basic presentation methods and graphic design principles. Students will create and deliver presentations using text, charts, digitized images, and sound. Restricted to Community Colleges campuses only.

OECS 128. Operating Systems Linux/Unix
3 Credits (3)
Installation, configuration, and use of Linux/Unix operating system software and utilities including hardware management, file management, use of command line, and scripting. Restricted to: Community Colleges only.

OECS 145. Mobile Application Development
1-3 Credits (1-3)
Introduction to elements of mobile application coding including concepts, design strategies, tools needed to create, test and deploy applications for mobile devices. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

OECS 155. Special Topics - Introductory Computer Technology
0.5-4 Credits (.5-4)
Topics to be announced in the Schedule of Classes. May be repeated up to 8 credits.

OECS 192. C++ Programming I
3 Credits (3)
Development of skills in programming using the C++ programming language. Restricted to: Community Colleges only.

OECS 204. Linux Operating System
1-3 Credits
Install and configure the Linux operating system on X86 systems. Covers issues involved in maintaining operating system, networking, creating and managing users, and installing and updating software. General procedures for working with operating system includes maintaining disk space, preserving system security, and other related topics. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.

OECS 208. Internet Applications
1-3 Credits
Survey of the Internet to include e-mail, file transfer, current search techniques, the World Wide Web and basic Web page development. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

OECS 209. Computer Graphic Arts
1-3 Credits
Basic graphics composition using computer programs to include editing and manipulating graphic images, clip-art, and printing of pictures. May be repeated for a maximum of 6 credits under different subtitles listed in the Schedule of Classes.
Prerequisite: OECS 105, BCIS 1110, or OECS 101.

OECS 211. Word Processing Applications
1-3 Credits
Basic word processing to include composing, editing, formatting, and printing of documents. May be repeated under different subtitles listed in the Schedule of Classes for a maximum of 6 credits.
Prerequisites: BCIS 1110 or OECS 105.

OECS 215. Spreadsheet Applications
1-3 Credits
Use of spreadsheets to include graphics and business applications. May be repeated for a maximum of 6 credits.
Prerequisites: BCIS 1110 or OECS 105.

OECS 220. Database Application and Design
1-3 Credits
Creating, sorting, and searching of single and multifile databases to include report generation and programming database commands. May be repeated for a maximum of 6 credits under different subtitles listed in the Schedule of Classes. Restricted to: Community Colleges only.
Prerequisite(s): BCIS 1110 OR E T 120 OR E T 122 OR OECS 105.

OECS 221. Internship I
1-3 Credits
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 3 credits. Consent of Instructor required. Restricted to: OECS majors. Graded: S/U Grading (S/U, Audit). Restricted to Community Colleges campuses only.
Prerequisite(s): Consent of instructor.

OECS 222. Internship II
1-3 Credits

Continuation of OECS 221. Each credit requires specified number of hours of on-the-job work experience. May be repeated up to 3 credits. Consent of Instructor required. Restricted to: OECS majors. Graded: S/U Grading (S/U, Audit). Restricted to Community Colleges campuses only.
Prerequisite(s): OECS 221 and consent of instructor.

OECS 230. Data Communications and Networks I
1-3 Credits
Definition of data communication; survey of hardware applications and teleprocessor software; examination and design of networks. May be repeated for a maximum of 6 credits.
Prerequisite: OECS 185.

OECS 234. Linux Server
3-4 Credits (3-4)
This course addresses the implementation and support needs of IT professionals that are planning to deploy and support Linux Server(s). It provides in-depth, hands-on training for planning, implementation, management and support of Linux networking services. May be repeated up to 8 credits.
Prerequisite(s)/Corequisite(s): OECS 204. Restricted to: OECS majors. Restricted to Community Colleges campuses only.

OECS 235. Structured Query Language (SQL)
1-3 Credits
Installation, configuration, administration, and troubleshooting of SQL client/server database management system. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): OECS 220. Restricted to Community Colleges campuses only.

OECS 237. Windows Server
3-4 Credits (3-4)
This course addresses the implementation and support needs of IT professionals that are planning to deploy and support Microsoft Windows Server Active Directory Domain Services in medium to large businesses. It provides in-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Windows Active Directory services. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): OECS 207. Restricted to Community Colleges campuses only.

OECS 253. Applied Data Analysis and Management
3 Credits (3)
Applied use of advanced spreadsheet tools for data analysis and database tools for data and information management. Connect emerging topics in business to tools used in analyzing data and making raw data useful for business decision making.
Prerequisite: BCIS 1110.
Learning Outcomes
1. Manage, integrate, and analyze data with data tools.
2. Generate and summarize data.
3. Use tools for business projections, comparisons, trends, and informed decisions.
4. Create advanced queries and enhance table design.
5. Use form tools and create custom forms.
6. Use automation tools for efficiency.
7. Secure and maintain data.
8. Plan, research, create, and revise spreadsheets and databases for a specific business application.
9. Discuss emerging topics in business related to data analysis and mangement.

OECS 255. Special Topics
1-4 Credits
Topics to be announced in the Schedule of Classes.

OECS 261. Introduction to Networks
3-4 Credits (3-4)
Introduction to networking principles including the practical and conceptual skills for understanding basic networking, planning and designing networks, implementing IP addressing schemes, examining the OSI and TCP/IP layers, and performing basic configurations for routers and switches. Aligns to the first course of the Cisco Networking Academy CCNA curriculum. Restricted to Community Colleges campuses only.

OECS 262. Essentials of Routing and Switching
3-4 Credits (3-4)
Examination of the architecture, components, and operations of routers and switches in a small network. Student will learn how to configure, verify and troubleshoot: routers and switches, static routing, default routing, VLANs, and ACLs. Aligns to the second course of the Cisco Networking Academy CCNA curriculum. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): OECS 261. Restricted to Community Colleges campuses only.

OECS 263. Network Fundamentals
3-4 Credits (3-4)
Fundamentals of networking architecture, components, and operations including practical and conceptual skills using routers and switches. Student will learn how to configure, verify and troubleshoot static routing, default routing, VLANs, and ACLs. This course aligns to the third course of the Cisco Networking Academy CCNA curriculum. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): OECS 262. Restricted to Community Colleges campuses only.

OECS 264. Network Routing Protocols
3-4 Credits (3-4)
Fundamentals of routing protocols for troubleshooting advanced network operations. Covers common networking issues such as RIP, OSPF, and EIGRP for IPv4 and IPv6 networks. This course aligns to the fourth course of the Cisco Networking Academy CCNA curriculum. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): OECS 263. Restricted to Community Colleges campuses only.

OECS 269. Network Security
3-4 Credits (3-4)
Fundamentals of design and implementation of network security solutions that will reduce the risk of system vulnerability. May be repeated up to 8 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): OECS 204 or OECS 207 or OECS 261 or consent of instructor.

OECS 275. PC Maintenance and Repair II
1-3 Credits
Continuation of OECS 185. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): OECS 185.

OECS 290. Computer Technology Capstone
1-3 Credits
Refines skills learned in the OECS program. Culminates in a review and practice of advanced software applications. May be repeated up to 3 credits. Restricted to: OECS & OECT majors. Restricted to Community Colleges campuses only.

Prerequisite(s): (OECS 125, OECS 128, OECS 207, OR OECS 203) AND (OECS 185 OR E T 283).

OECS 299. Independent Study
1-3 Credits
Specific subjects to be determined based on need. Restricted to: Community Colleges only.

OEGR-DIGITAL GRAPHIC TECH (OEGR)

OETS-TECHNICAL STUDIES (OETS)

OETS 100. Industrial/Construction Safety
2 Credits (2)
Covers safety issues such as PPE, BBP, ladder safety,, RTK, HazCom, MSDS and information about safety organizations such as OSHA, NIOSH, NFPA, National Safety Council. Community Colleges only. Restricted to Dona Ana and Carlsbad campuses.

OETS 102. Career Readiness Certification Preparation
1 Credit (1)
This course is designed to prepare students to successfully obtain Career Readiness Certifications in all areas and at the appropriate levels for their program of study. Graded: S/U Grading (S/U, Audit). May be repeated up to 3 credits. S/U Grading (S/U, Audit).

OETS 103. Technical Career Skills
4 Credits (4)
This course will be project-based and will encompass writing, presentation, math, reading, and critical thinking skills applied in a technical environment. Restricted to: Community Colleges only.

OETS 104. Basic Mathematics for Technicians
4 Credits (4)
Fundamental mathematical concepts and computations including measurement, ratio and proportions, and pre-algebra as it relates to technical programs.
Prerequisite: appropriate placement test score.

OETS 117. Writing for Technicians
3 Credits (3)
Instruction in the skills for developing clear, written descriptions of processes and procedures used by technicians in various fields. Emphasis on correct grammar, logical organization, and receiving audience. Focuses on clarity, structure, and concise writing methods. Does not substitute for ENGL 111G. Restricted to: Community Colleges only.

OETS 118. Mathematics for Technicians
3 Credits (2+2P)
Analysis and problem solving of technical problems using measuring instruments and techniques of arithmetic, algebra, geometry, and trigonometry. Restricted to Community Colleges campuses only.
Prerequisite: Grade of "C-" or better in OETS 104 or CCDM 103 N, or appropriate placement test score.
Learning Outcomes
1. Use mathematics and problem solving techniques to analyze and find answers to money and financial problems.
2. Use estimations to solve problems and check answers to make sure they are reasonable.
3. Analyze and solve problems using the tools and techniques of algebra.
4. Use geometry to find circumference, perimeters, areas and volumes of various plane and solid materials and spaces.
5. Use trigonometry to solve problems involving triangular shapes.
6. Use systems of equations and quadratic equations to solve technical problems.

OETS 120. Business Fundamentals
3 Credits (3)
Instruction in the skills for basic business concepts used by technicians in various fields. Emphasis placed on basic business concepts; business ownership including marketing, management, accounting, and customer services; interpersonal communication; and basic computer concepts including word processing, spreadsheets, and presentation software. Restricted to Community Colleges campuses only.

OETS 255. Special Topics Technical Studies
1-6 Credits
Topics to be announced in the Schedule of Classes. Restricted to: Community Colleges only.
Prerequisite(s): Consent of instructor.

OTEC-OFFICE TECHNOLOGY

OTEC 1101. Beginning Keyboarding
3 Credits (2+2P)
Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five minute timings is required.
Learning Outcomes
1. Demonstrate proper keyboarding techniques.
2. Key the numeric keypad by touch.
3. Type straight copy at a minimum rate of 25 GWAM for 5 minutes with no more than 5 errors using the proper touch method (backspace key not allowed on timed writings).

OTEC 1102. Keyboard Skillbuilding
3 Credits (2+2P)
Continues development of speed and accuracy. A minimum average speed of 35 wpm on three five-minute timings is required.
Learning Outcomes
1. Demonstrate proper keyboarding techniques.
2. Type straight copy at a minimum rate of 35 GWAM for 5 minutes with no more than 5 errors using the proper touch method.
3. To be submitted for credit, timings must have no more than 5 errors (errors are not deducted from gross speed).

OTEC 1103. Keyboard Skillbuilding II
3 Credits (2+2P)
Continues development of speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required. Restricted to Community Colleges campuses.
Learning Outcomes
1. Demonstrate proper keyboarding techniques.
2. Type straight copy at a minimum rate of 45 GWAM for 5 minutes with no more than 5 errors using the proper touch method.
3. To be submitted for credit, timings must have no more than 5 errors (errors are not deducted from gross speed).

OTEC 1125. Writing, Proofreading and Editing
3 Credits (2+2P)
Develop proofreading skills: punctuation, grammar, spelling and usage errors. Edit documents for appropriate content, conciseness, clarity and

point of view. Compose effective business letters, e-mails, memos, and reports. Restricted to Community Colleges campuses.
Prerequisite: BUSA 1115.
Learning Outcomes
1. Apply document formatting standards for professional business correspondence.
2. Apply standard proofreader's marks when proofreading and editing.
3. Proofread and edit letters, memos, reports, and other business documents to produce a professional copy.
4. Review English mechanics (spelling, grammar, punctuation, and format).
5. Write business memos, letters, e-mails, and informal reports.
6. Rewrite and edit the message for organization, clarity, complete information, and conciseness.
7. Produce the message utilizing the correct design and format.

OTEC 2260. Business Procedures
3 Credits (2+2P)
Covers office procedures, technology, human relations, ethics, telecommunications and job portfolio.
Learning Outcomes
1. Demonstrating strategies and tools for organizing your work area.
2. Demonstrating effective techniques for handling telecommunication.
3. Identifying unethical behavior in the workplace.
4. Demonstrating qualities of an effective team member.
5. Identifying methods for handling incoming and outgoing mail.
6. Planning and arranging domestic and international travel.
7. Planning a business meeting.
8. Demonstrating qualities of effective leaders.
9. Developing skills and qualities necessary for the administrative profession. 1
10. Completing an employment application, compose a letter of application, and prepare a resume for a specific administrative position. 1
11. Completing a mock interview.

OTEC 2270. Medical Transcription
3 Credits (2+2P)
Reinforces medical terminology and develops proficiency in transcribing medical reports, forms, and other types of medical communications using correct format, grammar, punctuation, number, abbreviation, symbol, and metric measurement rules. Restricted to Community Colleges campuses only.
Prerequisite: HLSC 1510 and HLSC 1515 and BCIS 1750.
Learning Outcomes
1. 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.
2. Apply correct grammar, word usage, and format or style.
3. Use punctuation, capitalization, abbreviations, and numbers correctly.
4. Demonstrate mastery of terminology, spelling, editing/proofreading, and transcribing skills.

OTEC 2998. Internship I
1-3 Credits
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. C- or better in the course is required.
Learning Outcomes
1. Apply decision-making and problem-solving skills by setting goals and objectives, self-reflection, and self-assessment.
2. Model soft skills appropriate for a professional business workplace.
3. Determine effective communication in various workplace relationships.
4. Develop career planning skills that include conducting a job search, collecting references, building a resume, creating a cover letter, and interviewing techniques.

OTEC 2999. Office Technology Capstone
3 Credits (2+2P)
Refines professional skills learned in the OAT program and ties all OAT coursework together. Restricted to Community Colleges campuses.
Prerequisite: OTEC 1102; and ACCT 1115; and BCIS 1750 or ENGL 2210G; and BCIS 1220.
Learning Outcomes
1. Construct professional, error-free business documents that demonstrate appropriate formats and ideas in clear, concise, and correct written and spoken language.
2. Utilize effective administration skills to enhance the productive operation of the workplace.
3. Demonstrate professional behaviors and workplace ethics for the professional office environment.
4. Demonstrate proficiency in the use of productivity software in business applications.

PHED-PHYSICAL EDUCATION

PHED 1110. Dance:
1 Credit (1)
Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.
Learning Outcomes
1. Varies

PHED 1230. Individual Sport:
1 Credit (1)
Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.
Learning Outcomes
1. Varies

PHED 1290. Team Sport:
1 Credit (1)
Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.
Learning Outcomes
1. Varies

PHED 1310. Swim I:
1 Credit (1)
Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.
Learning Outcomes
1. Varies

PHED 1320. Aqua Fit:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 1330. Lifeguarding
2 Credits (2)

Skills training for a nonsurf lifeguard. Course will include Standard First Aid and CPR certification. May be repeated up to 2 credits.

Learning Outcomes

1. To help the student become aware of the common hazards associated with various types of aquatic facilities and to develop the knowledge and skills to eliminate or minimize such hazards.
2. To help the student develop the skills necessary to recognize a person in distress or in a drowning situation and to effectively rescue that person.
3. To help the student understand their responsibility to their employer, fellow employees and especially to the patrons of their facility.
4. To provide explanations, demonstrations, practice and review of the rescue skills essential for lifeguarding.
5. To instill in the students an understanding and appreciation for the responsibilities, swimming skills and additional duties of lifeguarding.
6. To develop more advance swimming skills to assist in a water rescue.

PHED 1410. Yoga:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 1430. Pilates:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 1510. Training:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 1620. Fitness:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 1630. Career Fitness:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 10 credits.

Learning Outcomes

1. Varies

PHED 1670. Aerobics:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 1830. Running:
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 4 credits.

Learning Outcomes

1. Varies

PHED 1910. Outdoor Experience
1 Credit (1)

Individual sections vary based on topic content; "audience"; type or level of participation. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHED 2120. Healthy Life Skills and Personal Wellness
3 Credits (3)

This course has been designed to provide students with the knowledge and skills necessary to cultivate a holistic approach to well-being by giving students effective strategies for achieving and maintaining a balanced and fulfilling life, including coping skills to navigate the challenges of college life. Through a combination of lectures, discussions, activities, and self-reflection, students will explore various dimensions of wellness and develop practical strategies to enhance their overall health and vitality.

Learning Outcomes

1. Explain the principles of wellness, emphasizing the significance of exercise, nutrition, and wellbeing for sustaining health throughout life.
2. Describe effective strategies and methodologies to enhance wellness.
3. Develop individualized goals pertaining to various facets of wellness to promote personal growth and fulfillment.
4. Evaluate personal wellness levels to establish baseline and monitor progress towards specific goals across diverse dimensions of well-being.
5. Participate in a self-tailored wellness regimen, integrating introspective assessments to monitor personal progress effectively.
6. Critically assess and refine wellness plans based on alterations in wellness evaluations and personal reflections, ensuring continuous alignment with evolving health and fitness aspirations.

PHED 2996. Special Topics
1-3 Credits (1-3)

Specific subjects to be announced in the Schedule of Classes. Each offering will carry appropriate subtitle. May be repeated up to 6 credits.

Learning Outcomes

1. Varies

PHIL-PHILOSOPHY (PHIL)

PHIL 1115G. Introduction to Philosophy
3 Credits (3)

In this course, students will be introduced to some of the key questions of philosophy through the study of classical and contemporary thinkers. Some of the questions students might consider are: Do we have free will? What is knowledge? What is the mind? What are our moral obligations to

others? Students will engage with and learn to critically assess various philosophical approaches to such questions.

Learning Outcomes

1. Comprehend and differentiate between various philosophical approaches to questions within fields such as metaphysics, epistemology, ethics, and aesthetics.
2. Critically evaluate various philosophical arguments and positions.

PHIL 1120G. Logic, Reasoning, & Critical Thinking
3 Credits (3)

The purpose of this course is to teach students how to analyze, critique, and construct arguments.The course includes an introductory survey of important logical concepts and tools needed for argument analysis. These concepts and tools will be use to examine select philosophical and scholarly texts.

Learning Outcomes

1. Comprehend components of arguments.
2. Acquire a general understanding of the essential logical concepts needed for argument analysis, such as validity, soundness, deduction, and induction.
3. Critically assess arguments with an aim toward identifying what constitutes effective and reasonable argument strategies.
4. Learn to identify common logical fallacies.
5. Apply knowledge of argumentation principles to philosophical and scholarly texts

PHIL 1140G. Philosophy and World Religions
3 Credits (3)

A philosophical enquiry into the religious life; an introduction to philosophical questions about religions focused on consideration of some of the traditional approaches to God and what it means to be religious. May be repeated up to 3 credits.

Learning Outcomes

1. Identify and describe philosophical theories regarding religion.
2. Develop and enhance your critical thinking skills, particularly in the evaluation of arguments about the truth or applicability of particular religious or secular viewpoints.
3. Analyze the teachings of world religions by describing their similarities and differences.
4. Explain the philosophical beliefs, practices, and ethical standards of the major world religions as well as emerging religious movements.
5. Explain how each religion evolved historically, philosophically, and spiritually as well as the contemporary ideas and practices each religion.

PHIL 1145G. Philosophy, Law, and Ethics
3 Credits (3)

An introduction to practical problems in moral, social, political, and legal philosophy. Topics to be discussed may include ecology, animal rights, pornography, hate speech on campus, same-sex marriage, justice, abortion, terrorism, treatment of illegal immigrants, and New Mexican Aboriginal Peoples' land claims.

Learning Outcomes

1. The aim of this course is to familiarize students with some of the ethical and philosophical issues that arise in connection with laws/legality in general and criminal and constitutional law in the U.S. in particular.
2. It examines issues in moral philosophy, political philosophy, and philosophy of law.
3. A question to which we repeatedly return is whether the law does and/or ought to have some necessary relation to the demands of justice and morality. Among the topics we'll cover are: What is a law? Natural law vs. positive law and legal positivism vs. natural law theory; Utilitarian, divine command, Kantian, and natural law theories of moral rightness/wrongness; The distinction between the normative and the non-normative; Is there a moral duty to obey the law? Plato's Crito and R.P. Wolff's "philosophical anarchism."; J.S. Mill and classical liberalism; Mill's "harm principle" ("the state should restrict the liberty of competent adults via the criminal law only to prevent them from wrongfully harming other persons"); Legal paternalism. Should the state make it harder for citizens to smoke tobacco and/or marijuana, for their own good?; Should voluntary euthanasia be legal? Is there a constitutional "right to die"?; How should judges determine the meaning of vaguely worded constitutional requirements (e.g. "free exercise of religion," no "unreasonable search and seizure," no "cruel and unusual punishment," etc.)? Originalist vs. nonoriginalist approaches; The First Amendment, free speech, and freedom of religion; The death penalty and "cruel and unusual punishment"; The insanity defense in criminal law; Does the 14th Amendment's requirement of "equal protection" under the law compel states to recognize same sex marriage?; The Fourth Amendment and its prohibition of "unreasonable search and seizure."

PHIL 2110G. Introduction to Ethics
3 Credits (3)

This course introduces students to the philosophical study of morality and will explore questions concerning our human obligations to others and related issues. Students may be asked to relate various approaches to ethics to present-day ethical debates and their own lives.

Learning Outcomes

1. Differential between various ethical theories, which may include virtue ethics, deontology, and consequentialism.
2. Critically evaluate various ethical theories and positions.

PHIL 2230G. Philosophical Thought
3 Credits (3)

In this course, students will grapple with some of the key questions of philosophy through the study of classical and contemporary thinkers. Students will become familiar with the perennial problems in subfields of philosophy such as metaphysics, epistemology, ethics, and aesthetics. They will learn to approach these problems both critically and sympathetically.

Learning Outcomes

1. Comprehend and differentiate between various philosophical approaches to questions within fields such as metaphysics, epistemology, ethics, and aesthetics.
2. Critically evaluate various philosophical arguments and positions.
3. Identify the differences that characterize the major subfields of philosophy.

PHLB-PHLEBOTOMY

PHLB 1110. Phlebotomy Concepts Lecture & Laboratory
6 Credits (3+6P)

A special course covering the basic concepts and skills involved in phlebotomy and laboratory procedures. The first half of the course includes didactic instruction (60 hours) of basic anatomy and physiology, medical terminology, medical legal and ethical issues, patient care, best practices, and quality assurance. The Laboratory (10 hours) addresses collection and handling of blood and non-blood specimens,

patient communication skills, and ethical considerations. Prepare students for clinical skills rotations. Course standards are based on the Clinical Laboratory Standards Institute, Needlestick Prevention Act, Joint Commission, 2008 National Safety Goals, OSHA, and CDC. The second half of the course includes application of skills through 90 hours practicum, providing hands on experiences in a supervised work environment collecting blood specimens from patients at local Laboratory draw facilities. Attendance is MANDATORY. Prepare students for employment and entry level phlebotomist in health care settings. May be repeated up to 6 credits.

Learning Outcomes

1. Identify basic Anatomy and Physiology as it pertains to the circulatory system to effectively locate veins for blood collection.
2. Perform various blood collection techniques, including venipuncture and capillary puncture, while adhering to healthcare regulations and facility safety and infection control protocols.
3. Identify variables that affect procedures and results; take appropriate corrective action when needed.
4. Demonstrate infection control measures, including the use of personal protective equipment (PPE) and proper disposal of biohazardous materials.
5. Demonstrate skills to communicate effectively with patients, including explaining procedures, addressing concerns, and ensuring patient comfort during blood collection.
6. Practice proper procedures for labeling, handling, and transporting blood specimens to maintain integrity and prevent contamination.
7. Meet requirements to sit for the Phlebotomist Certification Exam, Including 100 clinical hours (10 Laboratory hours+90 rotation hours) and 100 successful unassisted venipunctures.

PHLB 1190. Phlebotomist Basic
4 Credits (3+3P)

This course provides the latest information, techniques, skills, and equipment for blood and specimen collection based on the standards of the Clinical and Laboratory Standards Institute, Needlestick Prevention Act, Joint Commission 2008 National Patient Safety Goals, OSHA and CDC. An advanced skills Laboratory is included in the course to provide a "hands-on" practice experience and a 30 hour practicum in a supervised work environment collecting blood and specimens on actual patients for Laboratory tests. Attendance is mandatory. Prepares students for employment as a phlebotomist in health care settings. Requires a "C" or better to pass. Upon successful completion of the course, student has the opportunity to test for National Health Career Certification.

Prerequisite/Corequisite: BIOL 1130G or BIOL 2225.

Learning Outcomes

1. Demonstrate use of available resources and equipment pertinent to the role of a phlebotomist.
2. Employ concepts of medical asepsis and infection control.

PHLS-PUBLIC HEALTH SCIENCES (PHLS)

PHLS 1110G. Personal Health & Wellness
3 Credits (3)

A holistic and multi-disciplinary approach towards promoting positive lifestyles. Special emphasis is placed on major problems that have greatest significance to personal and community health. Topics to include nutrition, stress management, fitness, aging, sexuality, drug education, and others.

Learning Outcomes

1. Students will identify, describe and explain human health behaviors and how they are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities. Students should: Develop an understanding of self and the world by examining content and processes used by social and behavioral sciences to discover, describe, explain, and predict human behaviors and social systems.
2. Students will articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, biology, history, and social institutions. Students should: Enhance knowledge of social and cultural institutions and the values of their society and other societies and cultures in the world.
3. Students will describe ongoing reciprocal interactions among self, society, and the environment. Students should: Understand the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life.
4. Students will apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments. Students should: Articulate their role in a global context and develop an awareness and appreciation for diverse value systems in order to understand how to be good citizens who can critically examine and work toward quality of life within a framework of understanding and justice.

PHLS 1110H. Personal Health and Wellness Honors
3 Credits (3)

A holistic and multi-disciplinary approach towards promoting positive lifestyles. Special emphasis is placed on major problems that have greatest significance to personal and community health. Topics to include nutrition, stress management, fitness, aging, sexuality, drug education, and others. In addition students will complete an experiential learning component or project.

Learning Outcomes

1. Students will identify, describe and explain human health behaviors and how they are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities. Students should: Develop an understanding of self and the world by examining content and processes used by social and behavioral sciences to discover, describe, explain, and predict human behaviors and social systems.
2. Students will articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, biology, history, and social institutions. Students should: Enhance knowledge of social and cultural institutions and the values of their society and other societies and cultures in the world.
3. Students will describe ongoing reciprocal interactions among self, society, and the environment. Students should: Understand the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life.
4. Students will apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments. Students should: Articulate their role in a global context and develop an awareness and appreciation for diverse value systems in order to understand how to be good citizens who can critically examine and work toward quality of life within a framework of understanding and justice.

PHLS 2110. Foundations of Health Education
3 Credits (3)

Role and responsibility of the health educator with emphasis on small group dynamics, oral and written communication skills, building community coalitions and introduction to grant writing. Taught with PHLS 3210. Cannot receive credit for both PHLS 2110 and PHLS 3210.
Prerequisite: PHLS 1110G or consent of instructor.

Learning Outcomes

1. Define health, three levels of prevention, health education and health promotion, and describe the major determinants of health.
2. Describe the 7 major areas of responsibility, major competencies and sub-competencies of a professional health educator and the CHES's possible roles in various community health settings.
3. Describe and examine the historical context and development of the profession of health education.
4. Identify and critique major processes and practices of health education programming.
5. Describe the steps involved in conducting needs assessments, program and intervention planning, implementation, and program evaluation.
6. Identify, examine and describe elected health behavior change theories and models and explore possible applications in health education practice.
7. Describe and discuss the process of community mobilization and building of a community coalition.
8. Identify health issues and describe effective methods/strategies in health education advocacy.
9. Describe and discuss the future trends and issues in the professional preparation and practice of professional health educators. 1
10. Demonstrate effective and appropriate oral and written communication skills for health education professionals.

PHLS 2120. Essentials of Public Health
3 Credits (3)
The course will focus on principles and major areas if public health, including ecological and total personal concept of health care system, epidemiological approaches to disease prevention and control . Consent of Instructor required.

Learning Outcomes

1. Understand the sources of public health data, and how to interpret that information.
2. Access existing health related data.
3. Analyze health related data.
4. Identify populations for health education programs.
5. Incorporate data analysis and principles of community organization.
6. Interpret results from evaluation and research.
7. Infer implications from findings for future health–related activities.
8. Have a basic understanding of health topics faced by various populations.

PHYS-PHYSICS (PHYS)

PHYS 1110. Explorations in Physics
1 Credit (1)
This course will introduce students to university resources, pre-professional student societies, learning strategies to help strengthen academic performance, and will explore career paths for graduates. Students will also discuss the roles of physicists in society, physics research being performed at and nearby NMSU, and what the latest discoveries in physics tell us about nature and the universe.

Learning Outcomes

1. Describe effective learning strategies for science/engineering classes.
2. Give examples of impactful scientists from groups underrepresented in physics and describe their career paths.
3. Research examples of positions open to physics majors.
4. Identify critical components of an effective resume.
5. Write a professional cover letter for an internship/undergraduate research application.
6. Discuss the boundaries of ethical science and give an example of an accidental breach of ethics.
7. Describe the societal impact of misinformation about scientific results or research.
8. Explore ways scientists can engage with the general public to shape the discourse of knowledge or the ways scientists are perceived.
9. List some of the burning questions current physicists are trying to answer. 1
10. Establish a sense of community within the department, the university, and the greater physics world. 1
11. Discover useful resources to help with academic success and avoid pitfalls while pursuing a physics degree. 1
12. Better understand the value of a physics degree, and what can be expected entering the workforce or academia. 1
13. Understand and discuss how the field of physics connects with the issues and problems facing society today.

PHYS 1111. Introductory Computational Physics
3 Credits (2+2P)
Introduction to computational techniques for the solution of physics-related problems.
Prerequisite: a C- or better in MATH 1220G or MATH 1250G or MATH 1511G.

Learning Outcomes

1. Use computers for visualizing and analyzing data.
2. Apply techniques of structured programming and software development.
3. Trouble shoot and debug programs.

PHYS 1112. Introductory Physics for the Health Sciences
3 Credits (3)
Algebra-level introduction to topics required for the Health Sciences including basic mechanics (including sound, mechanical waves and fluids), heat and thermodynamics, electricity and magnetism, optics and electromagnetic waves, atomic and nuclear physics and applications to medical imaging. Restricted to Community Colleges campuses only.
Prerequisite(s): MATH 1215 or Equivalent.

Learning Outcomes

1. The objective of the course is to familiarize the student with the concepts and methods used in the underlying physics associated with various Health Science disciplines.
2. The course will demonstrate how the basic principles of mechanics, thermodynamics, electricity, magnetism, electromagnetic waves and optics can be applied to solve particular problems in Health Sciences applications. Introduces the student to selected topics in modern physics including quantum physics, atomic and nuclear physics.

PHYS 1115G. Survey of Physics with Lab
4 Credits (3+3P)
Overview of the concepts and basic phenomena of physics. This course provides a largely descriptive and qualitative treatment with a

minimum use of elementary mathematics to solve problems. No previous knowledge of physics is assumed. Includes laboratory.

Learning Outcomes

1. Apply concepts of classical mechanics (such as velocity, acceleration, force, inertia, momentum, torque, work, energy) to simple static and dynamic systems.
2. Apply concepts of thermodynamics (such as heat, temperature, internal energy, entropy) to simple processes.
3. Apply concepts of electricity and magnetism (such as fields, potential, charge conservation, static and dynamic induction) to simple circuits, motors, and other simple contrivances.
4. Apply simple geometric and wave optics in simple situations.
5. Test ideas using modern laboratory equipment.
6. Estimate experimental uncertainties.
7. Use computers to analyze and report laboratory results.
8. Draw appropriate conclusions from quantitative scientific observations.
9. Accurately and clearly communicate the results of scientific experiments.

PHYS 1125G. Physics of Music
4 Credits (3+2P)

Introduction for non-science majors to basic concepts, laws, and skills in physics, in the context of a study of sound, acoustics, and music.

Learning Outcomes

1. Demonstrate converting units and other aspects of dimensional analysis in the working of numerical problems.
2. Apply basic classical mechanics to static and dynamic fluids, including Archimedes'principle and Bernoulli's principle.
3. Apply the general properties of waves to simple models of musical instruments.
4. Demonstrate knowledge of basic operating principles of wind, string, and percussion instruments.
5. Demonstrate knowledge of how objectively measurable properties of sound waves correspond to the perceptions of pitch, loudness, and timbre.
6. Demonstrate understanding of the description of vibrations and waves in terms of Fourier's Theorem and normal modes.
7. Demonstrate understanding of vocalization in terms of physical principles such as resonance and fluid dynamics.
8. Demonstrate understanding of how the ear works.

PHYS 1230G. Algebra-Based Physics I
3 Credits (3)

An algebra-based treatment of Newtonian mechanics. Topics include kinematics and dynamics in one and two dimensions, conservation of energy and momentum, rotational motion, equilibrium, and fluids.

Learning Outcomes

1. Demonstrate converting units and other aspects of dimensional analysis in the working of numerical problems.
2. Apply principles of Newtonian mechanics to predict and account for simple phenomena modeled by the motion of particles in one and two dimensions.
3. Apply principles of Newtonian mechanics to predict and account for simple phenomena modeled by the motion of a rigid body in two dimensions.
4. Apply Newton's theory of gravitation to circular orbits and demonstrate understanding of how Kepler's laws of planetary motion provide the empirical foundation for Newton's theory.
5. Apply the mathematics of vectors to the principles of Newtonian mechanics.
6. Apply principles of Newtonian mechanics to the case of static and dynamic incompressible fluids, including Archimedes'and Bernoulli's principles.

PHYS 1230L. Algebra-Based Physics I Lab
1 Credit (3P)

A series of laboratory experiments associated with the material presented in PHYS 1230G. May be repeated up to 3 credits.

Prerequisite/Corequisite: PHYS 1230G.

Learning Outcomes

1. Explain the scientific method.
2. Test ideas using modern laboratory equipment.
3. Estimate experimental uncertainties using statistical methods.
4. Use computers to analyze and report laboratory results.
5. Draw appropriate conclusions from quantitative scientific observations.
6. Accurately and clearly communicate the results of scientific experiments.

PHYS 1240G. Algebra-Based Physics II
3 Credits (3)

The second half of a two semester algebra-based introduction to Physics. This course covers electricity, magnetism and optics.

Prerequisite(s): a C- or better in PHYS 1230G or PHYS 2230G.

Learning Outcomes

1. Be able to state Coulomb's Law and Gauss's laws and apply them.
2. Apply the concepts of electric charge, electric field and electric potential to solve problems.
3. Analyze simple DC and AC circuits.
4. Apply the Lorentz force to solve problems.
5. Apply Faraday's law of induction (and Lenz's law) to solve problems.
6. Apply ray optics to practical lens systems such as microscopes and corrective lenses.
7. Apply the wave nature of light to the phenomena of reflection, refraction, and diffraction.

PHYS 1240L. Algebra-Based Physics II Lab
1 Credit (3P)

A series of laboratory experiments associated with the material presented in PHYS 1240 May be repeated up to 3 credits.

Prerequisite/Corequisite: PHYS 1240G.

Learning Outcomes

1. Explain the scientific method.
2. Test ideas using modern laboratory equipment.
3. Estimate experimental uncertainties using statistical methods.
4. Use computers to analyze and report laboratory results.
5. Draw appropriate conclusions from quantitative scientific observations.
6. Accurately and clearly communicate the results of scientific experiments.

PHYS 1310G. Calculus -Based Physics I
3 Credits (3)

A calculus level treatment of classical mechanics and waves, which is concerned with the physical motion concepts, forces, energy concepts, momentum, rotational motion, angular momentum, gravity, and static equilibrium.

Prerequisite: a C- or better in ENGR 190 or MATH 1511G or higher.

Learning Outcomes

1. Describe the relationships among position, velocity, and acceleration as functions of time.
2. Use the equations of kinematics to describe motion under constant acceleration.
3. Analyze linear motion using Newton's laws, force, and linear momentum.
4. Analyze rotational motion using torque and angular momentum.
5. Analyze motion using work and energy.

PHYS 1310L. Calculus -Based Physics I Lab
1 Credit (3P)

A series of laboratory experiments associated with the material presented in Calculus-based Physics I. Students will apply the principles and concepts highlighting the main objectives covered in coursework for Calculus-based Physics I.

Prerequisite(s)/Corequisite(s): PHYS 1310G.

Learning Outcomes

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Experience the relationship between theory and experiment.

PHYS 1311. Problems in Calculus-Based Physics I
0.5-1 Credits (.5-1)

This is a supplemental course for Calculus-based Physics I. May be repeated up to 1 credits.

Corequisite(s): PHYS 1310G.

PHYS 1320G. Calculus -Based Physics II
3 Credits (3)

A calculus level treatment of classical electricity and magnetism. It is strongly recommended that this course is taken at the same time as Calculus-based Physics II laboratory.

Prerequisite: a C- or better in (PHYS 2110 or PHYS 1310G) and (ENGR 190 or MATH 1521G or higher).

Learning Outcomes

1. Apply the concepts of electric charge, electric field and electric potential to solve problems.
2. Sketch the electric field in the vicinity of point, line, sheet, and spherical distributions of static electric charge.
3. Sketch the magnetic field in the vicinity of line, ring, sheet, and solenoid distributions of steady current.
4. Describe the relationship between electric field and electric potential.
5. Calculate the Lorentz force on a moving charge for simple geometries of the fields and use it to analyze the motion of charged particles.
6. Apply the integral forms of Maxwell's equations.
7. Calculate the energy of electromagnetic fields.
8. Analyze DC circuits.

PHYS 1320L. Calculus -Based Physics II Lab
1 Credit (3P)

A series of Laboratory experiments associated with the material presented in Calculus-Based Physics II. Students will apply the principles and concepts highlighting the main objectives covered in coursework for Calculus-Based Physics II.

Prerequisite(s)/Corequisite(s): PHYS 1320G. Prerequisite(s): A C- or better in PHYS 2110L or PHYS 1310L.

Learning Outcomes

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Experience the relationship between theory and experiment

PHYS 1321. Problems in Calculus-Based Physics II
0.5-1 Credits (.5-1)

This is a supplemental course for Calculus-based Physics II.

Corequisite(s): PHYS 1320G.

PHYS 2110. Mechanics
3 Credits (3)

Newtonian mechanics.

Prerequisite/Corequisite: MATH 1511G or higher.

Learning Outcomes

1. Describe matter as particles or extended objects, analyze forces or torques acting on it, and apply Newton's laws to determine if the object is in equilibrium or predict any change in the motion of such an object.
2. Apply vector algebra to predict motion or analyze interactions in one or two dimensions.
3. Apply techniques of conservation laws (linear momentum, energy, angular momentum) to determine the effect of interactions that are internal or external to the system studied.
4. Analyze systems in simple harmonic motion and explain qualitatively under what condition a driven oscillating system shows the phenomenon of resonance.
5. Use multiple representations to build, interpret and communicate a model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
6. Given two or more cases, perform a ranking task by evaluating the similarities (comparison) or differences (contrast) in the cases and applying physics principles.
7. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
8. Analyze real-world phenomena by defining and formulating the question or problem, constructing simplified idealized models(and stating their limitations), and applying appropriate mathematical reasoning to make predictions or explain a phenomenon or function.
9. Communicate effectively with audiences of different scientific backgrounds by recognizing their needs and making the communication relevant and impactful. 1
10. Work collegially and collaboratively in diverse teams both as a leader and as a member in pursuing a common goal.

PHYS 2110L. Experimental Mechanics
1 Credit (3P)
Laboratory experiments associated with the material presented in PHYS 2110. Science majors.
Prerequisite/Corequisite: PHYS 2110.
Learning Outcomes
1. Test scientific questions or ideas using appropriate laboratory equipment.
2. Collect experimental data and evaluate the outcomes of an experiment qualitatively and quantitatively.
3. Estimate measurement uncertainty.
4. Apply appropriate methods of analysis to raw data, including graphical or statistical methods, and computer-based tools.
5. Draw appropriate conclusions from quantitative scientific data.
6. Communicate the process and the outcomes of an experiment and reflect on possible revisions in the procedure.
7. Work effectively as part of a team.
8. Demonstrate professional responsibility.

PHYS 2111. Supplemental Instruction to PHYS 2110
1 Credit (1)
This Optional workshop as a supplement to PHYS 2110. The tutorial sessions focus on reasoning and hands-on problem solving. May be repeated up to 1 credit.
Corequisite: PHYS 2110.
Learning Outcomes
1. Analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2110, apply quantitative analysis to solve problems, including the use of scientific notation, unit conversion and vector algebra.
4. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2120. Heat, Light, and Sound
3 Credits (3)
Calculus-level treatment of thermodynamics, geometrical and physical optics, and sound.
Prerequisite: a C- or better in PHYS 2110 or PHYS 1310G, and MATH 1511G or higher.
Learning Outcomes
1. Analyze real world phenomena that meet specific needs and use scientific judgement to draw conclusions.
2. Use multiple representations to build, interpret and communicate scientific models, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. Analyze oscillations and wave phenomena.
4. Analyze properties of sound waves.
5. Analyze properties of light using interference and diffraction.
6. Analyze light propagation through media using index of refraction and optical apparatus.
7. Analyze optical systems using light propagation.
8. Analyze the laws of thermodynamics and use them to describe processes in gases and other states of matter.

PHYS 2120L. Heat, Light, and Sound Laboratory
1 Credit (3P)
Laboratory experiments associated with the material presented in PHYS 2120. Science majors.
Prerequisite: a C- or better in PHYS 2110L or PHYS 1310L.
Prerequisite/Corequisite: PHYS 2120.
Learning Outcomes
1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Understand the relationship between theory and experiment.

PHYS 2121. Supplemental Instruction to PHYS 2120
1 Credit (1)
This optional workshop supplements PHYS 2120 "Heat, Light, and Sound". Students actively apply concepts and methods introduced in PHYS 2120 to problem solving and quantitative analysis. May be repeated up to 1 credit.
Corequisite: PHYS 2120.
Learning Outcomes
1. Analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2121, apply quantitative analysis to solve problems involving wave propagation and interference, geometric optics, heat transfer and thermodynamics.
4. Self-checkreasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline

PHYS 2140. Electricity and Magnetism
3 Credits (3)
Charges and matter, the electric field, Gauss law, the electric potential, the magnetic field, Ampere's law, Faraday's law, electric circuits, alternating currents, Maxwell's equations, and electromagnetic waves.
Prerequisite: a C- or better in PHYS 2110 or PHYS 1310G, and MATH 1511G or higher.
Prerequisite/Corequisite: MATH 1521G.
Learning Outcomes
1. Analyze real-world phenomena by deciding what information is relevant and constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomenon or function.

2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. Use a physics problem-solving strategy: i. Identify relevant concepts. ii. Introduce and study simplified models. iii. Use symmetry arguments. iv. Establish the relation between known and unknown quantities. v. Calculate a quantitative result using appropriate mathematical methods. vi. Self-check reasonableness of assumptions and solutions.
4. Analyze/predict the interaction of charged particles, dipoles, or conductors with electric or magnetic fields. Apply concepts of force, work, or energy.
5. Describe sources of electric fields or magnetic fields and calculate field vectors for a point in space.
6. Apply Gauss's law to calculate electric fields for symmetric charge distributions or to determine surface charges on conductors in electrostatic equilibrium.
7. Apply Ampere's law and the Law of Biot-Savart to calculate magnetic fields.
8. Evaluate if magnetic flux changes and if an electric field or electric current is induced. Determine the direction of the induced current or the non-Coulomb electric field by applying Lenz's law. Apply Faraday's law to relate the rate of change of magnetic flux with the magnitude of emf induced.
9. Calculate and discuss properties of electric circuits (dc) with resistors, capacitors, and inductors applying Kirchhoff's rules or Ohm's law. 1
10. Discuss how the presence of a capacitor or an inductor modifies the behavior of a (dc) circuit and determine the time dependence of the current. 1
11. For a series RLC-circuit (or RC, LC, RL) with an ac-voltage source apply the concept of impedance or reactance to calculate the current through or voltages across each of the circuit elements, especially in the low-frequency limit, high-frequency limit, or at the resonant frequency.

PHYS 2140L. Electricity & Magnetism Laboratory
1 Credit (3P)
Laboratory experiments associated with the material presented in PHYS 2140.
Prerequisite: a C- or better in PHYS 2110 or PHYS 1310G.
Prerequisite/Corequisite: PHYS 2140.
Learning Outcomes

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Understand the relationship between theory and experiment.

PHYS 2141. Supplemental Instruction to PHYS 2140
1 Credit (1)
Optional workshop as a supplement to PHYS 2140. The tutorial sessions focus on reasoning and hands-on problem solving.
Corequisite: PHYS 2140.
Learning Outcomes

1. Analyze real-world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomenon or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2140, apply quantitative analysis to solve problems, including the use of symmetry to study electric and magnetic fields. Practice concepts of calculus applied to charge and current distributions.
4. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2230G. General Physics for Life Science I
3 Credits (3)
This algebra-based introduction to general physics covers mechanics, waves, sound, and heat. Special emphasis is given to applications in the life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT.
Prerequisite: A C- or better in MATH 1220G or higher.
Learning Outcomes

1. Modeling: analyze real-world phenomena by deciding what information is relevant and constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain phenomena or function; use multiple representations to build, interpret and communicate the model,including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text; critique assumptions and determine how to test the validity of a model and use the comparison of experimental data and prediction to refine the model.
2. Conceptual understanding: describe the motion of any object in terms of displacement, velocity, and acceleration; analyze external forces acting on an object and determine if a system is in equilibrium or relate the net force to changes in motion; predict or analyze motion using conservation laws for energy and momentum; analyze forces and torques fora rigid object in static equilibrium; for a static fluid determine pressure and the buoyant force; apply idealized models of fluid flow to the circulatory system; describe the properties of pressure waves known as sound, apply the model of standing waves to musical instruments and discuss how sound is used to sense the environment; predict qualitative changes in the internal energy of a thermodynamic system when energy has been transferred due to work or heat and justify those predictions using conservation of energy (First law of thermodynamics). Identify which heat transfer processes occur in a described situation.
3. Quantitative reasoning: use a physics problem-solving strategy (Identify relevant concepts; Introduce and study simplified models; Use symmetry arguments; Establish the relation between known and unknown quantities; Calculate a quantitative result using appropriate mathematical methods; Self-check reasonableness of assumptions and solutions); use scientific notation accurately and convert units if necessary.
4. Communicating scientific information: interpret or generate graphs or other visual representations and be able to switch between various representations including text,mathematical description, or diagrams.

PHYS 2230L. Laboratory to General Physics for Life Science I
1 Credit (1)
Laboratory experiments in topics associated with material presented in PHYS 2230G.
Prerequisite(s)/Corequisite(s): PHYS 2230G. Restricted to Las Cruces campus only.

PHYS 2231. Supplemental Instruction to General Physics for Life Sciences I
1 Credit (1)
This optional workshop supplements Physics for Life Sciences I. The tutorial sessions focus on reasoning and hands-on problem solving.
Corequisite: PHYS 2230G.
Learning Outcomes
1. analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. in the contexts of concepts and physical laws discussed in PHYS 2230, apply quantitative analysis to solve problems, including the use of scientific notation, unit conversion and vector algebra.
4. self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2240G. General Physics for Life Science II
3 Credits (3)
This algebra-based course covers electricity, magnetism, light, atomic physics, and radioactivity. Special emphasis is given to applications in the life sciences This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT.
Prerequisite: a C- or better in PHYS 1230G or PHYS 2230G, and MATH 1220G or higher.
Learning Outcomes
1. Modeling: analyze real world phenomena by constructing simplified idealized models (an abstract description) that allow making predictions or explaining a phenomena or function; use multiple representations to build and communicate the model, including sketches, mathematical expressions, diagrams or graphs; decide what information is relevant and critique assumptions and models of others; determine how to test the validity of a model and use comparison of experimental data and prediction to refine the model.
2. Conceptual understanding: electric or magnetic fields can be used to describe interactions of objects that contain charges with their surroundings; changes that occur as a result of interactions are constrained by conservation laws (such as conservation of energy, conservation of charge or conservation of nucleon number); many macroscopic properties of materials can be described using microscopic models or related to their geometry; electromagnetic radiation can be modeled as a wave or as fundamental particles (photons); the direction of propagation of a wave may change when it encounters a boundary surface between two media of different properties (reflection or refraction); the spontaneous radioactive decay of nuclei is described by probability.
3. Quantitative reasoning: apply quantitative analysis and appropriate mathematical reasoning to describe or explain phenomena; use scientific notation accurately and convert units if necessary.
4. Communicating scientific information: interpretor generate graphs or other visual representations (e.g. field lines, equipotential lines) and be able to switch between various representations including text, mathematical description, or diagrams.

PHYS 2240L. Laboratory to General Physics for Life Science II
1 Credit (1)
Laboratory experiments in topics associated with material presented in PHYS 2240.
Prerequisite(s)/Corequisite(s): PHYS 2240G. Restricted to Las Cruces campus only.

PHYS 2241. Supplemental Instruction to General Physics for Life Sciences II
1 Credit (1)
This optional workshop is a supplement to Physics for Life Science II. The tutorial sessions focus on reasoning and hands-on problem solving. May be repeated up to 1 credits.
Corequisite(s): PHYS 2240G.
Learning Outcomes
1. analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. in the contexts of concepts and physical laws discussed in PHYS 2240, apply quantitative analysis to solve problems, including the use of scientific notation, unit conversion and vector algebra.
4. self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2996. Special Topics
1,4 Credits
Topics to be announced in the Schedule of Classes. May be repeated up to 12 credits.
Learning Outcomes
1. Varies.

PHYS 2997. Independent Study
1-3 Credits
Individual analytical or laboratory studies directed by a faculty member. May be repeated for a maximum of 6 credits.
Prerequisite: consent of instructor.
Learning Outcomes
1. Varies

PL-S-PARALEGAL SERVICES (PL S)

PL S 160. Legal System for the Paralegal
3 Credits (3)
Introduction to the court system, administrative agencies, functions of law offices, and professional conduct and legal ethics. Restricted to: Community Colleges only.
Prerequisite(s): ACT standard score in English of 16 or higher or a Compass score 76 or higher; for those scoring 13-15 in English on ACT or 35-75 on Compass, successful complete of CCDE 105N or CCDE 110N; for those scoring 12 or below on the ACT standard score in English or 34 or below on the Compass, successful completion of CCDE 105N & CCDE 110N.

PL S 162. The Virtual Law Office
3 Credits (3)
The Virtual Law Office class is a 'hands-on', project oriented course designated to provide the student with the basic law office skills needed to function successfully in a law office setting. The student will gain a practical, working knowledge of the procedures necessary to work in a law office. The skills learned in the class will directly translate to real life situations. Restricted to: Community Colleges only.
Prerequisite(s): PL S 160.

PL S 190. Criminal Law for the Paralegal
3 Credits (3)
Introduction to federal and state criminal law; criminal proceedings, prosecution and defense, sentencing and appeal.
Prerequisite: PL S 160.

PL S 200. Legal Ethics for the Paralegal
3 Credits (3)
Introduction to ethical dilemmas faced in the workforce and the rules of ethics developed by the American Bar Association, various national paralegal organizations, and the Supreme Court of New Mexico. Restricted to: Community Colleges only.
Prerequisite(s): PL S 160.

PL S 203. Immigration Law
3 Credits (3)
Survey of the basics of immigration law including the rights and obligations of citizenship and the naturalization process.
Prerequisite: PL S 160.

PL S 221. Internship I
2-4 Credits (2-4)
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships can be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 4 credits.
Prerequisite/Corequisite: PL S 274.
Learning Outcomes
1. To identify and demonstrate professional written and oral communication in a professional legal environment.
2. To identify and demonstrate the interpersonal relationships and the paralegal profession.
3. To identify and apply the knowledge and skills learned in the classroom rules, including the rules of professional responsibility, in a professional legal environment.
4. To demonstrate proficiency in appropriate technology in a professional legal environment.
5. To evaluate the internship experience so that the student is better informed when choosing future employment.

PL S 222. Internship II
1-3 Credits
Continuation of PL S 221. Each credit requires specified number of hours of on-the-job work experience. Restricted to Community Colleges campuses only.
Prerequisite(s): PL S 221.

PL S 231. The Law of Commerce for the Paralegal
3 Credits (3)
Law of contracts, negotiable instruments, bank transfers, secured transactions, debtor-creditor relations, agency, and business types and their formation. Students will study the relevant statutes as well as draft documents associated with these types of legal practice. Restricted to: Community Colleges only.
Prerequisite(s): PL S 160.

PL S 274. Legal Research and Writing for the Paralegal I
3 Credits (3)
Legal research materials and techniques will be identified and studied; introduction to online legal research. Legal documents will be prepared and written based on the student's original research, including a Legal Memorandum.
Prerequisite: PL S 160 and ENGL 1110G.
Learning Outcomes
1. Identify the major legal resources.
2. Broadly identify the different types of jurisdiction.
3. Research and describe statutory law.
4. Research and describe case law through a case brief.
5. Identify and write legal information gained from secondary sources.
6. Identify and draft proper legal citations using Bluebook.
7. Analyze and apply valid legal research.
8. Compose an effective legal memorandum.

PL S 275. Tort and Insurance for the Paralegal
3 Credits (3)
Primary legal principles of tort and insurance law and means of establishing insurance plans, types of torts and insurance, as well as use of specific forms and procedures relating to these areas.
Prerequisite: PL S 160.

PL S 276. Wills, Trusts, and Probate for the Paralegal
3 Credits (3)
Analysis of New Mexico statutes, rules, and cases associated with wills and trusts. Study of the probate process. Emphasis on understanding the documents and the practical application of the law and on preparing and drafting documents to address clients' needs.
Prerequisite: PL S 160.
Learning Outcomes
1. Identify, discuss, and apply selected terms and concepts related to the management of illness or incapacity without using guardianships or conservatorships.
2. Identity, define, examine, and discuss selected terms and concepts related to the management of illness or incapacity using guardianships or conservatorships.
3. Identify, examine, discuss, and apply selected terms and concepts related to the use of a Last Will and Testament in estate planning.
4. Identify, discuss, and apply selected terms and standards related to intestate succession and transferring property outside a will.
5. Identify, discuss, and apply selected terms and concepts related to the use of trusts in estate planning.
6. Identify, discuss, and apply selected terms and concepts in the role of probate courts in estate planning.

PL S 277. Family Law for the Paralegal
3 Credits (3)
Examine techniques for effective lawyer-client interaction including conducting client interviews, and practical application of research and drafting of documents and court pleadings in the field of Family Law. Analysis of laws relating to marriage, divorce, custody, child support, adoption, name change, guardianship, and paternity.
Prerequisite: PL S 160.

Learning Outcomes

1. Examine the role as a family law paralegal and how it will intersect with the different areas of law.
2. Draft a client intake memorandum conveying relevant facts for attorney use.
3. Identify the major terminology for premarital law and traditional marriage law.
4. Draft a premarital agreement.
5. Discuss how a marriage may legally dissolve by annulment and by divorce.
6. Draft a divorce complaint/petition.
7. Demonstrate a working knowledge of the legal issues involved in separations agreements, custody issues, and child support.
8. Draft a separation agreement, child custody agreement, and child support agreement.
9. Describe the different types of parentage and how one can obtain and lose that right. 1
10. Explain the varying steps taken for adoption.

PL S 278. Litigation for the Paralegal
3 Credits (3)
The law of procedure and evidence will be considered through rules and cases. Case situations will be used to identify and solve problems.
Prerequisite: PL S 160.

PL S 279. Legal Research and Writing for the Paralegal II
3 Credits (3)
Continuation of PL S 274. Advanced training in legal research with a focus on analysis, writing, and preparation of pleadings, including a trial court legal brief.
Prerequisite: PL S 274.
Learning Outcomes

1. Research legal topics using the internet.
2. Create a legal research strategy and demonstrate complex legal research.
3. Recognize and implement grammar rules.
4. Draft an effective legal letter.
5. Draft an effective legal brief.
6. Identify and draft proper legal citations using Bluebook.
7. Using advanced legal analysis, draft an effective legal brief.

PL S 298. Independent Study
1-3 Credits (1-3)
Individual studies directed by consenting faculty with prior approval by department head. Restricted to Community Colleges campuses only.
Prerequisite(s): PL S 160.

POLS-POLITICAL SCIENCE

POLS 1110G. Introduction to Political Science
3 Credits (3)
This course covers fundamental concepts in political science, such as political theories, ideologies, and government systems.
Learning Outcomes

1. Construct reasoned civic discourse to advocate a stance or examine alternate positions.
2. Identify fundamental concepts and theories in politicalscience.
3. Analyze data and information in order to gain a deeper understanding of the material.
4. Articulate how the public influence and are influenced by politics.
5. Identify and compare government systems from democracy to authoritarian, as well as models of analysis of contemporary international relations.

POLS 1111. Introductory Government Seminar
1 Credit (1)
Introduction to the government major. Designed to assist students in planning college experience and preparing for upper division course work and resesarch May be repeated up to 1 credit.
Learning Outcomes

1. This course is designed for the beginning government major.
2. Its goal is to improve your educational experience at the university and within the Department of Government. In this class we hope to develop some basic skills necessary for successful completion of a degree in Government.
3. These include the skills of critical reading, critical writing, oral presentation and research methods.
4. Additionally, we will use this seminar to introduce you to Government faculty, to plan your government degree and to acquaint you with the services and opportunities the department and the university has to offer.
5. Finally, we hope to begin the discussion of where you will go next, when you complete your degree in Government.

POLS 1120G. American National Government
3 Credits (3)
This course explains the role of American national government, its formation and principles of the Constitution; relation of state to the national government; political parties and their relationship to interest groups. This course also explains the structure of the legislative, executive, and judicial branches.
Learning Outcomes

1. Explain the historical and political foundations of the government of the United States;
2. Explain the precursors to, and the development and adoption of the United States Constitution;
3. Explain the United States federal system, the basics of federalism, and the changing relationship of state and federal power;
4. Describe the power, structure and operation of the main institutions of government, namely the legislative, executive, judicial, and the federal bureaucracy;
5. Explain the development and role of political parties and interest groups;
6. Identify the constitutional basis of civil rights and civil liberties and their changing interpretation; and
7. Describe the role of demographics, public opinion and the media in American politics.

POLS 1130G. Issues in American Politics
3 Credits (3)
This course is designed to introduce the students to the contemporary study of American political issues. The course analysis of government policies, examining various approaches to the economy, democracy and the structure and the function of American political institutions.
Learning Outcomes

1. Explain the basic themes and concepts of political science and their application to contemporary issues.
2. Explain the major forces, interests, and institutions of American democratic politics.

3. Describe and define how beliefs, assumptions, and values are influences by factors such as politics, geography, economics, culture, biology, history, and social institutions.

POLS 2120G. International Relations
3 Credits (3)
This course covers the analysis of significant factors in world politics, including nationalism, national interest, political economy, ideology, international conflict and collaboration, balance of power, deterrence, international law, and international organization.
Learning Outcomes
1. Explain the interrelationships between countries and people in the world,
2. Demonstrate an awareness of current events in the world.
3. Describe several theories of International Relations
4. Explain and identify theories of power and decision making among states in the world.
5. Describe and evaluate issues that relate to International Politics, and how individuals are affected by them.
6. Describe the role of Intergovernmental Organizations in International Politics.
7. Identify the role war plays in International Politics.
8. Explain how economics is intertwined with International Politics.
9. Demonstrate an understanding of role of international terrorism and its impacts on global diplomacy. 1
10. Articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, history, government, and social institutions.

POLS 2996. Special Topics
3 Credits (3)
Specific topics to be announced in Schedule of Classes. Community Colleges only. May be repeated for a maximum of 12 credits.
Learning Outcomes
1. Varies

PORT-PORTUGUESE (PORT)

PORT 1110. Portuguese I
3 Credits (3)
Designed for students with no previous exposure to Portuguese, this course develops basic listening, speaking, reading, and writing skills. This is an introductory course aimed at teaching the student to communicate in Portuguese in everyday situations.
Learning Outcomes
1. Students can communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language.
2. Students can handle most short social interactions in everyday situations by asking and answering simple questions.
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and sometimes understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.
8. Students can make connections between beliefs, behaviors and cultural artifactsof the Portuguese-speaking world, and make informed cross-cultural comparisons.

PORT 1120. Portuguese II
3 Credits (3)
A continuation of Portuguese I, students will develop a broader foundation in skills gained during the first semester, including understanding, speaking, reading and writing Portuguese. Students will also gain more in- depth knowledge of Portuguese-speaking cultures.
Prerequisite: C or better in PORT 1110 or consent of instructor.
Learning Outcomes
1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write about familiar topics and present information using a series of simple sentences.
4. Students can understand the main idea in short, simple messages and presentations on familiar topics.
5. Students can understand the main idea of simple conversations that they overhear.
6. Students can understand the main idea of short and simple texts when the topic is familiar.
7. Students can begin to narrate and describe simple events in the past.
8. Students can make broader connections between beliefs, behaviors and cultural artifacts of the Portuguese-speaking world, and make informed cross-cultural comparisons.

PSYC-PSYCHOLOGY

PSYC 1110G. Introduction to Psychology
3 Credits (3)
This course will introduce students to the concepts, theories, significant findings, methodologies, and terminology that apply to the field of psychology.
Learning Outcomes
1. Explain how the scientific method and psychological research methodologies are used to study the mind and behavior.
2. Recall key terms, concepts, and theories in the areas of neuroscience, learning, memory, cognition, intelligence, motivation and emotion, development, personality, health, disorders and therapies, and social psychology.
3. Explain how information provided in this course can be applied to life in the real world.
4. Identify the major theoretical schools of thought that exist in psychology as they relate to the self, the culture, and the society.

PSYC 1115. Introduction to the Psychology Major
1 Credit (1)
This course is designed to give Psychology majors the knowledge and tools they need to get the most out of the major and assist them in making informed decisions about career choices in Psychology. There are two main goals for this course. The first is to provide students with helpful tools and resources to enhance their experience as a Psychology major. The second goal is to delineate the knowledge and skills that students are expected to acquire with a Psychology degree and to convey how these can be applied in their future academic, professional,

and personal endeavors beyond graduation. During the semester, students will discuss the subdisciplines of Psychology and explore career options with varying levels of education. Students will learn about course requirements for the Psychology major and experiential learning opportunities available outside the classroom. This 1-credit course is required for Psychology majors. It is recommended that students take this course as soon as they declare Psychology as their major. This course may be taken in conjunction with Introduction to Psychology.
Prerequisite/Corequisite: PSYC 1110G.

Learning Outcomes

1. Demonstrate knowledge and understanding of the subdisciplines of Psychology.
2. Demonstrate knowledge and understanding of the requirements of the Psychology major and experiential opportunities available to Psychology majors.
3. Identify career opportunities available to individuals with varying levels of education in Psychology and related fields (e.g., BA, MA, PhD, etc.).
4. Adopt strategies to prepare for future success in a job search or graduate school application.
5. Exhibit information literacy skills (e.g., literature searches, use of APA format) that will facilitate success in future Psychology courses.
6. Identify personal attributes as a student, areas of Psychology that are aligned with personal strengths, and strategies to make the most of personal strengths as a student.

PSYC 2110. Social Psychology
3 Credits (3)
This course is an introduction to the scientific study of human social influence and interaction, and explores how an individual's actions, emotions, attitudes and thought processes are influenced by society and other individuals. May be repeated up to 3 credits.
Prerequisite: PSYC 1110G, MATH 1215, and ENGL 1110G.

Learning Outcomes

1. Identify concepts, theories, scientific methods, and research findings relevant to social psychology.
2. Explain how situational, social, and individual factors influence behavior.
3. Apply social psychological concepts to real-life events, current social issues and problems, and one's own life.

PSYC 2120. Developmental Psychology
3 Credits (3)
Study of human physical and psychological change and stability from a lifespan development perspective. May be repeated up to 3 credits.
Prerequisite: PSYC 1110G, MATH 1215, and ENGL 1110G.

Learning Outcomes

1. Explain theories, methods and research findings of lifespan developmental psychology.
2. Describe the interaction between physical, cognitive, and psychosocial development across the lifespan.
3. Compare and contrast major developmental theories and discuss what each brings to or adds to the study of lifespan developmental psychology.
4. Identify factors that influence psychological development across the lifespan.
5. Apply basic principles of developmental psychology to one's own life experiences.
6. Analyze historical and cultural factors that influence development across the lifespan.

PSYC 2210. Abnormal Psychology
3 Credits (3)
This course provides students with an introduction to the field of abnormal psychology. Subject areas include history, methods, theories, etiologies, classification and treatment of disorders. May be repeated up to 3 credits.
Prerequisite: PSYC 1110G, MATH 1215 and ENGL 1110G.

Learning Outcomes

1. Recognize terms used within the field of abnormal psychology.
2. Compare various methods for defining abnormal behavior.
3. Evaluate the development of classification systems that define "normal" and "abnormal" from historical, social, and cultural contexts.
4. Critically evaluate the symptoms and etiologies of mental health disorders in the current psychological diagnostic system.
5. Describe treatment modalities for mental health disorders.
6. Identify biological and psychological processes in mental health disorders.

PSYC 2220. Cognitive Psychology
3 Credits (3)
The course provides an overview of human cognitive processes such as attention, perception, memory, language, categorization, decision-making, reasoning, and problem solving. Includes methods, theories, and applications. May be repeated up to 3 credits.
Prerequisite: PSYC 1110G, MATH 1215, and ENGL 1110G.

Learning Outcomes

1. Describe research findings in the major areas of human cognition.
2. Differentiate the research methods used to study the various topics in cognitive psychology.
3. Apply theories of cognition to the results of laboratory research.
4. Apply the research on cognitive psychology to topics in the real world.

PSYC 2221. Applied Psychology
3 Credits (3)
Explanation of the psychological principles of everyday living. Emphasizes motivation, learning of intelligent behavior, and applications of psychology to social issues. Community Colleges only.

Learning Outcomes

1. The objective of this course is to orient students to the personality characteristics, interpersonal competencies, ethical decision-making skills, and other professional traits associated with pursuing a career in a helping profession.
2. Identify the requirements for becoming a helping professional, characteristics of a skilled helper, and cultural factors that impact helping professionals
3. Explain your personal strengths and weaknesses as a potential helper.
4. Demonstrate appropriate helping strategies based upon the special characteristics of clients.
5. Compare the capabilities that individual, family, group, community, and online interventions offer you as a future helper.
6. Identify the ethical and legal issues that impact helping professionals
7. Analyze the potential impact of your future ethical and professional standards as a helping professional

8. Explain how your role as a helping professional is impacted by your professional affiliation and ethical principles
9. Analyze how worsening personal problems and increasing stress can impact the kinds and quality of our responses to life and the people around us.

PSYC 2230. Psychology of Adjustment
3 Credits (3)
This course focuses on the individual's adjustment to society, and the application of psychological principles to the understanding of adjustment.
Learning Outcomes
1. Explain the internal and external factors associated with the psychology of adjustment.
2. Evaluate contributions from psychology to adjustment concepts and processes.
3. Describe the different explanations of how individuals adjust to their environments.
4. Describe how self-identities develop and how they affect relations with others.
5. Identify resources available for assistance with adjustment-related concerns.

PSYC 2250. Brain and Behavior
3 Credits (3)
A general survey of the biological foundations of behavior and mental processes. Students will gain an understanding of anatomy, physiology, and chemistry of the nervous system and their relationships to human behavior. May be repeated up to 3 credits.
Prerequisite: PSYC 1110G, MATH 1215 and ENGL 1110G.
Learning Outcomes
1. Identify and describe basic neuroanatomical structures and functions.
2. Identify and describe chemical processes of the nervous system.
3. Apply course concepts to psychological processes, such as learning, memory, sensation, perception, drive states, sleep, and language.
4. Apply course concepts to psychological disorders, such as schizophrenia and mood and anxiety disorders.
5. Describe the techniques used to study the relationship between brain and behavior.

PSYC 2311. A Study of Substance Abuse through Learning
3 Credits (3)
Physiological and psychological impact of drug use on human behavior. Emphasizes practical applications of intervention and prevention in the community. Community Colleges only.
Learning Outcomes
1. Through readings and discussions, students will be able to describe the role that gender, ethnicity, and age have in alcohol and drug use.
2. Through readings and discussions, students will be able to learn past and current perspectives of addiction.
3. Through readings, discussions and student presentations, students will be able to distinguish between different types of abuse-able drugs and be able to classify them.
4. Through readings, discussions, lectures and guest speaker's students will be able to describe the role of addiction and criminal behavior.
5. Through readings and discussions, students will be able to discuss the Models and Theories of Drug Dependence and Addiction.
6. Through readings, discussions and evaluation of case studies students will be able to discuss the definitions of Substance Abuse, Dependence Addiction.
7. Through readings and discussions, students will be able to acquaint themselves with the effects of Addictive Behavior on Family Systems.
8. Through readings discussions, students will be able to Discuss Disorders Co-Occurring with Substance Abuse
9. Through readings and community service learning outing, students will be able to discuss how important the concepts of Prevention, Intervention and Treatment in drug addiction.1
10. Through readings and community service learning outing students will be able to discuss Alcohol/Drug Recovery Treatment Relapse Prevention 1
11. Through completion of Service Learning and field assignment students will be able to discuss the role of AA/NA in Recovery Treatment. 1
12. Through attendance of a Drug Court Hearing students will be knowledgeable of the role of Drug Courts in prevention and treatment of drug addiction.

RADT-RADIOLOGIC TECHNOLOGY (RADT)

RADT 1115. Fundamentals of Radiographic Imaging
2 Credits (2)
This course provides students with an in-depth knowledge of radiographic exposure techniques and the factors affecting radiographic image quality. It covers digital imaging with related accessories and emphasizes radiographic critique for diagnostic quality control. Additionally, the course reinforces radiologic fundamentals, introducing instrumentation and technology used in digital imaging. Topics include capturing, processing, displaying, and managing digital images, as well as exposure techniques and exposure indicators. Laboratory activities provided to reinforce radiographic concepts.
Learning Outcomes
1. Explain the principles of radiation production, image formation, and digital imaging systems.
2. Demonstrate proper techniques for exposure selection, scatter control, and radiation protection.
3. Compare radiographic digital imaging systems, assessing their advantages and limitations.
4. Evaluate radiographic images for technical accuracy and apply necessary adjustments.
5. Apply quality control measures and automatic exposure control to ensure optimal imaging outcomes.

RADT 1130L. Introduction to Radiographic Imaging Applied Clinic Skills
1 Credit (3P)
Applied clinical skills Laboratory to provide the student with an in-depth knowledge of radiographic exposure technique and the factors affecting radiographic image quality.
Corequisite: RADT 1115.
Learning Outcomes
1. Demonstrate techniques for radiographic scatter control and grid utilization.
2. Apply exposure selection principles.
3. Analyze and utilize automatic exposure control in imaging.
4. Assess radiographic images for technical accuracy and make necessary adjustments.

5. Apply radiation protection methods for patients and personnel.
6. Utilize radiographic equipment and apply quality control measures.

RADT 1140. Radiographic Positioning I
2 Credits (2)
This course covers the fundamental principles and techniques of diagnostic radiography, including radiographic procedures, patient positioning, terminology, and the mechanics of image production. Students will learn and apply these concepts to the upper and lower extremities, chest, abdomen, and pelvis/hip. The course emphasizes radiographic anatomy, particularly osteology and arthrology, as it relates to routine radiographic procedures.
Learning Outcomes
1. Master radiographic terminology related to positioning, projection, anatomy, medical abbreviations, positioning aids, accessory equipment, and lead markers, explaining their function and application.
2. Evaluate patient care considerations.
3. Explain the basic principles of radiation protection.
4. Describe the basic principles of image acquisition, display, and standards, including common errors, appearance characteristics, procedural factors, and corrective actions.
5. Evaluate orders, requests, and diagnostic reports.

RADT 1140L. Radiographic Positioning I Laboratory
1 Credit (3P)
Applied clinical skills Laboratory in radiographic procedures and positioning concepts, techniques, terminology, and mechanics related to upper and lower extremities, chest, abdomen and pelvis/hip.
Corequisite: RADT 1140.
Learning Outcomes
1. Apply knowledge of radiographic procedures, including routine and special views, to clinical simulations for the chest, abdomen, and upper and lower extremities.
2. Demonstrating understanding of positioning considerations.
3. Analyze radiographic images.
4. Apply the basic principles of radiation protection.
5. Apply basic principles of image acquisition, display, and standards, considering common errors, appearance characteristics, procedural factors, and corrective actions.

RADT 1150. Radiographic Positioning II
2 Credits (2)
Continuation of Radiographic Positioning I including a study of the osteology and arthrology of the thorax, vertebral column, skull, facial bones, and sinuses. Discussion and demonstration of the related standard and special radiographic projections resents the fundamentals of radiographic anatomy, positioning, and terminology used in routine fluoroscopic procedures of the gastrointestinal and genitourinary tract with discussion and demonstration of the related radiographic projections.
Prerequisite: RADT 1140.
Learning Outcomes
1. Identify preparation and positioning aides for Radiological Procedures.
2. Identify evaluation criteria to determine acceptable radiographs.
3. Identify anatomy and physiology for Radiological Procedures.
4. Show use of patient care and radiation protection practices in Radiological Procedures.

RADT 1150L. Radiographic Positioning II Laboratory
1 Credit (3P)
Continuation of Radiographic Positioning I. Applied Clinical Skills Laboratory: Includes vertebral column, skull, facial bones, sinuses, gastrointestinal, urinary, and fluroscopic procedures.
Corequisite: RADT 1150.
Learning Outcomes
1. Model knowledge of radiographic procedures, including routine floroscopic procedures.
2. Evaluate positioning considerations.
3. Demonstrate Radiological Procedures and apply proper patient position and CR placement to obtain proper evaluation criteria.

RADT 1154. Radiographic Anatomy and Physiology
3 Credits (3)
Basic A&P for radiographic application. Includes a systems approach to body structures and organs as they relate to anatomical projections, radiographic identification, and various imaging modalities.
Prerequisite: C- or above in the following courses AHS 153 or AHS 140 or BIOL 2210 or BIOL 1130, or consent of instructor.
Learning Outcomes
1. Identify and Laboratoryel the anatomy associated with diagnostic X-ray images.
2. Critique x-ray images for the presence or absence of anatomy in deciding whether the x-ray is appropriately positioned and diagnostic for radiologist assessment.
3. Locate anatomical systems based on background knowledge of typical anatomical locations and identify normal course of system function for appropriate positioning, patient instructions, and x-ray imaging.
4. Apply knowledge in a testing environment mimicking what is expected for the ARRT Registry.

RADT 1175. Introduction to Radiologic Technology and Patient Care
3 Credits (3)
This course provides a foundational overview of the radiology profession, encompassing basic patient care skills, professional standards, and ethical/legal principles. Students will learn essential skills such as patient transportation, vital sign assessment, and effective communication, while also being introduced to specific radiographic patient care techniques including history taking, immobilization, managing medical emergencies, and the administration of contrast media and radiopharmaceuticals. Additionally, the course will cover core concepts of radiation protection, and basic and specialized procedures, all within the framework of professional ethics and terminology.
Learning Outcomes
1. Demonstrate a working knowledge of medical terminology, procedures, and the roles of various healthcare professionals, including those specializing in medical imaging and radiologic sciences.
2. Critically analyze medical reports, orders, and requests, applying evidence-based practices to inform patient care decisions.
3. Evaluate patient health status using vital signs, Laboratory tests, pain assessments, and patient records, and respond appropriately to medical emergencies and traumatic injuries.
4. Implement infection control protocols, utilizing appropriate procedures, equipment, and knowledge of infectious pathogens.
5. Explain drug classifications, administration routes, safety practices, and the use of contrast agents in radiography.

6. Apply ethical principles and legal considerations to healthcare scenarios, including informed consent and navigating ethically complex situations.
7. Exhibit professional behavior in healthcare settings, demonstrating effective communication, cultural sensitivity, and an understanding of the psychological aspects of patient care.

RADT 1190. CT Equipment and Methodology
3 Credits (3)
Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, and quality assurance and radiation protection.
Learning Outcomes
1. Demonstrate acquisition of comprehensive technical knowledge by obtaining a seventy-five percent or greater on all quizzes and exam assessments (this is in alignment with the scoring expectations for the national registry exam).
2. Manipulate and choose the appropriate scan parameters and technical factors on CT equipment while applying the technical science supporting the decision.
3. Demonstrate appropriate use of post-processing options and provide diagnostic quality images.
4. Abide by radiation safety and dosimetry standards for patient care by demonstrating ALARA standards.
5. Select CT scan manipulations for optimal demonstration of anatomic region, according to protocol (delayed imaging, multiplanar reconstructions, filters) and with safe use of iodinated contrast mediums.
6. Recognize and reduce factors that may inhibit diagnostic image quality.

RADT 1191. Computed Tomography (CT) Imaging and Equipment
4 Credits (4)
This course serves as an introduction to computed tomography (CT) for current radiologic technology students. Course will include information on clinical equipment and application of x-rays in CT, CT image formation, evaluation, and archiving, patient radiation safety and dose, and patient interactions and management for imaging.
Learning Outcomes
1. Demonstrate acquisition of comprehensive technical knowledge by obtaining a seventy-five percent or greater on all quizzes and exam assessments (this is in alignment with the scoring expectations for the national registry exam).
2. Identify critical components of CT system equipment and what their purposes are in creating a CT image.
3. Identify CT parameters which allow for safely administering radiation dose; particularly to pediatric patients.
4. List and define the steps required to acquire a CT image, including the theory behind x-ray interaction/absorption/ attenuation, detector capabilities, appropriate reconstruction options, and computer equipment.
5. Identify image display functions and radiology informatic options.
6. Identify the major technical components of image display in CT and common artifacts, including how to reduce artifacts.

RADT 1520. Radiation Biology and Protection
2 Credits (2)
This course explores the biological effects of ionizing radiation on human cells and tissues, including genetic, somatic, short-term, and long-term effects. It covers radiation measurements, policies, and protection measures for technologists, patients, and others, emphasizing minimizing exposure and basic protection methods. The course also reviews current regulations and recommendations by the NRCP and ICRP.
Prerequisite: C- or above in RADT 1115.
Learning Outcomes
1. Radiobiology: Explain fundamental principles, molecular/cellular aspects, early/late radiation effects, and related regulations/ terminology.
2. Radiation Protection: Describe health physics, protection design, and patient/personnel dose management, including methods to limit radiation exposure.
3. Human Biology Ionization: Discuss relevant aspects of human biology and the consequences of ionization in human cells.
4. Cellular Response to Radiation: Examine factors affecting cell radiosensitivity, direct/indirect effects of radiation, dose-response relationships, and the significance of LD50/30 and LD50/60 radiation.

RADT 1811. Radiographic Positioning I Clinical Experience
1 Credit (4P)
Introduction to the clinical environment. Students will complete administrative duties, perform basic diagnostic radiography exams and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.
Corequisite: RADT 1140.
Learning Outcomes
1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.

RADT 1812. Radiographic Positioning II Clinical Experience
1 Credit (4P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/ indirect supervision of a qualified registered radiologic technologist as required and assigned.
Corequisite: RADT 1150.
Learning Outcomes
1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Model effective communication skills.

RADT 1997. Radiologic Technology Independent Study
1-6 Credits (1-6)
Varies. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

RADT 2250. Radiographic Image Critique
2 Credits (2)
This course reviews radiographs, evaluating anatomy and technical quality, including positioning and technique. Students learn to make adjustments and reinforce concepts through classroom activities.
Prerequisite: RADT 2811.
Learning Outcomes
1. Optimal Projections Labeling: State key components of optimal projections, properly display body structures, and accurately Laboratoryel projections using markers and annotations.

2. Comprehensive Imaging Knowledge: For all major body regions (chest, abdomen, extremities, pelvis, shoulder girdle, bony thorax, spine, skull): identify anatomy, state technical data, identify positioning errors, describe considerations for special conditions (air-fluid levels, motion, pathology), and discuss adaptive techniques.
3. Digital Imaging: Demonstrate familiarity with digital image acquisition, errors, and display.
4. Image Analysis: Perform image analysis, including appearance standards, characteristics, procedural factors, and corrective actions.

RADT 2404. Radiographic Special Modalities
3 Credits (3)
Introduction and discussion of various special procedures and modalities including but not limited to: interventional radiography, computed tomography, magnetic resonance imaging, nuclear medicine, radiation therapy, ultrasound.
Prerequisite: RADT 1115.
Learning Outcomes
1. Attain basic knowledge of the various imaging modalities and differentiate between images produced by those modalities.
2. Explain general equipment requirements.
3. Identify various contrast agents used by different modalities and define potential contraindications.
4. Explain the use of artificial intelligence for the various modalities.

RADT 2408. Radiographic Pathology
3 Credits (3)
This course explores the pathology of major body systems and corresponding radiographic imaging techniques. Students learn about disease processes (etiology, signs/symptoms, diagnosis, and treatment) and identify pathological signs on various images, emphasizing radiography. Fundamental anatomy and physiology are integrated, focusing on anatomical projections, radiographic identification, and imaging modalities (including CT and MRI).
Prerequisite: RADT 1154.
Learning Outcomes
1. Describe and identify anatomical structures on diagrams and radiographs.
2. Classify and explain pathological conditions affecting major body systems.
3. Identify pathologies, assess radiographic appearance, and evaluate imaging accuracy.
4. Define key terms, use medical abbreviations, and understand diagnostic reports.
5. Position patients correctly, assess images, and apply technical adjustments.
6. Identify radiation types, effects, and imaging modalities for diagnosis and treatment.
7. Critique images, locate pathology, and demonstrate readiness for certification exams.

RADT 2410. Radiographic Physics and Equipment
3 Credits (3)
This course offers a comprehensive exploration of the physical principles of diagnostic radiography, covering radiologic physics, imaging theory, and quality assurance. Students will examine atomic structure, electromagnetism, X-ray production and interaction, exposure factors, scatter control, and image characteristics. The curriculum also includes digital fluoroscopy, X-ray circuitry, and an introduction to advanced imaging modalities such as mammography, CT, and MRI.
Prerequisite/Corequisite: C- or above in RADT 1115.
Learning Outcomes
1. Explain the structure of atoms and types of radiation.
2. Describe X-ray production and factors affecting image quality.
3. Explain photon interactions with matter.
4. Identify key components of the X-ray circuit and X-ray tube.
5. Apply physics and math principles to radiographic procedures and equipment.
6. Analyze radiographic images for accuracy and quality.

RADT 2811. Clinical Experience I
4 Credits (4P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.
Prerequisite: RADT 2410.
Learning Outcomes
1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.

RADT 2812. Clinical Experience II
6 Credits (6P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiograph exams, and provide patient care under direct/indirect supervision of a qualified registered radiologic technologist as assigned. Evening/weekend, CT, and OR rotations will be offered where available.
Prerequisite: RADT 2811.
Learning Outcomes
1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.
5. Demonstrate the ability to use independent judgement.
6. Analyze radiographic images for technical and positioning accuracy to make modifications as needed.
7. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 2813. Clinical Experience III
3 Credits (3P)
Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Evening/weekend, CT and OR rotations will be offered where available.
Prerequisite: C- or above in RADT 2812.
Learning Outcomes
1. Students will demonstrate the ability to safely produce diagnostic radiographic images.

2. Be able to position patients and identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.
5. Demonstrate the ability to use independent judgement.
6. Analyze radiographic images for technical and positioning accuracy to make modifications as needed.
7. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.
8. Identify opportunities for professional growth within medical imaging sciences.

RADT 2814. Special Modalities Clinical Experience IV
3 Credits (3P)
Clinical Experience: Special rotations in advanced imaging modalities to include but are not limited to nuclear medicine, sonography, mammography, MRI, CT, interventional radiology, and cardiac catheterization Laboratory.
Corequisite: C- or above in RADT 2404.
Learning Outcomes
1. Identify, compare, and evaluate various specialized modalities in medical imaging, including but not limited to Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound, Nuclear Medicine, and Interventional Radiology.
2. Demonstrate principles, applications, and patient care considerations associated with each modality, as well as the role of advanced imaging in diagnosis and treatment within the healthcare setting.
3. Demonstrate effective communication skills.
4. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.
5. Identify various opportunities for professional growth within medical imaging sciences.
6. Develop and refine professional job-seeking skills, including crafting an effective resume and cover letter, preparing for interviews, and demonstrating workplace professionalism.

RADT 2817. Cross Sectional Anatomy for Medical Imaging
3 Credits (3)
Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging.
Learning Outcomes
1. Identify and Laboratoryel the anatomy associated with the topical outline in diagnostic CT images.
2. Critique CT images for the presence or absence of anatomy and pathology in deciding whether the image is appropriately positioned and diagnostic for radiologist assessment.
3. Locate anatomical systems and possible pathology based on background knowledge of typical anatomical locations and identify normal course of system function for appropriate positioning, patient instructions, and CT imaging.

RADT 2818. Clinical Experience I (Computed Tomography)
2 Credits (2P)
A basic, introductory health-related, work-based learning experience that enables students to apply specialized occupational theory, skills, and concepts. The clinic professional provides direct supervision.
Learning Outcomes
1. Complete at least 55 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication at a beginner level.
3. Identify necessary Laboratory values for contrast-enhanced CT exams at a beginner level.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast.

RADT 2819. Clinical Experience II (Computed Tomography)
2 Credits (2P)
An intermediate health-related work-based learning experience that enables students to apply specialized occupational theory, skills, and concepts. The clinic professional provides direct supervision.
Learning Outcomes
1. Complete at least 100 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication.
3. Identify necessary Laboratory values for contrast-enhanced CT exams.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast safety.

RADT 2820. Clinical Experience III (Computed Tomography)
2 Credits (2P)
Advanced health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinic professional. Upon completion, students will be able to assume most of the duties of an experienced imaging professional in Computed Tomography.
Prerequisite: RADT 2819.
Learning Outcomes
1. Complete at least 125 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication.
3. Identify necessary Laboratory values for contrast-enhanced CT exams.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast safety.

RADT 2999. Radiologic Technology Capstone
3 Credits (3)
Varies.
Prerequisite: RADT 2812.
Learning Outcomes
1. Varies.

RESP - RESPIRATORY THERAPY (RESP)

RESP 1140. Respiratory Therapy Pharmacology
3 Credits (3)
Principles of pharmacology, drug dose calculations, and drug receptor theory as it relates to patients with cardiopulmonary disease. Includes specific emphasis on drugs used by respiratory care practitioners as well as discussion of other drugs used in the treatment of patients under their care.
Learning Outcomes
1. Have an introductory level of knowledge of the basic general principles of pharmacology that relate to all medications, drug actions, routes of administration etc.
2. Accurately calculate typical drug-dose calculations.
3. Demonstrate an in-depth knowledge of the mode of action, desired clinical effect and common and serious adverse effects of the medications commonly used in respiratory care.
4. Relate pharmacologic therapy to common pulmonary pathologies.
5. Effectively evaluate and educate patients regarding self-management of asthma and smoking cessation techniques.
6. Understand the underlying neurophysiology involved with each class of drugs studied in this course.

RESP 1150. Respiratory Therapy I
3 Credits (3)
Introduces respiratory therapy as a health sciences profession. Topics include cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy.
Learning Outcomes
1. Accurately perform a complete cardiopulmonary assessment of any non-critically ill patient.
2. Apply knowledge of the basic anatomy and physiology of the cardiopulmonary system, especially as it relates to the transportation of oxygen in the human body.
3. Correctly set up equipment and assess effectiveness of bland aerosol equipment.
4. Relate how microbiology impacts respiratory therapy to include using the correct technique for the isolation of patients and utilizing standard precautions in the clinical setting.
5. Evaluate the procedures for cleaning and sterilization of respiratory therapy equipment.
6. Apply basic respiratory treatment to include chest physiotherapy, airway maintenance, and basic medication administration.

RESP 1150L. Respiratory Therapy I Laboratory
2 Credits (2)
Students practice cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy using state of the art equipment in the learning Laboratory under simulated patient situations.
Learning Outcomes
1. Accurately perform a complete cardiopulmonary assessment of any non-critically ill patient.
2. Apply knowledge of the basic anatomy and physiology of the cardiopulmonary system, especially as it relates to the transportation of oxygen in the human body.
3. Correctly set up equipment and assess effectiveness of bland aerosol equipment.
4. Relate how microbiology impacts respiratory therapy to include using the correct technique for the isolation of patients and utilizing standard precautions in the clinical setting.
5. Evaluate the procedures for cleaning and sterilization of respiratory therapy equipment.
6. Apply basic respiratory treatment to include chest physiotherapy, airway maintenance, and basic medication administration.

RESP 1250. Respiratory Therapy II
4 Credits (4)
Advanced respiratory care techniques. Emphasis on airway management, aerosol treatment, chest physiotherapy, pharmacology, posture pressure breathing, and pulmonary rehabilitation.
Prerequisite: C or Better in RESP 1150 & RESP 1150 L.
Corequisite: RESP 1250 L.
Learning Outcomes
1. Demonstrate a comprehensive understanding of the anatomy and physiology of the arterial system.
2. Apply and explain the basic principles of pharmacology therapy as it relates to the cardiopulmonary system.
3. Analyze and differentiate the basic pulmonary physiology associated with restrictive and obstructive disease processes, analyze test results to identify abnormal findings.
4. Interpret and apply advanced airway management techniques including endotracheal intubation, tracheostomy, laryngeal mask airway, and supraglottic airway.
5. Describe and interpret radiographic images to assess respiratory and cardiopulmonary conditions.
6. Identify the anatomy, physiology and the electrical conduction of the heart.
7. Differentiate between invasive and non-invasive mechanical ventilation techniques, explaining their indications and contraindications.
8. Demonstrate knowledge of emergency life support related to respiratory therapy.

RESP 1250L. Respiratory Therapy II Laboratory
2 Credits (6P)
Students practice airway management, pulmonary function testing, arterial puncture and blood gas analysis and administering home care therapy procedures using state of the art equipment in the learning Laboratory under simulated patient situations. May be repeated up to 2 credits.
Prerequisite: C or Better in the following Courses: RESP 1150, RESP 1150L and RESP 1140.
Learning Outcomes
1. Demonstrate the correct setup, operation, and maintenance of various respiratory therapy equipment; to include oxygen delivery systems, medication delivery devices CPAP/BiPAP machines and ventilators.
2. Complete respiratory assessments including vital signs: arterial blood gas ECG, pulmonary function test and ECG interpretations.
3. Properly assess and ensure airway patency.

4. Respond and react to airway emergencies and initiate proper treatment as indicated.

RESP 1330. Respiratory Therapy II Clinical
3 Credits (9P)
Supervised practice and application in a hospital setting. May be repeated up to 3 credits.
Prerequisite: C or Better in the following courses: RESP 1150 & RESP 1150 L.
Learning Outcomes
1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 2110. Respiratory Therapy Cardiopulmonary
2 Credits (2)
This course delves into the study of commonly encountered respiratory disorders in adult patients. It encompasses an in-depth examination of the etiology, pathology, pathogenesis, clinical manifestations, and treatment of a variety of common adult pulmonary diseases.
Prerequisite: C or better in the following courses: RESP 2230 RESP 2230L.
Learning Outcomes
1. Identify and describe common adult respiratory disorders, explaining their etiology, pathology, and clinical manifestations, they will be able to formulate appropriate treatment plans for patients with pulmonary diseases, evaluating diagnostic data and applying evidence-based practices.
2. Recognize preventative strategies for respiratory diseases and demonstrate an understanding of COPD, asthma, and pulmonary infections.
3. Apply patient safety and infection control principles while demonstrating effective communication and interprofessional collaboration.

RESP 2120. Respiratory Therapy III
2 Credits (2)
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.
Prerequisite: C or better in the following courses: RESP 1250, RESP 1250L, and RESP 1330.
Corequisite: RESP 2120L.
Learning Outcomes
1. Classify foundational concepts and core knowledge of mechanical ventilation.
2. Monitor mechanical ventilation and assessment of patients receiving mechanical ventilation and in the intensive care units.
3. Evaluate when and how to discontinue a patient from ventilation and long-term ventilation.
4. Successfully initiate ventilation.

RESP 2120L. Respiratory Therapy III Laboratory
2 Credits (2)
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.
Prerequisite: C or better in the following courses: RESP 1250, RESP 1250L, and RESP 1330.
Learning Outcomes
1. Apply didactic skills to hands-on, scenario based learning.
2. Compare and contrast the components and settings of mechanical ventilation, IPPB, BiPAP, airway care parameters, components, and settings.
3. Analyze blood gases and advanced pharmacology.
4. Practice airway care and extubation techniques.
5. Explain ACLS protocols and their relevance in emergency situations and interpret hemodynamic monitoring data to assess patient status and guide treatment decisions.

RESP 2150. Neonatal and Pediatric Respiratory Theory
3 Credits (3)
Presents cardiopulmonary assessment and diagnosis in advanced neonatal and pediatric critical care including correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiopulmonary function. Presents concepts of rehabilitative practice for patients with chronic cardiopulmonary diseases. Introduces strategies for successful completion of national board exams. Presents mechanical ventilation procedures related to critical care medicine for children and infants using state of the art equipment and computer simulation in the learning Laboratory.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L, RESP 2110 and RESP 2330.
Corequisite: RESP 2150L.
Learning Outcomes
1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Identify and perform a complete cardiopulmonary assessment of a critically ill neonatal patient.
3. Summarize review-content and complete mock CRT and RRT examinations.
4. Compare and contrast the components of pediatric and neonatal ventilators.
5. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2150L. Neonatal and Pediatric Respiratory Laboratory
2 Credits (6P)
Presents mechanical ventilation procedures related to critical care medicine for neonatal and pediatric, children and infants using state of the art equipment and computer simulation in the learning Laboratory. Students will focus on cardiopulmonary assessment and diagnosis with correlation of cardiopulmonary anatomy, physiology and pathophysiology and evaluation of cardiopulmonary function.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L, RESP 2110 and RESP 2330.
Corequisite: RESP 2150.

Learning Outcomes

1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Identify and perform a complete cardiopulmonary assessment of a critically ill neonatal patient.
3. Summarize review-content and complete mock CRT and RRT examinations.
4. Compare and contrast the components of pediatric and neonatal ventilators.
5. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2230. Respiratory Therapy V
3 Credits (3)
Emphasis on special modalities.
Prerequisite: C or Better in RESP 2120, 2120L & 2330.
Learning Outcomes

1. Demonstrate and perform cardiopulmonary diagnostic procedures.
2. Determine appropriate interventions in a critical medical situation.
3. Demonstrate how to setup and maintain a mechanical ventilator.
4. Formulate appropriate cardiopulmonary treatment plans.

RESP 2230L. Respiratory Therapy V Laboratory
2 Credits (2)
Advanced practice and procedures of respiratory care. Requires a C or better to remain in program.
Prerequisite: C or better in the Following: RESP 2120L & RESP 2120, RESP 2330.
Learning Outcomes

1. Demonstrate and perform cardiopulmonary diagnostic procedures.
2. Formulate appropriate cardiopulmonary treatment plans.
3. Determine appropriate interventions in a critical medical situation.
4. Demonstrate how to setup and maintain a mechanical ventilator.

RESP 2242. Pediatric Advanced Life Support (PALS)
1 Credit (1)
Etiology, diagnosis, clinical manifestations, and management of cardiopulmonary disorders related to respiratory care.
Prerequisite: C or Better in RESP 2230 & RESP 2230L.
Corequisite: RESP 2230.
Learning Outcomes

1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Summarize review-content and complete mock CRT and RRT examinations.
3. Compare and contrast the components of pediatric and neonatal ventilators.
4. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2243. Respiratory Therapy Neonatal Resuscitation
1 Credit (1)
Advanced practice of the neonatal resuscitation and certification. Students must be admitted into program to enroll in this course.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L.
Learning Outcomes

1. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
2. Recognize emergency situations and respond appropriately.
3. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
4. Demonstrate and perform cardiopulmonary diagnostic procedures.

RESP 2330. Respiratory Therapy IV Clinical
3 Credits (9P)
Emphasis on mechanical ventilators.
Prerequisite: C or better in the following courses: RESP 1250, RESP 1250L, and RESP 1330.
Learning Outcomes

1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 2332. Respiratory Therapy V Clinical
3 Credits (3)
Emphasis on special modalities.
Prerequisite: C or better in the following courses: RESP 2120 and RESP 2120L.
Learning Outcomes

1. Demonstrate and perform cardiopulmonary diagnostics procedures during mechanical ventilation.
2. Demonstrate appropriate patient/physician interactions needed in the clinical setting.
3. Demonstrate how to set up, maintain, and wean a patient from a mechanical ventilator.
4. Compose a patient assessment on a patient receiving mechanical ventilation.
5. Formulate appropriate cardiopulmonary treatment plans for mechanical ventilation.
6. Determine appropriate interventions in a critical medical situation.
7. Document ventilator parameters, alarm settings, and patent assessment.

RESP 2334. Respiratory Therapy VI Clinical
3 Credits (9P)
Advanced Clinical experience on special modalities.
Prerequisite: C or better in the following courses: RESP 2230, RESP 2230L, RESP 2110 and RESP 2330.
Learning Outcomes

1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.

7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RGSC-RANGE SCIENCE (RGSC)

RGSC 1110. The Range Science Profession
1 Credit (1)
Introduction to scientific disciplines and career opportunities in rangeland science and management.
Learning Outcomes
1. To introduce students to the Range Science program and to a variety of career opportunities in Range Science.
2. To develop an individualized course curriculum that prepares the student to achieve their career goals.
3. To examine opportunities to gain practical work experience through internships and cooperative employment.

RGSC 2110. Introduction to Rangeland Management
3 Credits (3)
This course covers the principles of managing and understanding pasture and rangelands. Plant physiology and ecology, plant communities and rangeland sustainability and how they relate to livestock production and wildlife management will be discussed. Restricted to: Main campus only.
Learning Outcomes
1. Understand rangeland management operations.
2. Identify rangeland plants.
3. Gain a perspective of watershed management.
4. Discuss the management of rangeland resources.
5. Understand the process of rangeland evaluation through a broad understanding of monitoring and production of these rangelands.
6. Gain a perspective of the correlation of rangelands and the economic principles guiding resource management.
7. Understand the process of rangeland condition.
8. Understand the concepts of stocking rates and usage of rangelands.
9. Gain a broad perspective of different classes of land ownership; Tribal, federal, private and state. 1
10. Recognize vegetative communities, ecological sites, plant physiology andapplication to rangeland management considerations.

RGSC 2996. Special Topics
1-4 Credits
Specific subjects and credits announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.
Learning Outcomes
1. Varies

SIGN-SIGN LANGUAGE

SIGN 1110. American Sign Language I
3 Credits (3)
American Sign Language I is an introductory level language course in the language of the American Deaf Culture. Content includes ASL vocabulary and conversational skills; linguistic features of ASL; and skills in narrative/storytelling. In-class activities, comprehension and expressive examinations, narrative and storytelling assignments in addition to semester projects are venues for students to demonstrate their learning. In addition, Deaf Culture and Deaf Community issues are addressed. May be repeated up to 3 credits.
Learning Outcomes
1. Engage in basic conversations using ASL, such as introducing oneself, exchanging personnel information, and talking about one's surroundings.
2. Demonstrate the use of grammatical structures, including spatial referencing, use of classifiers, role shifting, ASL syntax, and non-manual signals (NMS).
3. Demonstrate clear sign production using an understanding of sign parameters: handshapes, movement, location, palm orientation, and NMS in targeted lexicon.
4. Demonstrate the use of basic ASL vocabulary and expressions necessary for conversationsabout real-life situations.
5. Evaluate and provide feedback concerning peers' and one's own uses of ASL.
6. Develop culturally-appropriate behaviors and conversation strategies within a variety of contexts for interacting with people who are Deaf.
7. Demonstrate effective use of comprehension and expressive ASL skills through narrative and/or storytelling activities.
8. Describe issues of the American Deaf community and Culture.

SIGN 1120. American Sign Language II
3 Credits (3)
American Sign Language II is a continuation course that builds on concepts and skills developed in American Sign Language I. Students gain further exposure to ASL structure and grammar, and Deaf Culture and the Deaf community. Emphasis is on increasing students' ability to comprehend other signers and express themselves with more elaboration when conversing or presenting in ASL. May be repeated up to 3 credits.
Prerequisite: SIGN 1110 or consent of instructor.
Learning Outcomes
1. Further develop basic conversational skills in ASL, taking on more complicated topics.
2. Apply knowledge of ASL grammar, including classifiers, spatial referencing and agreement, role shifting, and non-manual markers.
3. Develop ASL vocabulary, fingerspelling, number, narrative and storytelling skills.
4. Evaluate and provide feedback concerning peers' and one's own uses of ASL.
5. Demonstrate effective use of comprehension and expressive ASL skills through conversation, discussion, narrative and/or storytelling activities.
6. Demonstrate knowledge and appreciation of the American Deaf community and ASL
7. Through first-hand experience in the American Deaf community and ASL, relate and reflect on perspectives of the community.

SIGN 2110. American Sign Language III
3 Credits (3)
This is an intermediate level course in American Sign Language (ASL). Expected areas of intermediate skill and knowledge development include: language comprehension and production, conversational use, narratives, ASL language features and further knowledge of and interaction with Deaf culture and the Deaf community. May be repeated up to 3 credits.
Prerequisite: SIGN 1120.
Learning Outcomes
1. Demonstrate intermediate ASL vocabulary, conversation and narrative/storytelling skills.

2. Demonstrate fundamental ASL features including visual/spatial orientation, constructed dialogue and action, spatial referencing, classifiers, non-manual behaviors and syntax/word order.
3. Demonstrate appropriate use of cultural behaviors and conversational strategies.
4. Translate written and spoken English to ASL and vice versa.
5. Self-evaluate and provide feedback to peers concerning ASL usage.
6. Examine the culture of the American Deaf community through engaging in community activities and its language.

SMET-SCIENCE/MATH/ENG/TECH (SMET)

SMET 101. Introduction to Science, Mathematics, Engineering, and Technology
1 Credit (1)
An introductory course for science, mathematics, engineering, or technology students, emphasizing introduction to their disciplines. Development of critical thinking and academic success skills for technical disciplines, as well as degree planning for the major.
Learning Outcomes
1. Apply the scientific method of constructing and testing hypotheses.
2. Design and conduct an experiment using Radio Jove.
3. Apply astrobiological knowledge to solve human problems.
4. Develop competence in appropriate scientific laboratory techniques.

SMET 102. Introduction to Engineering Design.
1 Credit (1)
Fundamental concepts of engineering design developed through analysis of case studies and hands-on design projects.
Learning Outcomes
1. Identify assumptions within a given context and be able to predict outcomes through data analysis.
2. Obtain, interpret and analyze numerical information through the use of appropriate tables, diagrams, and algorithms.
3. Develop competency in conveying astrobiological knowledge through laboratory reports and/or written assignments following proper APA documentation style.
4. Design antenna configurations to increase the frequency of the radio Jove.

SMET 201. Research for Visiting Community College Students
1 Credit (1)
Research experience for visiting community college students. Consent of instructor required. Restricted to: Main campus only.

SOCI-SOCIOLOGY

SOCI 1110G. Introduction to Sociology
3 Credits (3)
This course will introduce students to the basic concepts and theories of sociology, as well as to the methods utilized in sociological research. The course will address how sociological concepts and theories can be utilized to analyze and interpret our social world, and how profoundly our society and the groups to which students belong influence them. Students will be given the opportunity to challenge their "taken-for-granted" or "common sense" understandings about society, social institutions, and social issues. Special attention will also be paid to the intimate connections between their personal lives and the larger structural features of social life. In addition, the implications of social inequalities, such as race/ethnicity, gender, and social class will be central to the course's examination of social life in the United States.
Learning Outcomes
1. Define sociological perspectives and the contributions that sociological knowledge can bring to the social sciences.
2. Understand the sociological imagination and explain the relationships between social structures, social forces and individuals.
3. Demonstrate the ability to apply the perspectives of symbolic interactionist theory, conflict theory, and structural-functionalist theory to qualitative and/or quantitative data.
4. Understand and explain intersectionality and the connections between race, class, gender, disability, sexual identity and other forms of structural inequality.

SOCI 2230. Sociology of Sexuality
3 Credits (3)
This course explores all aspects of human sexuality from a sociological perspective. Topics include, but are not limited to, sex work, intimate relationships, sexual response, political movements, power, and the social construction of sexuality. The course also considers how various social statuses such as ethnicity, gender, and social class intersect with sexuality.
Learning Outcomes
1. Identify the central research questions, theories, and methodologies used in the study of human sexuality.
2. Identify and describe biological, cultural, social, and psychological sexual behaviors and response across the lifespan.
3. Identify and describe trends and changes that influence sexual attitudes and values in the U.S. and globally.
4. Describe how sexuality is influenced by contextual factors, such as race/ethnicity, gender, socioeconomic status, disability, and nationality.

SOCI 2240. Sociology of Intimate Relationships and Family
3 Credits (3)
This course provides an overview of contemporary intimate relationships and families from sociological perspectives. We will examine intimate relationships and families as social constructions whose meanings have changed over time and from place to place. This course will aid students in developing a greater understanding of intimate relationships and families as institutions in contemporary U.S. society. Intersections of race, class, gender, sexual orientation, nationality, and other factors within these institutions will be addressed. Community Colleges only. May be repeated up to 3 credits.
Learning Outcomes
1. Explain the sociological approaches to researching intimate relationships and families.
2. Describe important sociological research findings concerning intimate relationships and families.
3. Explain how intimate and familial relationships are affected by multiple intersecting inequalities and ongoing events in other social institutions.

SOCI 2261. Issues in Death and Dying
3 Credits (3)
Major personal and social issues related to the process of dying in our culture. Community Colleges only.
Learning Outcomes
1. be able to understand the diversity of the death experience and the various options available in coping with death and bereavement as

shown by the student's participation in class discussions and field trips.
2. better understand death and dying as social phenomena as shown by the student's reaction papers.
3. have taken an in-depth look at her or his own death with a researched paper. Comprehension will be shown by the student's grade on the paper.

SOCI 2310G. Contemporary Social Problems
3 Credits (3)
This course studies the nature, scope, and effects of social problems and their solutions. The course will concentrate on sociological perspectives, theories, and key concepts when investigating problems, such as inequality, poverty, racism, alienation, family life, sexuality, gender, urbanization, work, aging, crime, war and terrorism, environmental degradation, and mass media. This course is designed to build students' sociological understanding of how sociological approaches attempt to clarify various issues confronting contemporary life, as well as how sociologists view solutions to these problems.
Learning Outcomes
1. Identify and explain major social problems in the United States, and how social problems become constructed as problems.
2. Describe and analyze policy related solutions associated with social problems from various perspectives.
3. Critically examine social problems through the use of sociological theories, methods, and empirical techniques.
4. Identify connections, both national and global, between social problems and social inequalities (e.g., social class, race/ethnicity, and gender/sexuality).

SOIL-SOIL (SOIL)

SOIL 2110. Introduction to Soil Science
3 Credits (3)
An overview of fundamental concepts in soil science and soils as a natural resource. Students will be introduced to the physical, chemical, and biological properties as it relates to soil management in environmental science, conservation, and agronomy. May be repeated up to 3 credits.
Prerequisite: (CHEM 1120G and MATH 1215 or higher) or CHEM 1215G.
Learning Outcomes
1. Understand and use the technical terminology associated with the use and management of soils.
2. Understand the classification of soils and the processes leading to their formation.
3. Identify key physical, chemical, and biological properties of soils.
4. Explain the impact of land use and management decisions as it relates to soil degradation and environmental problems.

SOIL 2110L. Introduction to Soil Science Laboratory
1 Credit (1)
Morphological, chemical, physical and biological properties of soil in the laboratory and field.
Corequisite(s): SOIL 2110.
Learning Outcomes
1. Learn techniques for sampling and characterizing soils in the region.
2. Understand how soils are formed and the processes that occur within the soil profile.
3. Gain fundamental knowledge on soil physical, chemical, and biological properties and how each can influence the overall function of a particular soil.
4. Develop critical thinking and analytical skills within laboratory and field settings.
5. Encourage collaboration, inclusiveness and critical thinking.

SOIL 2996. Special Topics
1-4 Credits
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree. May be repeated up to 9 credits. Consent of Instructor required.
Learning Outcomes
1. Varies

SOWK-SOCIAL WORK

SOWK 2110G. Introduction to Human Services & Social Work
3 Credits (3)
This course is for students who are interested in social welfare issues and/or are considering entering a social service profession. The course presents an overview of social problems, issues and trends, and the network of social agencies developed to address these concerns. The course examines the influence of personal and professional values and ethics on the helping relationship. The concept of social welfare will be discussed from a social work perspective (with an emphasis on social justice), and students will gain a basic understanding of social work in U.S. society, social work career opportunities, and contemporary issues facing social workers. Approaches relevant to work with individuals, families, groups and communities are presented, with special emphasis on Hispanic and Indigenous populations of New Mexico and the Southwest. May be repeated up to 3 credits.
Learning Outcomes
1. Explain the interactions of social institutions, cultural factors, dimensions of identity, and environment with the human development and behavior of individuals.
2. Demonstrate knowledge of the social work profession's focus on addressing contemporary social issues in the United States.
3. Describe the mission and services provided by social service agencies at the regional, national, and global levels.
4. Demonstrate a basic understanding of the social work profession, its history, career opportunities, and contemporary issues facing social workers in the United States today.
5. Recognize how students' knowledge, skills, and attitudes impact their competence as helping professionals.

SPAN-SPANISH (SPAN)

SPAN 1110. Spanish I
4 Credits (4)
Designed for students with little exposure to Spanish, this course develops basic listening, speaking, reading, and writing skills and basic intercultural competence in interpretive, interpersonal and presentational modes of communication at the Novice Level of proficiency based on ACTFL guidelines. During this course, students perform better and stronger in the Novice Mid level while some abilities emerge in the Novice High range. This is an introductory course aimed at helping the student to communicate in Spanish in everyday familiar situations via recognition and production of practiced or memorized words, phrases, and simple sentences.

Prerequisite(s): language placement and/or assessment by departmental examination.

Learning Outcomes

1. Students can communicate on very familiar topics using a variety of words and phrases that they have practiced and memorized.
2. Students can present information about myself and some other very familiar topics using a variety of words, phrases, and memorized expressions.
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and some-times understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.

SPAN 1120. Spanish II
4 Credits (4)

Designed for students with some degree of exposure to Spanish in high school and/or at home, this course continues to develop basic listening, speaking, reading, and writing skills and basic intercultural competence in interpretive, interpersonal and presentational modes of communication based at the Novice High Level of proficiency based on ACTFL guidelines, although a few abilities may emerge in the Intermediate Low Level. Students in this course communicate in Spanish in familiar topics using a variety of words, phrases, simple sentences and questions that have been highly practiced and memorized.

Prerequisite: language placement and/or assessment by departmental examination or a C- or better in SPAN 1110.

Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can present basic information on familiar topics using language they have practiced using phrases and simple sentences.
4. Students can write briefly about most familiar topics and present information using a series of simple sentences.
5. Students can understand the main idea in short, simple messages and presentations on familiar topics.
6. Students can understand the main idea of simple conversations that they overhear.
7. Students can understand the main idea of short and simple texts when the topic is familiar.

SPAN 1210. Elementary Spanish for Heritage Learners I
3 Credits (3)

This is a beginning-level Spanish course designed for students who have a cultural connection to the Spanish language. Some students have had very little exposure to the language and enter the class to develop beginning-level skills. Other students may have grown up hearing the heritage language in the community and may understand some Spanish and speak at a basic level as a result. The objective is to draw upon the connection to the heritage language as a source of motivation and engagement for our learning communities. At the same time, we build upon the language base that students may already have as a result of their heritage learner experience in order to develop new proficiencies in Spanish and reactivate the Spanish that students have learned previously. By the end of this course, students will be able to describe their home, campus surroundings and common activities including cultural traditions. At the same time, students gain cultural competency and develop a critical understanding of their linguistic and cultural background. Students who have previously earned a C or better in SPAN 1110 or SPAN 1120 may not recieve credit for this course.

Learning Outcomes

1. Interpersonal Communication: Students can engage in exchanges in culturally appropriate ways using understandable pronunciation on familiar topics using contextualized words, phrases, common idiomatic expressions, and simple sentences.
2. Written expression: Students can write an essay/poem/story/creative sketch/lyric in the target language that describes a past/present/future (fictional) event to the reader.
3. Interpretive listening: Students can understand familiar questions and statements from simple sentences in conversations.
4. Interpretive reading: Students can identify the topic and some isolated facts from simple sentences in informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance to the instructor expertise and articulation with subsequent courses.

SPAN 1220. Spanish for Heritage Learners II
3 Credits (3)

Spanish as a Heritage Language II is a second semester class designed for students who have developed some basic Spanish proficiency from previous classes and/or from community experiences. This course provides students with the opportunity to develop their proficiency in the four language skills (speaking, listening, reading, and writing). Class activities are designed to strengthen oral communication skills (speaking and listening) through a variety of group activities. By the end of the course students will be able to understand and produce narrations of past events in oral and written Spanish. In order to foster a desire to revitalize and maintain the Spanish language in the US context we attempt to raise students' critical awareness of what it means to be part of a specific speech community.

Learning Outcomes

1. Interpersonal Communication: Students can engage in basic but authentic conversations through providing and obtaining information, expressing likes and dislikes, describing their daily lives, and narrating simple events in the past.
2. Written expression: Students can write an essay/poem/story/creative sketch/lyric in the target language, and that describes a past (fictional) event to the reader.
3. Interpretive listening: can identify the main idea in short conversations.
4. Interpretive reading: Students can identify the topic and related information from simple sentences in short informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance to the instructor expertise and articulation with previous and subsequent courses.

SPAN 1410. Spanish for Health Care Professions
3 Credits (3)

This course is designed to develop the student's ability to understand, speak, read and write the Spanish language within a health profession framework because linguistic and cultural knowledge are essential

for communication with patients. Restricted to Community Colleges campuses.
Prerequisite: SPAN 1511.
Learning Outcomes

1. Demonstrate acquisition of intermedia communicative skills in the area of listening, speaking, reading, and writing.
2. Comprehend and participate in conversations in Spanish.
3. Have a working vocabulary which enables to recognize and exchange information in Spanish.
4. Be able to apply some basic and intermediate grammar rules in Spanish.

SPAN 1511. Spanish for Human Services
3 Credits (3)
An introductory Spanish course for professionals in the human services. The course focuses on pertinent vocabulary for situations commonly encountered by professionals in areas such as social work, counseling, case management, Social Security, Medicare, health services, food stamps, child support, vocational rehabilitation, senior citizen issues and other areas. Basic Spanish pronunciation and grammar are introduced in the context of practical social-services situations.
Learning Outcomes

1. Augment basic vocabulary pertinent to professional roles (Vocabulary Journal).
2. Display increased confidence about pronunciation of Spanish and Spanish sentence structure (Role Play Interview).
3. Identify cultural norms working with Hispanic individuals and families (interview of Hispanic Professional).
4. Translate and explain agency forms and documents (Translation of Agency Form).
5. Display listening comprehension of typical dialogues which take place in a variety of human services agencies (Final Exam).

SPAN 2110. Spanish III
3 Credits (3)
This course is based on the integration of learning outcomes across Interpersonal, Interpretive, and Presentational Modes of Communication at the Intermediate Low Level of proficiency based on ACTFL guidelines. Students accomplish real-world communicative tasks in culturally appropriate ways as they gain familiarity with the target culture(s). This is an intermediate course aimed at helping the student to communicate in Spanish on familiar topics about self, others and everyday life at the same time that they recognize and handle short social interactions in interactions in everyday situations by asking and answering a variety of questions.
Prerequisite: language placement and assessment by departmental examination or C or better in SPAN 1120.
Learning Outcomes

1. Students can participate in conversations on familiar topics using sentences and series of sentences.
2. Students can handle short social interactions in everyday situations by asking and answering a variety of questions.
3. Students can usually say what they want to say about themselves and their everyday life.
4. Students can make presentations on a wide variety of familiar topics using connected sentences
5. Students can write on a wide variety of familiar topics using connected sentences.
6. Students can understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
7. Students can under-stand the main idea in conversations that they overhear.
8. Students can understand the main idea of texts related to everyday life and personal interests or studies.

SPAN 2120. Spanish IV
3 Credits (3)
This course is based on the integration of learning outcomes across Interpersonal, Interpretive, and Presentational Modes of Communication at the Intermediate Low Level of proficiency based on ACTFL guidelines. Students accomplish real-world communicative tasks in culturally appropriate ways as they gain familiarity with the target culture(s). This is an intermediate course aimed at helping the student to communicate in Spanish on familiar topics about self, others and everyday life at the same time that they recognize and handle short social interactions in interactions in everyday situations by asking and answering a variety of questions.
Prerequisite: language placement and assessment by departmental examination or C or better in SPAN 2110.
Learning Outcomes

1. Students can participate with ease and confidence in conversations on familiar topics.
2. Students can usually talk about events and experiences in various time frames.
3. Students can usually describe people, places, and things.
4. Students can handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
5. Students can make presentations in a generally organized way on school, work, and community topics, and on topics they have researched.
6. Students can make presentations on some events and experiences in various time frames.
7. Students can write on topics related to school, work, and community in a generally organized way.
8. Students can write some simple paragraphs about events and experiences in various time frames.
9. Students can easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies. 1
10. Students can usually understand a few details of what they overhear in conversations, even when something unexpected is expressed. 1
11. Students can sometimes follow what they hear about events and experiences in various time frames. 1
12. Students can easily understand the main idea of texts related to everyday life, personal interests, and studies. 1
13. Students can sometimes follow stories and descriptions about events and experiences in various time frames.

SPAN 2210. Spanish for Heritage Learners III
3 Credits (3)
Intermediate Spanish for Heritage Speakers I is a third semester course designed for students who have been raised in a Spanish-speaking environment and speak, or understand, some Spanish as a result of hearing it in the home, and in the community by family, friends, and neighbors. Students in this course will continue to develop their ability to narrate events in the past and will be able to describe hypothetical

situations. Students will also develop their ability to express wishes, desires, and necessities. This course will help the student build confidence in their Spanish abilities and expand the language use in the areas of writing, reading, oral production and listening comprehension. In order to foster a desire to revitalize and maintain the Spanish language we attempt to raise students' critical awareness of wider issues facing Spanish speakers in the US context. May be repeated up to 3 credits.

Learning Outcomes

1. Interpersonal Communication: Students can exchange information on a wide variety of familiar topics in which the students use appropriate vocabulary to describe their daily lives and narrate events in the past with some degree of ease and confidence.
2. Written expression: Students can write an essay/poem/story/creative sketch/lyric in the target language, and that effectively conveys a series of past (fictional) events to the reader that may include recent and distant past.
3. Interpretive listening: Students can identify the main idea and key information in short straightforward conversations.
4. Interpretive reading: Students can understand the main idea and key information in short straightforward informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance to the instructor expertise and articulation with previous and subsequent courses.

SPED-SPECIAL EDUCATION (SPED)

SPED 2996. Topics
3 Credits (3)
Offered under various subtitles that indicate the subject matter to be covered. May be repeated up to 9 credits.

Learning Outcomes

1. Varies

SPHS-SPEECH & HEARING SCIENCE

SPHS 2110. Introduction to Communication Disorders
3 Credits (3)
This introductory course provides an overview of common speech, language, and hearing disorders in children and adults including etiologies, characteristics, prevention, identification, assessment and intervention. The course provides an overview of the field of speech-language pathology and audiology. May be repeated up to 3 credits.

Learning Outcomes

1. Describe normal human communication anatomy and processes as they relate to speech and language production.
2. Describe the nature of speech, language, and hearing disorders and differences.
3. Describe the principles of prevention, assessment and intervention of communication disorders.
4. List requirements for licensure, certification, and other relevant professional credentials.
5. Exhibit basic knowledge of contemporary professional issues in speech-language pathology.
6. List possible psychosocial implications of various communication disorders.
7. Identify cultural, educational, legal, and ethical issues related to communication disorders.
8. Describe the scope of practice of speech-language pathologists and audiologists.

SPMD-SPORTS MEDICINE

SPMD 1110. Introduction to Athletic Training
3 Credits (3)
Introduction to the principles of athletic training. May be repeated up to 3 credits.

Learning Outcomes

1. Understand the historical development of athletic training and sports medicine.
2. Understand the knowledge and experiences needed to become a Certified Athletic Trainer.
3. Understand the specific responsibilities and duties of an athletic trainer.
4. Understand the diverse jobs settings within the profession of athletic training.
5. Understand the relationship between the athletic trainer and the sports medicine team.
6. Understand some of the general and specific injuries and medical conditions that occur in athletics;their causes, signs and symptoms, treatments, rehabilitation, and prevention.
7. Understand some of the contemporary issues and problems facing the athletic training profession.

SPMD 1120. Medical Terminology
3 Credits (3)
Study of the structure of medical language with emphasis on sports medicine-related terminology. To include analysis and interpretation of medical documentation. Restricted to: Las Cruces campus only.

Learning Outcomes

1. Master the fundamentals of word analysis, including the separation of terms into word roots or combining forms, common prefixes, and suffixes.
2. Differentiate types of medical terms and the relationships among terms.
3. Develop a proficiency in the use of physiological and anatomical terms as reflected in medical documents.
4. Master the terms, words, phrases, and symbols that describe the human body in its various states of health and disease, including essential anatomical terms.

SPMD 1190. Clinical Practicum I
2 Credits (2)
Introduction to the clinical aspects of the athletic training education program. Must maintain at least 3.0 GPA. May be repeated up to 4 credits.

Learning Outcomes

1. The Athletic Training Program application procedures.
2. The ability to perform selected taping and wrapping techniques.
3. Knowledge of HIPAA guidelines, pre-participation physical examinations, environmental illnesses, the history of Athletic Training and its governing bodies, Evidence Based Practice and its implications in the field of athletic training, evaluation procedures for the injured athlete, NMSU AT program and its affiliated clinical sites.
4. Proper documentation for the athletic training environment including SOAP notes.

SPMD 1195. Clinical Practicum II
3 Credits (3)
Athletic training related content and psycho-motor skills are introduced, enhanced, and assessed in the classroom and clinical rotations. Emphasis is on competencies and proficiencies previously instructed in didactic courses while providing increased depth of understanding and clinical practice. Must maintain a 3.0 GPA. May be repeated up to 3 credits.
Learning Outcomes
1. Demonstrate knowledge and skill in emergency situation prevention, recognition, and management.
2. Demonstrate proficiency in basic skills of musculoskeletal injury recognition and management.
3. Demonstrate competency in basic pre-participation exam skills, including but not limited to taking vital signs.
4. Demonstrate competency in wound care and first aid.

SPMD 1310. Introduction to Kinesiology
3 Credits (3)
An introduction to the field of Kinesiology which will explore areas such as exercise physiology, sport and exercise psychology, motor behavior, biomechanics, strength and conditioning, exercise prescription, as well as professional and graduate programs, and allied health and applied careers opportunities.
Learning Outcomes

SPMD 1350. Social Foundations of Physical Activity
3 Credits (3)
Historical and cultural foundations and vocational, scientific, and educational data on careers in health education, physical education, and recreation.
Learning Outcomes
1. Improve students' knowledge of foundations of physical education. (Research) (Standard 4 j, k, l, m, o, p)
2. Improve students' abilities to analyze current physical activity issues based on historical, philosophical, sociological, and psychological perspectives. (Research) (Standard 4 l, m, e, g)
3. Improve students' knowledge of and ability to critically analyze how gender, race, social class, sexual orientation, and ability issues affect physical education and performance programs. (Research, Diversity) (Standard 4j, k, l, m, o; Standard 2 d, g, j, f, k)
4. Improve students' knowledge of forces influencing the development of physical education programs. In particular, attitudes, values, and beliefs about gender, race, social class, sexual orientation, and ability, etc. (Diversity, Practitioners, Reflection, Pedagogy) (Standard 1 a, b, h, l; Standard 4 j, k, l, m, o; Standard 2 a, d, g, j, f, k)
5. Improve students' knowledge of strategies for becoming an advocate in the school and/or community to promote a variety of physical activity opportunities. (Practitioners) (Standard 2 m, n; Standard 3 n, o, p, q, r; Standard 10 d, j, p
6. Improve students' knowledge of current educational issues and trends. In particular, socio-cultural issues that affect educational, fitness, and sports settings. (Diversity, Research) (Standard 4 j, k, l, m,o, p Standard 9 a, c, e, f m, n)
7. Improve students' knowledge of how students' learning is influenced by individual experiences, talents, and prior learning, including language and family/community values and conditions. (Diversity, Research) (Standard 1 b, h, l; Standard 2 d, g, j, k, m, n, o; Standard 3 l)
8. Improve students' knowledge of the impact of international changes on the content of physical education, fitness, and sports programs. (Research) (Standard 4 j, k, l, m, o, p)
9. Improve students' ability to critically analyze how gender, race, sexuality and social class issues affect how we view the body, and how these views can affect students' health and participation in physical education, fitness, and sports programs. (Diversity, Reflection) (Standard 2 d, g, j, f, k, m, o) 1
10. Improve students' ability to become critically aware of how their feelings, beliefs, and values in relation to gender, race, social class, sexual orientation, and ability issues will affect their abilities to work as professionals in the fields of physical education, sport, or fitness. (Diversity, Reflection) (Standard 2d, g, j, f, k, m, o Standard 9 e, d, g, l, m) 1
11. Improve students' knowledge of and ability to critically analyze cultural stereotypes of diverse populations of people. (Diversity) (Standard 2 d, g, j, f, k, m, o) 1
12. Improve students' knowledge of how cultural stereotypes influence the development of physical education, fitness and sport programs. (Research, Diversity) (Standard 2 d, g, j, f, k, m, o; Standard 4 j, k, m, o, p, q Standard 8 p) 1
13. Improve students' knowledge of how groups influence individuals, and how individuals influence groups in a democratic society. (Diversity) (Standard 2 d, g, j, f, k, m, o; Standard 4 m, p;) 1
14. Improve students' abilities to communicate in ways that demonstrate sensitivity to all learners. (Diversity, Effectiveness) (Standard 1 d, h, l; Standard 2 d, g, j, f, k, m, o) 1
15. Students will demonstrate through writing the ability to apply the issues discussed in class to their specific fields in ways that benefit society. (Evaluation) (Standard 9 e, g, l, m) 1
16. Students will improve their ability to take the content from readings and present it in thought provoking ways to their classmates. (Research, Evaluation, Reflection) (Standard 9 e, g, l, m; Standard 10 a, d, h, n) 1
17. Writing proficiency is required for a passing grade in this course. (Standard 4 l) 1
18. Improve students' abilities to use computers and other technologies to communicate, network, and/or foster inquiry. (Standard 10 g) 1
19. Consult professional literature, colleagues, and other resources to develop as a professional.(Standard 10 e, f, h, l, n, r)

SPMD 2210. Anatomy and Physiology I
3 Credits (3)
Detailed study of the structure and function of the human musculoskeletal, cardiovascular, respiratory, and peripheral nervous systems. Designed specifically for students interested in allied health professions.
Learning Outcomes
1. The student will learn and identify bones, connective tissue, joints and muscular structures of the human body.
2. The student will study joints and associated structures of the body.
3. The student will learn about skeletal muscle, origins, insertions, and actions.
4. The student will learn about the fundamentals of the nervous system and associated structures.
5. The student will learn about smooth and cardiac muscle and their association actions.
6. The student will learn the structures associated with the cardiovascular system (heart and blood vessels).

7. The student will learn the location of all visceral organs.
8. Evaluation of knowledge is determined through practical identification of anatomical structures via written opened ended exams.

SPMD 2210L. Anatomy and Physiology Laboratory
1 Credit (1P)
Students will engage in activities designed to enhance appreciation of the anatomical structures related to the content areas for SPMD 2210. Restricted to Las Cruces campus only.
Learning Outcomes
1. The student will learn and identify bones, connective tissue, joints and muscular structures of the human body.
2. The student will study joints and associated structures of the body.
3. The student will learn about skeletal muscle, origins, insertions, and actions.
4. The student will learn about the fundamentals of the nervous system and associated structures.
5. The student will learn about smooth and cardiac muscle and their association actions.
6. The student will learn the structures associated with the cardiovascular system (heart and blood vessels).
7. The student will learn the location of all visceral organs.
8. Evaluation of knowledge is determined through practical identification of anatomical structures via written opened ended exams.

SPMD 2225. Anatomy and Physiology II
3 Credits (3)
This course is the second of two that serve as an introduction to human anatomy and physiology for any student interested in allied health and/or kinesiology. The course entails describing, explaining, and analyzing structure and function from the submicroscopic to the organismal level with emphasis on specific cellular, tissue, and organ structure and physiology, and organ system structure and function# specifically the endocrine, urinary, digestive, integumentary, renal, central nervous, and reproductive systems. Additionally, an analysis of these concepts is included: fluid and electrolyte balance, pregnancy, growth and development from zygote to newborn, and heredity.
Prerequisite: SPMD 2210 or BIOL 2210.
Learning Outcomes
1. Identify and describe the major anatomical features of the endocrine, lymphatic, digestive, integumentary, renal, urinary, and reproductive systems.
2. Analyze the physiological roles of the endocrine, lymphatic, digestive, urinary, central nervous, immune, and reproductive systems in maintaining homeostasis in the human body.
3. Explain how fluid and electrolyte balance is maintained in the human body.
4. Compare and contrast the anatomy and physiology of male and female reproductive systems.
5. Describe pregnancy from conception to parturition including human growth and development from zygote to newborn.
6. Explain heredity and genetic control.

SPMD 2225L. Anatomy and Physiology II Lab
1 Credit (1)
This is the second in a series of two laboratory courses designed to introduce laboratory practices and techniques for human anatomy and physiology, from the basic cell structure through the organ system level# specifically the endocrine, digestive, lymphatic, respiratory, urinary, and reproductive systems.
Prerequisites: SPMD 2210; SPMD 2210L; or BIOL 2210; BIOL 2210L.
Learning Outcomes
1. Apply the scientific method correctly.
2. Collect, analyze, and interpret scientific data.
3. Use laboratory equipment correctly and safely.
4. Identify the anatomical components of human tissues, organs, and organ systems using models, diagrams, illustrations, or cadaver specimens.
5. Describe the functional characteristics of human tissues, organs, and organ systems using models, diagrams, illustrations, or cadaver specimens.
6. Analyze the physiological processes of the endocrine, lymphatic, respiratory, digestive, urinary, and reproductive systems.
7. Analyze the physiological processes of fluid and electrolyte balance and acid base balance in the human body.
8. Analyze heredity and genetic control.

SPMD 2250. Fitness for Health and Sport
3 Credits (3)
A study of the fitness needs for health enhancement and sport participation.
Learning Outcomes
1. Recognize the importance of incorporating positive fitness/wellness habits within one's lifestyle in terms of enhancing longevity, disease prevention, and overall quality of life.
2. Examine various physiological benefits and adaptations to such factors as muscular strength, muscular endurance, cardiovascular fitness, flexibility, and body composition when certain stimuli are applied to each. Assessment of these characteristics will be witnessed primarily in practical experiences within the course's laboratory settings.
3. Identify current trends and/or health patterns within society in regards to scientific findings, declination in health habits, and increases in health ailments.
4. Compare various nutritional concepts, specifically proper dietary habits and their impact on weight management aspects.
5. Describe the role physical activity and sport specific training play on competitive athletic performance.

SPMD 2310. Career Preparation
1 Credit (1)
From concept to implementation: Career exploration, setting up degree plans, finding graduate programs, developing professional resumes, writing letters of application, seeking letters of recommendation, and interview preparation.
Learning Outcomes
1. Career opportunities within human movement and allied health fields
2. Chose both a primary and secondary career of their interest
3. Search for appropriate graduate schools to match their career choices
4. Create a plan by aligning their undergraduate curriculum with their career choices
5. Explore additional education (dual majors, minors, and certifications specific to their chosen field)
6. Study and create a professional resume
7. Create a curriculum vita as a historical reference for future job prospects

8. Write a professional letter of application for jobs and school applications
9. Learn how to seek “outstanding’ letters of recommendation 1
10. Study appropriate interview protocol 1
11. Practice interviews (one on one, panel and group)

SUR-SURVEYING (SUR)

SUR 143. Civil Drafting Fundamentals
3 Credits (2+2P)
Introduction to drafting in the field of Civil Engineering. Drawings, projects, and terminologies related to topographic, contour drawings, plan and profiles, and street/highway layout. Restricted to Community Colleges only. Taught with E T 143 and DRFT 143.
Prerequisite: DRFT 109.
Learning Outcomes
1. Use appropriate drafting/technical terminology.
2. Identify of the different types of Civil Engineering work drawing plan sets.
3. Understanding and the use of the terminologies used in the industry.
4. Use AutoCAD Civil 3D.
5. Enter appropriate data into AutoCAD software in order to retrieve necessary outcomes.
6. Plot/Print different types of civil engineering working plans.
7. Read, interpret and understand engineering drawings.
8. Define and understand the different types of engineering drawings.

SUR 222. Introduction to Geomatics
3 Credits (2+3P)
Theory and practice of geomatics as applied to plane surveying in the areas of linear measurements, angle measurements, area determination, differential and trigonometric leveling, and topographic mapping.
Prerequisite: A grade of C- or better in both, E T 109 and (MATH 1250G or higher).
Learning Outcomes
1. Perform basic distance and angular measurements.
2. Evaluate the quality of collected measurements.
3. Utilize a measuring tape.
4. Determine a plumb line.
5. Set up a level line.
6. Set up a tripod and total station.
7. Utilize a plumb rod.
8. Understand the role of surveying in civil engineering and construction-related fields.
9. Understand new technologies is surveying.

SUR 285. Precise Digital Mapping
3 Credits (3)
Photogrammetric Mapping Principles, digital sensor including optical cameras, terrestrial, surveying control, IMU & GPS integration, stereo photography, analytical triangulation, orthorectification, precision and accuracy of measurement systems, sUAS (Small Unmanned Aerial Vehicles) data collection project fight/pre planning, introduction to laser scanning systems.
Learning Outcomes
1. Understand the basic principles of photogrammetry.
2. Perform photo measurements and computation.
3. Be able to design aerial surveying projects.
4. Define the basic principles of analytical photogrammetry.
5. Explain the different steps in aerial triangulation.

SUR 292. Legal Principles and Boundary Law I
3 Credits (3)
Fundamentals of real property law; principles of land description; survey evidence and procedure in boundary determination, order of importance of conflicting elements; liability, ethical and professional principles in boundary surveying; NM professional practice act; NM Minimum Standards, contemporary issues in boundary determination.
Prerequisite: C- or better in SUR 222.
Learning Outcomes
1. Demonstrate an understanding of surveying boundary laws.
2. Describe procedures for locating real property boundaries.
3. Read, interpret, and write legal descriptions of real property.
4. Perform legal research of case and statutory law.
5. Communicate research findings through written and oral presentations.

TCEN-ENVIRONMENTAL/ENERGY TECH (TCEN)

TCEN 101. Energy for the Next Generation
3 Credits (2+2P)
This course will survey a broad range of sources of energy, types of energy, energy storage, and the forms of energy. Students will be exposed to theory in the classroom, laboratory exercises, and field trips to provide them with a solid foundation for all subsequent energy related environmental courses. Crosslisted with: OETS 101.
Prerequisite(s)/Corequisite(s): OETS 118 or MATH 1215. Restricted to: Community Colleges only.
Learning Outcomes
1. Analyze cost comparisons for different types of energy applications to assess their relative value.
2. Apply energy consumption analysis techniques to accurately evaluate energy usage.
3. Identify safety hazards and demonstrate compliance with relevant safety regulations.
4. Collaborate effectively as a team.
5. Apply course-specific calculations accurately to solve problems and make informed decisions.

TCEN 105. Building Analyst I
3 Credits (2+2P)
This course is designed to provide the foundational knowledge and expertise necessary for the energy auditor and home performance contractor. Crosslisted with: OETS 105. Restricted to: Community Colleges only.
Learning Outcomes
1. Express technical information through oral communication.
2. Explain technical information through written communication.
3. Interpret information and instructions.
4. Work effectively as a team.
5. Demonstrate an understanding of sustainable and alternative building practices (i.e., LEED/Green).
6. Demonstrate how related industry theories apply to real world settings.
7. Evaluate mechanical processes found in building trades.

8. Locate data and information utilizing various sources.
9. Interpret information and instructions. 1
10. Determine the appropriate ethical action that should occur in a given circumstance. 1
11. Differentiate between situational and the other various theories of ethics.

TCEN 106. Building Analyst II
3 Credits (2+2P)
Designed to prepare the student for the BPI Building Analyst Certification. This course will walk the student through the hands-on process of conducting visual building inspections, diagnostic testing, identifying improvement opportunities, documenting a home's performance and preparing a scope of work. Crosslisted with: OETS106.
Prerequisite(s)/Corequisite(s): TCEN 105 or OETS 105. Restricted to: Community Colleges only.
Learning Outcomes
1. Describe sustainable and alternative building practices (i.e., LEED/ Green).
2. Formulate how current changes can create future issues within a structure.
3. Assess environmental problems arising from conventional building practices.
4. Evaluate mechanical processes found in building trades.
5. Work effectively as a team.
6. Demonstrate an understanding of sustainable and alternative building practices (i.e.,LEED/Green).
7. Present technical information through oral communication.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Identify appropriate governing bodies and associated regulations.

TCEN 110. Photovoltaic Application
4 Credits (3+2P)
This course will provide an introduction to Photovoltaic (PV) installation. The course will provide instruction on site selection, prep, installation, and maintenance for photovoltaic applications. Students that complete the course and have the opportunity to take the entry level exam with the North American Board of Certified Energy Practitioners (NABCEP) en route to becoming Certified Installers. Restricted to: Community Colleges only. May be repeated up to 4 credits.
Prerequisite/Corequisite: TCEN 101.
Learning Outcomes
1. Write a detailed analysis using a 6-step problem solving approach to an equipment or process problem
2. Categorize and document system malfunctions, which will be discussed during the pass-down period in a production environment
3. Organize relevant training material to be discussed during teamwork training sessions
4. Identify safety hazards associated with electro-mechanical industrial production systems
5. Use a systematic approach to troubleshoot, identify, and perform corrective maintenance procedures in a system
6. Identify the subsystems of an industrial system and their function
7. Demonstrate the startup, operation, and power down programming sequences for an automated system
8. Apply automated troubleshooting programs to locate / identify fault in a production system
9. Evaluate real time statistical process control data (SPC) to determine (+ -) control limit corrections in a production environment 1
10. Identify personal areas in which student may be able to strengthen student's professional skills 1
11. Assess personal "development" paths, which will ensure a constant advancement through evolving technology careers 1
12. Demonstrate required skills for changing or creating and evaluating real time statistical process control (SPC) data associated with an industrial production process/program

TCEN 111. Basic Electrical Principles I, DC Circuits
4 Credits (3+2P)
Course begins with the basics of electricity and DC circuits. Includes categorization of material properties within conductors, semiconductors, and insulators. Gradual progression tackles more complex topics like DC circuit analysis of series and parallel circuits, including Kirchhoff's laws, Thevenin's & Norton's theorems, and superposition. Finally DC combination circuits, magnetism and electromagnetism, generators and motors are covered. Emphasis on safety throughout. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): OETS 104 or MATH 1215. Restricted to Community Colleges campuses only.

TCEN 112. PV Power Generation Design Fundamentals
3 Credits (2+2P)
A study of photo voltaic design basics, photo voltaic (PV) Cells, modules, and system components; electrical circuits; grid-tied/grid-interactive PV system design and sizing for use on homes; solar electric products and applications; and understanding energy conversion from sunlight to electricity, and working with solar conversion equipment. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): TCEN 111 and (OETS 104 or MATH 1215). Restricted to Community Colleges campuses only.

TCEN 113. OSHA 10 Hour Construction Hazard Identifications
1 Credit
Intended for entry-level participants to provide instruction on a variety of construction safety and health standards. Topics include Introduction to OSHA, Electrical, Ladder, Excavation, Scaffold, and Forklift Hazards, Fall Protection, Materials Handling, Personnel Protective Equipment and Confined Space Entry Hazards. Meets OSHA 10-Hour Requirements.

TCEN 115. Wind Power Generation Design Fundamentals
3 Credits (2+2P)
Course covers wind turbine module descriptions and functions and wind system installation, operation, and troubleshooting. Additional topics include wind energy harvesting and the conversion process from the generator system to electricity. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): TCEN 111 and (OETS 104 or MATH 1215). Restricted to Community Colleges campuses only.

TCEN 121. Basic Electrical Principles II, AC Circuits
4 Credits (3+2P)
Course begins with an overview of the primary components of AC circuits, such as resistors, inductors, rectifiers, transformers and capacitors, and then gradually introduces new, more complicated topics like applying AC principles in power generation and generators, motors, parallel and combination circuits, troubleshooting and evaluation of circuit conditions. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): TCEN 111 and (OETS 104 or MATH 1215). Restricted to Community Colleges campuses only.

TCEN 156. Building Envelope
3 Credits (2+2P)

Designed to prepare the student for the BPI Building Envelope Certification. This course will provide the principles behind building performance testing and the purpose of completing a comprehensive energy audit. Through lecture and subsequent field training, the student will learn how to use building diagnostics to develop a prescriptive plan for enhancing comfort, health & safety, building durability, and energy savings. The student will learn how to outline the follow-up process required after completion of the retrofit. Crosslisted with: OETS156. Restricted to: Community Colleges only. Campus restriction updated to reflect description of community colleges only.
Prerequisite(s): Grade of C- or better in TCEN 106 or OETS 106.

Learning Outcomes

1. Apply oral communication skills to effectively present technical information.
2. Apply written communication skills to effectively present technical information.
3. Demonstrate the correct identification and safe use of hand tools and/or power tools for a specific application.
4. Collaborate effectively as a team.
5. Employ various sources to locate data and information.
6. Analyze and interpret information and instructions.
7. Differentiate between situational ethics and other various theories of ethics.
8. Identify relevant governing bodies and associated regulations.
9. Describe sustainable and alternative building practices (e.g., LEED/ Green). 1
10. Apply related industry theories to real-world settings. 1
11. Evaluate mechanical processes in building trades. 1
12. Assess environmental problems resulting from conventional building practices.

TCEN 205. NEC for Alternative Energy
4 Credits (2+4P)
This hands-on course will cover the National Electrical Code specifics concerning photovoltaic installation. Also code compliant wiring of basic electrical systems will be covered. Existing installations will be visited and studied. Restricted to Community College campuses only. May be repeated up to 4 credits.
Prerequisite: TCEN 101 and ELT 105.

Learning Outcomes

1. Identify all code sections relevant to the different types of Alternative energy systems.
2. Locate problems in alternative energy sources and provide solutions to correct them.
3. Student will have a basic understanding of different types of renewable energy and how to apply the NEC to each type of renewable energy source.
4. Explain what types of renewable energies work best for different geographical locations.
5. Students will also gain hands on experience working with solar photovoltaics, wind turbines and solar thermal panels.
6. Effectively present technical information through written communication
7. Accurately perform course specific calculations
8. Work effectively as a team
9. Locate data and information utilizing the NEC and other various sources 1
10. Interpret information and instructions 1
11. Identify appropriate governing bodies and associated regulations 1
12. Assess cost comparisons for different types of energy applications 1
13. Accurately perform energy production analysis

TCEN 220. Cooperative Experience
1-3 Credits (1-3)
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. May be repeated up to 6 credits. Consent of Instructor required.
Prerequisite(s)/Corequisite(s): MAT 235. Prerequisite(s): TCEN 180. Restricted to: TCEN majors. Graded: S/U Grading (S/U, Audit). Restricted to: Community Colleges only.

TCEN 221. Roofing Materials and Methods
3 Credits (2+2P)
Covers application techniques and estimation of asphalt and wood roofing products and accesories including gutters and flashing. Presents roof penetration, roof loading issues, and energy system installation requirements for mounting photo voltaic or solar thermal systems.
Prerequisite(s): TCEN 112.

TCEN 222. Photo Voltaic Grid Tie Installation
4 Credits (3+2P)
This is a more advanced course culminating in a PV system-to-grid connection. This course includes gathering site specific data, design, wire type and sizing specific to project, installation of all solar modules and balance of system (BOS)components, and grounding and bonding of system components, all in accordance with the latest NEC. Upon project design approval a system will be commissioned for the grid. Decommissioning will commence after measurements and troubleshooting as directed by the instructor. May be repeated up to 4 credits.
Prerequisite(s)/Corequisite(s): TCEN 121 and TCEN 223. Prerequisite(s): TCEN 111 and TCEN 112. Restricted to Community Colleges campuses only.

TCEN 223. National Electric Code Principles in Relation to Photo Voltaic
2 Credits (2+1P)
Focuses on all sections of the National Electrical Code and local code requirements applicable to photo voltaic electrical installation. A partial list of areas covered is chapters one through four and section 690, "Solar Photovoltaic Systems" of the National Electrical Code.
Prerequisite: TCEN 112.
Prerequisite/Corequisite: TCEN 222.

Learning Outcomes

1. Identify the requirements for safe and practical solar PV installations.
2. Accurately reference, read, and interpret NEC code as it relates to PV installations (Code 690).
3. Present a compelling case of when the PV electricity market will reach "grid¬ parity."

TCEN 224. Field Experience
1-3 Credits (1-3)
Student will collaborate with instructor in proposing, defining, implementing, and analyzing outcomes of a project in the Environmental and Energy fields of study. May be repeated up to 6 credits. Consent of Instructor required. Restricted to: TCEN majors. Restricted to: Community Colleges only.

TCEN 246. Building Weatherization & Auditor Fundamentals
3 Credits (3)
Course provides information on how to locate air leaks and identify heat losses or gains through specific testing. Students will learn how

to inspect and evaluate building envelopes, mechanical systems, and ventilation systems to determine the safety and energy consumption for each system. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.
Prerequisite(s): TCEN 113 and OETS 104.
Corequisite(s): TCEN 221.

TCEN 251. Advanced Photo Voltaic On/Off Grid Installation
3 Credits (2+2P)
Photo Voltaic advanced topics to include panel racking and installation, battery storage, charge controllers, mechanical integration of arrays on buildings, and key elements involved in choosing a mounting system. May be repeated up to 3 credits.
Prerequisite(s)/Corequisite(s): TCEN 222. Restricted to Community Colleges campuses only.

TCEN 252. NABCEP Entry-Level Exam Review
2 Credits (2)
Course presents knowledge, key terms, and concepts of photovoltaic systems and solar hot water systems as related to the NABCEP Entry-level exam. This exam is for those wanting to enter the workforce in either solar thermal or solar PV. Scheduling and taking the exam is the responsibility of the student. Consent of Instructor required. Restricted to Community Colleges campuses
Prerequisite(s): TCEN 222.
Learning Outcomes
1. Analyze photovoltaic markets and application trends
2. Complete practice questions for the NABCEP PV Associate Exam
3. Develop a practice of safe work environment as it relates to the installation and maintenance of photovoltaic systems according to OSHA standards
4. Apply electrical concepts to the operation and maintenance of photovoltaic systems and related equipment
5. Apply solar energy fundamentals, i.e. photovoltaic module essentials, system components, system sizing principles, system electrical design, system mechanical design, performance analysis, maintenance, and troubleshooting
6. Pass the NABCEP PV Associate exam with at least 70 percentile.

TCEN 254. Renewable Energy Internship
2 Credits (2)
Student will receive industry-related renewable energy experiences at an approved industry location. Typical areas of hands-on practices will be installing solar PV, solar hot-water systems, or wind energy systems. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.
Prerequisite(s): TCEN 112 and 113 and 222.

THEA-THEATER

THEA 1110G. Introduction to Theatre
3 Credits (3)
This course provides an introduction to the study of theatre. Students will examine various components that comprise theatre, such as acting, directing, playwriting, dramaturgy, scenic and costume design, stagecraft, spectatorship, history, theory, and criticism.
Learning Outcomes
1. Define and discuss basic theater terms and concepts.
2. Discuss the fundamental elements of theatre, and the ways in which theatre differs from other art forms.
3. Analyze and critique the elements of a live theatrical production.
4. Identify and describe the roles of various theatre artists including actors, directors, playwrights, dramaturges, and designers.

THEA 1210G. Acting for Non-Majors
3 Credits (3)
This class gives non-majors experience in the depth and craft of the actor's art. Students will learn various terms, techniques, and practices of acting and will demonstrate their understanding in class. Through exercises and improvisations, partnered scenes, and group work, students will be better able to appreciate the work of others as they learn techniques of performing. May be repeated up to 3 credits.
Learning Outcomes
1. Develop fundamental physical, vocal, analytical, and imaginative skills for acting for the stage.
2. Apply fundamental techniques of voice and movement for the stage.
3. Apply principles of play text analysis to understand story, character, and meaning.
4. Gain a better understanding of an actor's approach to goals, tactics, and obstacles.
5. Engage in character creation and development while preparing and performing monologues and scenes.
6. Learn a common vocabulary to help discuss the process of acting.
7. Employ collaborative methods of work with a partner and in groups.
8. Observe and evaluate acting skills of other actors.
9. Increase verbal and physical communication skills which are applicable in any field. 1
10. Develop personal and social responsibility via group work, research and self-reflection. 1
11. Increase confidence and self-esteem via continuous presentations with supportive feedback.

THEA 1221. Beginning Acting
3 Credits (3)
Basic understanding of self-expression through a variety of physical exercises, improvisation, and character study, culminating in scene or monologue work. Restricted to: THTR majors.
Learning Outcomes
1. Apply a common vocabulary that serves as a foundation in acting for the theatre major and minor.
2. Communicate effectively in front of an audience, applying learned concepts while exercising freedom and control of voice, body, and imagination.
3. Analyze the written character and live performance.
4. Provide objective feedback to your classmate's work as well as your own, that supports a greater understanding of our craft while building trust within the collaborative ensemble.

THEA 1222. Stage Movement
3 Credits (3)
Physical techniques for the actor to develop kinesthetic awareness and skills in characterization, archetypes, and stage combat. Restricted to: THTR majors.
Learning Outcomes
1. To provide fundamental training in a variety of movement techniques which can be applied to both theatrical performance and physical communication in everyday life.
2. Observation and critical skills will be advanced through class participation and outside assignments

3. Class exercises are aimed at guiding participants to uncover their own creative expression, while working with efficient, healthy body alignment

THEA 1223. The Art of Theatre
3 Credits (3)
This course introduces the variety and scope of theatre professions, the value and goals of the theatre major and an analysis of the art form from script to stage. Restricted to: Required for THTR majors majors.
Learning Outcomes
1. An overview of the history of theatre in the Western world
2. A general understanding of the artistic roles and functions within the theatre industry (including within NMSU Theatre as a model)
3. A strong preparation for independent in-depth script analysis and theatre critique

THEA 1310. Introduction to Costuming
3 Credits (3)
This course introduces students to basic skills generally used in creating costumes for theatre. During the semester students will be introduced to the costume shop, equipment, supplies, and processes. They will learn the process of sewing a garment and running a stage production.
Prerequisite(s)/Corequisite(s): THEA 1310L. Restricted to: THTR majors.
Learning Outcomes
1. Demonstrate basic hand and machine sewing skills.
2. Use basic costume craft tools and techniques.
3. Analyze fabric selection for the stage.
4. Draft and use patterns.
5. Take body measurements for patterning and construct a costume from those measurements.
6. Combine interpersonal communication skills with costume construction skills.
7. Analyze a script for costume design purposes.
8. Build a garment.

THEA 1310L. Costume Craft Lab
1 Credit (1)
Class members will assist in construction for productions in a studio environment.
Prerequisite(s)/Corequisite(s): THEA 1310.
Learning Outcomes
1. This laboratory class compliments THEA 1310: Costume Crafts.
2. It gives the student an opportunity to put into practice the skills learned in THEA 1310 as well as be introduced to and participate in the day-to-day operations of the Costume Shop.

THEA 1415. Running Crew I
2 Credits (1+2P)
Students learn about backstage and front of house production positions and work on a technical aspect of a product in a rehearsal and performance environment.
Learning Outcomes
1. Students will learn one, or more, of the basic technical elements of theatrical crew work.

THEA 2310. Stagecraft
3 Credits (3)
Student will explore basic skills for scenic designers and techniques of set construction for the stage, including building scenery, rigging, painting and properties.
Prerequisite(s)/Corequisite(s): THEA 2310L.
Learning Outcomes
1. Demonstrate a range of technical skills, which will qualify them to assist in the basic technical production of a play.
2. Demonstrate and apply how to safely and competently use hand tools, power tools, electrical, and electronic stage equipment.
3. Analyze the technical aspects of a play in performance.
4. Read and construct scenery from ground plans, elevations, and drawings.
5. Analyze a script from the perspective of a designer, artistic, and/ or technical director.

THEA 2310L. Stagecraft Laboratory
1 Credit (1)
Class members will assist with construction for productions in a studio environment.
Prerequisite(s)/Corequisite(s): THEA 2310.
Learning Outcomes
1. History of scenic design and the development of present day stage design.
2. How to create and interpret basic scenic ground plans, elevations, and detail drawings.
3. To construct basic scenic structures to include flats and platforms.
4. Various techniques of scenic painting and decorating.
5. The installations of theatre lighting instruments and sound equipment.

THEA 2340. Introduction to Design
3 Credits (3)
Introduction into our visual world via the language of designers, focusing on collaboration, creative thinking and presentation skills. The varied design professions in theatre and the performing arts will be explored. Restricted to: Required of all THTR Majors.
Learning Outcomes
1. Apply design vocabulary and descriptions when speaking about design.
2. Identify design tools and make choices about where to use them.
3. Apply the foundation information in understanding how design tools work.
4. Apply correct terminology in assessing design and script analysis.
5. Read and understand some of the design documents commonly used in the industry.

THEA 2415. Running Crew II
1 Credit (1)
Students learn about backstage and front of house production positions and work on a technical aspect of a product in a rehearsal and performance environment.
Learning Outcomes
1. To provide students with “hands on” experience participating in being a member of a running crew on a theatrical production.
2. Students will learn one, or more, of the basic technical elements of theatrical crew work.

THEA 2421. Vocal Production for the Actor
3 Credits (3)
Exploration and development of the actor's vocal instrument, including relaxation, projection, diction and articulation.
Learning Outcomes
1. Apply concepts of alignment, relaxation, breath support, resonance, projection, and articulation for your personal and professional benefit.

2. Refine vocal 'problem solving' which will carry into your personal and professional life.
3. Apply vocal concepts to a variety of text in order to understand and appreciate your voice and its capabilities, both intellectually and sensorially.
4. Apply the vocal/speech tools consciously and behavior-ally, as an aid in the search for musicality of the voice in conjunction with truth and believability.

THEA 2993. Theatre Workshop I
0.5 Credits (.5)
Required for all freshman and sophomore theatre majors, this course coordinates all processes within Theatre Arts, providing a forum for discussion and feedback. May be repeated up to 4 credits. Restricted to Las Cruces campus only.
Learning Outcomes
1. This lab course is designed to create community via group meetings with your peers while providing a platform for our guest artists to present information regarding our profession.
2. As time allows, group discussions and sharing will further the sense of community and collaboration with your peers.
3. This forum also provides an opportunity to discuss and provide feedback for each production in the ASTC season.

THEA 2996. Theatre Topics
1-3 Credits (1-3)
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 9 credits.
Learning Outcomes
1. Varies

WATR-WATER UTILITIES (WATR)

WATR 120. Introduction to Water Systems
3 Credits (3)
Introduction to and theory of groundwater sources, production, treatment, and distribution.
Learning Outcomes
1. Effectively present technical information through oral communication.
2. Effectively work as a team.
3. Identify appropriate process changes for different water processes.

WATR 130. Wastewater Collection and Basic Treatment Systems
3 Credits (3)
Introduction to wastewater characteristics, collection, and basic treatment operations.
Learning Outcomes
1. Effectively present technical information through oral and written communication.
2. Identify appropriate process changes for different water processes.

WATR 140. Applied Water and Wastewater Math I
3 Credits (3)
Introduction to basic water and wastewater mathematics, flows through distribution networks and collection systems, and fundamentals of flow measurement.
Prerequisite: CCDM 114 N with a C- or better, or equivalent.
Learning Outcomes
1. Apply problem solving techniques to solve math problems and career related technical problems.
2. Apply estimation techniques to solve problems and check answers for reasonableness.
3. Analyze and solve problems using basic technical tools and techniques.
4. Demonstrate the ability to work as a member of a team to solve problems and complete projects.
5. Display the positive attitude and good work habits necessary for successful employment.

WATR 160. Systems Maintenance
4 Credits (2+4P)
Basic tools, equipment, maintenance schedules, chlorinator trouble-shooting, and chlorine safety. Hands-on training with valves, pumps, meters and chlorination equipment. May be repeated up to 4 credits.
Learning Outcomes
1. Effectively work as part of a team.
2. Identify cause(s) of mechanical/equipment/system failure.
3. Identify corrective actions for mechanical/equipment/system failure.

WATR 175. Programmable Logic Controllers
2 Credits (2)
This course will introduce students to electrical safety, theory, and the function, operations, programming and troubleshooting of the PLC controlling common electrical components utilized in control circuits associated with the water and wastewater industry.
Learning Outcomes
1. Identify corrective actions for equipment failure.
2. Utilize knowledge to develop a treatment facility schematic/design.
3. Identify the sampling points for data collection.
4. Perform operational duties safely.

WATR 180. Water Chemistry
3 Credits (3)
Basic chemistry with applications to water and wastewater analysis.
Prerequisite: CCDM 114 N grade of C- or better, or consent of instructor.
Learning Outcomes
1. Apply critical thinking (includes communicating effectively, applying numerical information appropriately, problem solving effectively and demonstrating appropriate technical skills).
2. Identify information/data required to complete calculations.
3. Use mathematics and problem-solving techniques to analyze and find answers to work- related technical problems.

WATR 182. Water Chemistry Analysis
1 Credit (3P)
Beginning water and wastewater laboratory analysis including gravimetric, volumetric, and quality control techniques.
Prerequisite: Grade of C- or better in CCDM 114 N or equivalent, or consent of instructor.
Learning Outcomes
1. Students will be able to use written communication to effectively present technical information.
2. Students will be able to conduct appropriate lab analysis.

WATR 190. Water and Wastewater Microbiology
3 Credits (3)
Overview of microorganisms associated with water and wastewater. Growth and reproduction, energy production, and methods of counting.
Prerequisite: Grade of C- or better in WATR 130 and WATR 180, or consent of instructor.

Learning Outcomes

1. Effectively present technical information through oral and written communication.
2. Effectively work as part of a team.
3. Evaluate treatment processes utilizing collected or given data.
4. Identify appropriate process control changes for different treatment processes based on process evaluation.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Integrate multiple, related concepts to determine appropriate operational response.

WATR 192. Water and Wastewater Microbiological Analysis
1 Credit (3P)
Introduction to water and wastewater treatment operational tests such as BODs, solids testing, activated sludge control tests, use of microscope, and bacteriological techniques.
Prerequisite: Grade of C- or better in WATR 130 and WATR 182, or consent of instructor.
Learning Outcomes

1. Identify information/data required to complete calculations and accurately perform them.
2. Identify correct operational parameters for treatment processes.
3. Identify sampling points for data collection from treatment processes.
4. Demonstrate correct/accurate laboratory technique.
5. Perform appropriate lab analyses with acceptable accuracy.
6. Perform operational/laboratory duties safely.

WATR 200. Internship
3-5 Credits
On-the-job training/work experience with municipalities or industries, working in water or wastewater treatment plants, high purity water plants, industrial waste plants, distribution systems, or wastewater collection systems. May be repeated up to 5 credits.
Learning Outcomes

1. Be able to successfully perform on the job duties of a Water or Waste Water technician.
2. Be able to evaluate treatment processes utilizing collected or given data.
3. Be able to successfully work as part of a water or waste water operations team.
4. Demonstrate knowledge of applicable regulations.

WATR 220. Water Treatment Systems
3 Credits (3)
Theory of water systems operation including surface water treatment, fluoridation, sodium zeolite softening, corrosion control, iron removal, various filtration methods, and overview of SDWA.
Prerequisite: Grade of C- or better in WATR 180 and WATR 182, or consent of instructor.
Learning Outcomes

1. Effectively present technical information through written and oral communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Identify information/data required to complete calculations and accurately perform them.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Demonstrate knowledge of applicable regulations and their application.
8. Integrate multiple, related concepts to determine appropriate operational response.

WATR 222. Water Systems Operation
1 Credit (3P)
Operations of various water treatment systems including surface water treatment, sodium zeolite softeners, and various filtration methods.
Prerequisite: C- or better in WATR 220, or consent of instructor.
Learning Outcomes

1. Effectively present technical information through written and oral communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Identify information/data required to complete calculations and accurately perform them.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Demonstrate knowledge of applicable regulations and their application.
8. Integrate multiple, related concepts to determine appropriate operational response.

WATR 230. Advanced Wastewater Treatment
4 Credits (4)
Calculations and operations involved in wastewater and water reclamation plants.
Prerequisite: Grade of C- or better in WATR 140, WATR 190, and WATR 192, or consent of instructor.
Learning Outcomes

1. Students will be able to use written communication to effectively present technical information.
2. Students will be able to conduct appropriate lab analysis.

WATR 232. Wastewater Systems Operations
1 Credit (3P)
Operation of pretreatment, primary, and biological treatment units.
Prerequisite: Grace of C- or better in WATR 230, or consent of instructor.
Learning Outcomes

1. Effectively present technical information through written and oral communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Evaluate invalid labs analysis to determine corrective actions.
5. Identify information/data required to complete calculations and accurately perform them.
6. Identify correct operational parameters for treatment processes.
7. Identify sampling points for data collection from treatment processes.
8. Demonstrate correct/accurate laboratory technique.

9. Perform appropriate lab analysis with acceptable accuracy. 1
10. Perform appropriate process control changes for various treatment processes. 1
11. Perform operational/laboratory duties safely. 1
12. Demonstrate knowledge of applicable regulations and their application. 1
13. Integrate multiple, related concepts to determine appropriate operational response.

WATR 240. Advanced Water and Wastewater Math II
3 Credits (2+2P)
Advanced water and wastewater mathematics. Flow measurement. Systems head and pump curves. May be repeated up to 3 credits.
Prerequisite: Grade of C- or better in WATR 140.
Learning Outcomes
1. Identify information/data required to complete calculations and accurately perform them.
2. Use written communication to effectively present technical information.

WATR 250. Municipal Systems Management
4 Credits (4)
Management of water utility systems including laws, finance, records, and safety.
Prerequisite: Grade of C- or better in WATR 120 and WATR 130.
Learning Outcomes
1. Effectively work as a team leader.
2. Evaluate responsibilities of utility management.
3. Identify appropriate planning, organization, and recordkeeping.
4. Evaluate appropriate practices for interviewing, hiring, supervising, and disciplining employees.
5. Evaluate and identify the development of policies and procedures for dealing with harassment, grievances, and violence in the workplace.
6. Implement effective oral and written communication, including formal and informal public relations.
7. Identify and implement assessing the financial strength and stability of a water/wastewater utility, budgeting and fund capital improvements.

WATR 270. Special Topics
1-4 Credits
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

WATR 275. Certification Review
3 Credits (3)
Review of water and wastewater plant operations and laws in preparation for state certification exams. Restricted to Community Colleges campuses only.
Prerequisite: WATR 120, WATR 130, WATR 140, WATR 160.
Learning Outcomes
1. Identify appropriate process changes for different wastewater processes.
2. Identify appropriate process changes for different water processes.
3. Identify corrective actions for equipment failure.
4. Identify analytical data required to complete process control calculations.
5. Accurately complete water process control calculations.
6. Accurately complete wastewater process control calculations.
7. Evaluate operational problems.
8. Identify the sampling points for data collection.

WATR 285. High Purity Water Treatment Systems
3 Credits (3)
Principles of high purity water production including microfiltration, ultrafiltration, reverse osmosis, and deionization.
Prerequisite: Grade of C- or better in WATR 220.
Learning Outcomes
1. Effectively present technical information through oral and written communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes bason on process evaluation.
4. Identify information/data required to complete calculations and accurately perform them.
5. Identify correct operational parameters for treatment processes.
6. Identify sampling points for data collection from treatment processes.
7. Integrate multiple, related concepts to determine appropriate operational response.

WATR 287. Advanced Water Chemistry Analysis
3 Credits (6P)
Sampling techniques, analysis, and evaluation of potable water contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods.
Prerequisite/Corequisite: WATR 285. Restricted to Community Colleges campuses only.
Learning Outcomes
1. Evaluate invalid labs analysis to determine corrective actions.
2. Identify information/data required to complete calculations.
3. Accurately perform calculations.
4. Demonstrate correct/accurate laboratory technique.
5. Demonstrate correct/accurate laboratory technique.
6. Perform operational/laboratory duties safely.

WATR 290. Advanced Wastewater Microbiology and Chemistry
3 Credits (3)
Covers NPDES permits and DMR calculations and reporting; 503 sludge regs, including pathogen and vector attraction reduction and pollutants; wetlands, composting, and wastewater treatment ponds microbiology; activated sludge bulking and foaming microbiology and treatment; and use of selector to remove nutrients and prevent the growth of filamentous bacteria.
Prerequisite: Grade of C- or better in WATR 190 and WATR 192.
Learning Outcomes
1. Effectively present technical information through oral and written communication.
2. Evaluate treatment processes utilizing collected or given data.
3. Identify appropriate process control changes for different treatment processes based on process evaluation.
4. Identify cause(s) of mechanical/equipment/system failure and identify the corrective actions to take.
5. Identify information/data required to complete calculations and accurately perform them.
6. Identify correct operational parameters for treatment processes.
7. Identify sampling points for data collection from treatment processes.

8. Demonstrate knowledge of applicable regulations and their application.
9. Integrate multiple, related concepts to determine appropriate operational response.

WATR 292. Advanced Wastewater Analysis
3 Credits (6P)
Covers sampling techniques, analysis, and evaluation of wastewater contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods.
Prerequisite: Grade of C- or better in WATR 190 and WATR 192.
Learning Outcomes
1. Perform titrations and document the necessary quality control.
2. Perform microbiological analysis and document the necessary quality control.
3. Perform spectrophotometric analysis and document the necessary quality control.
4. Perform BOD/COD analysis and document the necessary quality control.
5. Complete performance evaluation samples satisfactorily.
6. Effectively present technical information through oral and written communication.
7. Identify information/data required to complete calculations and accurately perform calculations.
8. Demonstrate knowledge of applicable regulations and their application.

WELD-WELDING TECHNOLOGY (WELD)

WELD 1110. Introduction to Welding Fundamentals
3 Credits (2+2P)
This course focuses on the fundamental techniques employed in the welding field. It is a laboratory approach to understanding and building skills in welding related areas including shop safety, hand and portable power tool usage, and welding.
Learning Outcomes
1. Demonstrate knowledge of basic welding processes.
2. Demonstrate shop safety including the proper use of welding hand and machine tools.
3. Practice and demonstrate SMAW with various electrodes in all positions.

WELD 1120. Print Reading for Welders
3 Credits (3)
Provides students with the knowledge to read and interpret prints and welding symbols and transfer this knowledge to the workplace with layout tools and measuring instruments.
Learning Outcomes
1. Identify, read and follow AWS welding symbols.
2. Demonstrate the ability to interpret orthographic and isometric drawings.
3. Demonstrate the ability to read/interpret pipe welding drawing and schematics.
4. Demonstrate proficiency in the mathematics utilized in welding and fabrication.

WELD 1130. SMAW (Shielded Metal Arc Welding) I
6 Credits (3+6P)
This course will cover introductory theory and practical applications of structural plate welding, welding safety, handheld torch cutting operations and equipment set up. The development of student skills using the Shielded Metal Arc Welding process in all positions will be stressed. The standards of this course are set by the American Welding Society and utilized in both classroom study and laboratory work.
Learning Outcomes
1. Perform welds on various joints in all positions.
2. Perform welds on various joints in all positions.
3. Demonstrate proficiency in identification of electrode classification and proper storage.
4. Identify SMAW power sources and their characteristics.
5. Maintain, use, and safely operate SMAW equipment.

WELD 1140. GMAW-Gas Metal Arc Welding I
3 Credits (2+2P)
Introduces Gas Metal Arc Welding (GMAW) short circuit welding safety, machine set up and shutdown procedures. Topics include personal protective equipment (PPE), GMAW uses, advantages and disadvantages, constant voltage (CV) power source, polarity, electrode types, shielding gasses, and weld discontinuities and defects identification and corrective practices. Lab exercises will include various joints in all positions.
Learning Outcomes
1. Demonstrate the ability to safely operate the Gas Metal Arc Welding equipment.
2. Demonstrate Gas Metal Arc Welding theory and application.
3. Demonstrate the ability to perform Gas Metal Arc Welding on various joints in all positions.
4. Demonstrate the ability to fabricate assigned projects while applying proper tolerance to finished projects.

WELD 1155. GTAW-Gas Tungsten Arc Welding I
3 Credits (2+2P)
A basic course designed to provide the student with the ability to setup, maintain and operate Gas Tungsten Arc Welding (GTAW) equipment safely. Develop skills to weld structural joints to bend tests standards utilizing various metals. Weld quality will be measured in accordance with American Welding Society standards.
Learning Outcomes
1. Demonstrate the ability set up GTAW equipment for use, inspect equipment prior to use, perform minor maintenance, and identify potential hazards.
2. Demonstrate the ability to perform GTAW on various base metals in all positions.
3. Demonstrate the understanding of basic metallurgical differences in various base and filler metals.
4. Demonstrate an understanding of welding currents and power sources.

WELD 1171. Layout and Fabrication
3 Credits (1+4P)
This class is an introduction to general layout and fabrication techniques as related to structural welding. Emphasis will be on construction of small projects to tolerances using prints. A variety of welding processes will be used in all positions.
Prerequisites: WELD 1130, WELD 1120, WELD 1140, and OETS 104 or OETS 118.

Learning Outcomes

1. Demonstrate the ability to fabricate projects.
2. Use shop drawing and/or prints to create projects and develop the bill of materials for the project.
3. Demonstrate ability to properly follow WPS (Welding Procedure Specification) during fabrication.

WELD 1191. Welded Art
3 Credits (1+4P)
Students explore the possibilities of welded art.
Prerequisite: WELD 1110.
Learning Outcomes

1. Demonstrate knowledge of the different forms of welded art.

WELD 1210. Flux Cored Arc Welding
3 Credits (2+2P)
Principles of flux cored arc welding (FCAW) terminology, safety procedures, and equipment set-up. Students will practice welding structural joints in all positions using the FCAW process.
Learning Outcomes

1. Demonstrate the set up of FCAW equipment.
2. Demonstrate safe operations of FCAW equipment.
3. Demonstrate minor repairs/maintenance of equipment.
4. Perform FCAW welds to minimum required specifications.

WELD 1220. Pipe Welding I
3 Credits (2+2P)
Stresses the theory and practical application of pipe welding in the 1-G and 2-G positions. This course will develop skills in the fit-up and technique of welding pipe, using electrodes and various Welding process.
Prerequisite(s): WELD 1130, WELD 1140, and WELD 1155, or consent of instructor.
Learning Outcomes

1. Demonstrate an understanding of 1-G and 2-G pipe welding using a variety of pipe sizes.
2. Demonstrate the ability to produce destructive test samples to AWS and/or API standards.
3. Demonstrate the ability to prepare, fit and tack pipe to specifications, getting pipe ready to weld.
4. Demonstrate knowledge of appropriate pipe fitting terminology and calculations.

WELD 1310. Metallurgy
3 Credits (3)
This course includes a study of ferrous and nonferrous metals from ore to the finished products. Emphasis is placed on metal alloys, heat-treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Technical terms used in the various phases of metallurgy, from early history to present.
Prerequisites: WELD 1130 or consent of instructor.
Learning Outcomes

1. Describe metals and alloys commonly used in industry.
2. Describe mechanical properties of metals including stresses and failures.
3. Describe the metalworking processes of casting, forming, and machining.
4. Describe the two basic processes, and state the four major purposes of heat treatment.

WELD 2130. SMAW (Shielded Metal Arc Welding) II
6 Credits (3+6P)
Reviews and builds upon SMAW-1 skills. Students will learn joint design and AWS standards for welder qualification testing. Continuation of WELD 1130. May be repeated up to 6 credits.
Prerequisite: WELD 1130.
Learning Outcomes

1. Meet AWS acceptance criteria for weld quality and destructive tests (bend test).

WELD 2155. GTAW-Gas Tungsten Arc Welding II
3 Credits (2+2P)
A continuation of GTAW I. This course is designed to provide the student with the ability to setup, maintain and operate Gas Tungsten Arc Welding (GTAW) equipment safely. Develop skills to weld structural joints to bend tests standards utilizing various metals. Weld quality will be measured in accordance with American Welding Society standards.
Prerequisite: WELD 1155 or consent of instructor.
Learning Outcomes

1. Demonstrate the ability to perform increasingly complex welds.
2. Demonstrate the ability set up GTAW equipment for use, inspect equipment prior to use, perform minor maintenance, and identify potential hazards.
3. Demonstrate the ability to perform GTAW on various base metals in all positions.
4. Demonstrate the understanding of basic metallurgical differences in various base and filler metals.
5. Demonstrate an understanding of welding currents and power sources.

WELD 2220. Pipe Welding II
3 Credits (2+2P)
Stresses the theory and practical application of 5-G and 6-G pipe welding. This course will develop skills in the technique of pipe welding, using various Welding processes.
Prerequisite: WELD 2120.
Learning Outcomes

1. Demonstrate an understanding of 5-G and 6-G pipe welding using a variety of pipe sizes.
2. Demonstrate the ability to produce destructive test samples to AWS and/or API standards.
3. Demonstrate the ability to prepare, fit and tack pipe to specifications, getting pipe ready to weld.
4. Demonstrate knowledge of appropriate pipe fitting terminology and calculations.

WELD 2290. Welder Qualifications
6 Credits (3+6P)
Laboratory and classroom instruction on AWS and ASME Welder Performance Qualification Tests. All position plate and pipe techniques and tests for SMAW, GMAW, GTAW, FCAW, and SAW. Nondestructive and destructive examination methods, and basics of welding codes. Restricted to Welding majors.
Prerequisites: OETS 104 or OETS 118; and WELD 1130, WELD 1120, WELD 1310, WELD 1140, WELD 1155, WELD 1210 and WELD 2155 or consent of instructor.
Learning Outcomes

1. Pass the AWS and ASME Welder Performance Qualification Tests in all processes and all positions.
2. Recognize the role of welding inspection and testing in industry.

3. Identify essential information for welding procedure and performance qualification.
4. Identify essential welding and inspection information from Welding Procedure Specifications (WPS's).
5. Identify essential welding and inspection information from AWS D1 1, Structural Welding Code – Steel.
6. Identify essential welding and inspection information from ASME, Boiler and Pressure Vessel Code - Section IX.
7. Describe the basic principles of non-destructive testing methods.

WELD 2995. Cooperative Education in Welding
1-6 Credits
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. May be repeated up to 6 credits.
Learning Outcomes
1. Varies.

WELD 2996. Topics in Welding
1-6 Credits
Individual studies in areas of welding technology. May be repeated up to 12 credits.
Learning Outcomes
1. Varies.

WELD 2997. Independent Study
1-4 Credits
Individual Studies related to Welding.
Learning Outcomes
1. Varies.

Student Handbook

The *NMSU-DACC Student Handbook* is divided into the six sections whose titles appear in the menu on the left under "Student Handbook." Questions concerning the policies and procedures in this handbook should be directed to:

Office of the Vice President for Student Services
Doña Ana Community College
2800 Sonoma Ranch Blvd.
Las Cruces, NM 88011-1656
(575) 527-7530

Policies in the *NMSU-DACC Student Handbook* are subject to change.

Student Social Code of Conduct

PART 1: INTRODUCTION

The Student Social Code of Conduct (SSCC) is authorized by the Regents of New Mexico State University (NMSU) as set forth in the Regents Policy Manual (RPM) 5.20. Rules 5.20 through 5.26 of the Administrative Rules and Procedures of NMSU (ARP) collectively constitute the SSCC, which clarifies student rights and responsibilities, and the role of Student Life, overseen by the Dean of Students. Academic misconduct (e.g. cheating on an exam, plagiarism) is outside the purview of the SSCC and is governed by ARP 5.10 and 5.11 (the Student Academic Code of Conduct (SACC).

The Dean of Students oversees student conduct matters for the NMSU system, including its community colleges, through the NMSU vice-president for student success. Any requirement to be fulfilled by the department of the Dean of Students under the SSCC may be addressed by the dean of students, or dean of student's designee at any campus.

The SSCC establishes core values which support the standards of social conduct expected of NMSU Students. Violations of the standards, when proven by a preponderance of the evidence, will result in a consequence commensurate with the nature of the violation, and the severity of the resulting harm or level of risk of harm created.

The SSCC also establishes procedures for: 1) reporting suspected or observed misconduct, 2) fact finding, 3) educational conferences, 4) issuance of Charge, and 5) hearings, sanctions and appeals.

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PART 2: CORE VALUES

The core values that underpin the social conduct standards set forth in **ARP 5.22** are as follows:

1. **Community**: NMSU Students welcome all individuals into their academic and social activities to enhance the learning and social environments.
2. **Integrity**: NMSU Students exemplify honesty, honor and a respect for the truth in all of their actions.
3. **Social Justice**: NMSU Students recognize the dignity of every person, anticipating and appreciating how their decisions and actions may have an impact on others. NMSU Students are just and equitable in their treatment of all members of the community, and take action to discourage and challenge others who may seek to harm or diminish the worth of others.
4. **Respect**: NMSU Students show consideration and positive regard for each other and for members of the community, through their words and actions.
5. **Responsibility**: NMSU Students accept responsibility for their own conduct and its impact upon self, others and the community, seeking guidance and assistance as necessary and appropriate.

PART 3: DEFINITIONS AND ROLES

Terms defined for purposes of the SSCC are capitalized throughout the SSCC, to denote such defined status.

1. **Appeal Officer**: The individual who decides whether to accept a Respondent's or Complainant's appeal from a Hearing Officer's decision and imposition of Sanctions, and if accepted, reviews the hearing record, the appeal petition and any response to the petition, and issues a decision regarding the appeal. The Appeal Officer cannot have been directly involved in the investigation, the decision to initiate a charge or the original determination by the Hearing Officer. For NMSU's Las Cruces campus, Student Life's vice president for student success or designee serves as Appeal Officer. For the community colleges, each campus president or designee serves as Appeal Officer. In the event these officials are not available to serve (e.g. scheduling conflict, conflict of interest, lack of objectivity due to prior involvement), the provost and senior vice president for academic affairs or designee will serve as Appeal Officer.
2. **Case Administrator**: The individual designated to facilitate the SSCC process, and who is not eligible to serve as either Hearing Officer or Appeal Officer. The Case Administrators from the community colleges work in coordination with the Dean of Students. The dean of students designates the Case Administrators, and may also elect to serve in this role.
3. **Charge**: A formal written notification to a Respondent 1) informing them that they are the subject of an SSCC conduct investigation, 2) describing the misconduct they are alleged to have committed or participated in, and 3) describing the provisions of the SSCC the alleged conduct violates and the likely sanction, should such allegation be proven or admitted to by Respondent.
4. **Complainant (aka Reporter)**: A person who submits a complaint or report to the Dean of Students, or other appropriate NMSU employee, indicating that a student may have violated the SSCC Conduct Standards and/or who asserts injury, damage or loss (to person, property, or reputation) as a result of a student's alleged behavior.
5. **Day**: A business day, defined as Monday through Friday 8:00 a.m. to 5:00 p.m., except for those days designated as official NMSU holidays or subject to an official university closure.
6. **Dean of Students**: In upper case, "Dean of Students" denotes the NMSU department headed by the dean of students (located on the 2nd floor of the Corbett Center Student Union Building), which is a component of the Student Life Division.
   In lower case, "dean of students" is a position title referring to the individual holding the position of dean of students, who serves as NMSU's chief conduct administrator for the NMSU System, and also serves as the director of the Student Life Division.
7. **Educational Conference**: An informal, interactive meeting between the Case Administrator and a Student alleged to have violated the SSCC. See **ARP 5.26 (https://arp.nmsu.edu/chapter-5/5-26.html)** Part 4.
8. **Hearing Officer**: An NMSU employee or agent, other than the Case Administrator, who conducts the fact-finding hearing in non-3.25 cases conduct cases, and renders a determination based on a preponderance of the evidence. Upon a finding of responsibility for a violation of the SSCC by OIE in a 3.25 case, or a determination by the Hearing Officer in a non-3.25 case, the Hearing Officer imposes an appropriate Sanction. The dean of students appoints the Hearing Officer or may serve as the Hearing Officer.
9. **Interim Measures**: Individualized services or resources offered to or required for parties involved in a conduct case, including both supportive and temporary protective measures. (**See ARP 5.23 – Interim Measures (https://arp.nmsu.edu/chapter-5/5-23.html)**)
10. **Investigate/tion**: The follow through on an alleged SSCC violation to ascertain the facts related to the alleged details and circumstances. Investigations may be a part of an Educational Conference, may result in additional charges, or may result in dismissal of the SSCC case. This determination is made at the sole discretion of the Dean of Students and/or designee.
11. **Notice**: A written communication which may be delivered in person, by U.S. mail, or through secure electronic transmission to or from the addressee's official NMSU email account. Text messages and social media postings, albeit in written form, are not sufficiently formal to serve as "Notice" for purposes of the SSCC, but may be used for reminders and less formal correspondence.
12. **NMSU Community**: Includes NMSU Students, faculty and staff and visitors to campus (e.g. volunteers, vendors, members of the public attending NMSU functions).
13. **NMSU Property**: All land, facilities and other property owned, operated or controlled by the Regents of NMSU.
14. **NMSU Sponsored Activities**: Events or activities involving Students, Student Organizations, or NMSU departments, faculty members, or employees that are:
    a. expressly authorized, aided, conducted or supervised by NMSU;
    b. funded in whole or in part by NMSU; or
    c. initiated by an officially chartered Student Organization and conducted or promoted in the name of that Student Organization or NMSU.
15. **Preponderance of the Evidence**: The amount of evidence required to prove a violation of the SSCC. A Preponderance of the Evidence means "more likely than not", or stated another way, Preponderance of the Evidence means the "greater weight of the evidence".
16. **Reporter**: A person or entity who submits a complaint or report to the Dean of Students or other appropriate NMSU employee alleging that a Student or Student Organization violated the SSCC.
17. **Respondent**: A Student or Student Organization charged with violating one or more provisions of the SSCC.
18. **Sanction**: A Sanction is a disciplinary measure intended to educate the Respondent, remedy the harm, and/or to deter future misconduct.
19. **Student**: An individual admitted or enrolled, for any type of credit or not for-credit course, offered by NMSU or any of its community

colleges, as well as an individual not yet officially enrolled for a particular term, but who has a continuing relationship with NMSU, as determined by the Dean of Students. Examples of a continuing relationship include: 1) when a student leaves NMSU with a disciplinary matter pending, 2) when a student is suspended or dismissed, or 3) when a student is away from NMSU during summer break, a period of clinical or other experiential learning or study abroad experience.

20. **Student Organization**: Any group of Students officially recognized by NMSU as a chartered Student Organization.
21. **Support Advisor**: An individual chosen by a Student to serve as an advisor in a supporting role during a Student disciplinary proceeding. Both the Complainant and the Respondent may elect to utilize a Support Advisor during any meeting, Educational Conference or hearing. The Support Advisor may consult with and advise the Student at any time during the course of the relevant meeting or outside the meeting. The Support Advisor may raise legitimate objections to questions during an investigatory interview or hearing, but may not answer questions on behalf of the Student or unreasonably delay or interfere with the proceeding.
22. **Title IX**: Title IX refers to *Title IX of the Education Amendments of 1972, and its implementing regulation at 34 C.F.R. Part 106.* This federal law prohibits the exclusion of any person from participating in or from receiving benefits of, or any discrimination in, educational programs or activities, based on their (See **RPM 3.25 – Equal Opportunity and Prohibition of Unlawful Discrimination**, **ARP 3.25 - Prohibition of All Forms of Unlawful Discrimination**) (https://arp.nmsu.edu/chapter-3/3-25.html).

PART 4: ADMINISTRATION OF SSCC

1. **Authority of Dean of Students**: Before initiating a conduct case, the Dean of Students will determine whether the allegations of misconduct fall within the Dean of Students' authority. The Dean of Students (or community college designee), has authority to open and pursue conduct cases, including conducting or directing investigations, educational conferences, assessment of facts and sanctions, pre-hearing tasks and hearings including the imposition of sanctions, under these circumstances:
   a. Alleged Student misconduct occurs on NMSU Property; or
   b. Alleged Student misconduct has a substantial nexus with NMSU Property or a substantial impact on a member of the University Community. Such an impact is recognized when the misconduct:
      i. substantially interferes with or causes substantial harm to the NMSU mission, its finances, or reputation;
      ii. occurs at or in connection with an NMSU sponsored event;
      iii. involves an NMSU official or volunteer acting in their official capacity; or
      iv. creates a threat to the safety and security of NMSU property or any member of the NMSU Community.
   c. The alleged misconduct first came to the attention of NMSU within the prior one year period; however, in the case of serious misconduct, the vice president of student success and the OIE Director may grant permission for a conduct case to be initiated after the one year time period has expired.
2. **Concurrent NMSU Disciplinary Proceedings**: Based on a Student's role within the NMSU Community, the Student may be subject to more than one set of conduct standards and consequences for the same misconduct. Examples of dual or multiple roles students may have include that of a campus resident, student athlete, member of ROTC or other student organizations, enrollment in dual credit courses or Early College High School. The various rules and processes related to each of these roles apply independently from the SSCC, and may occur concurrently; the outcome of one may or may not affect the outcome of the other process.
3. **Concurrent SSCC Cases and Court Proceedings**: Misconduct under this SSCC may result in proceedings under both the SSCC and civil or criminal law. Generally, an SSCC conduct case proceeds without regard to the pendency or status of any criminal investigation or other legal proceedings. Determinations made or *sanctions* imposed as a part of an SSCC process *shall* not be subject to change because criminal *charges* were dismissed, reduced, or resolved in favor of or against the criminal law defendant.

Academic Code of Conduct

Student Academic Code of Conduct Section 2

The Student Academic Code of Conduct (SACC), applicable to both undergraduate and graduate students, provides procedures for the review and resolution of alleged or suspected academic misconduct within a reasonably prompt time frame. The full SACC is found in the university's published Administrative Rules and Procedures (ARP), specifically ARP 5.10 and ARP 5.11.

While it is important to refer to the detailed governing rules in the ARP, the process is summarized as follows: An institution-wide Academic Conduct Officer is responsible for processing each case of alleged academic misconduct. The accused student is provided notice of the allegation and has the right to participate during the fact finding process. The student may contest the investigative findings or sanction before a neutral third party hearing panel member. Either party to the matter has the right to a final appeal of the findings or a Level II sanction to the Office of the Provost.

The SACC distinguishes between Level I Sanctions and Level II sanctions, depending upon the severity of the offense and other factors. The Level 1 sanction includes a formal warning. Offenses by graduate students and repeat offenses, even if less serious are subject to a Level II Sanction. Level II sanctions include a notation of academic misconduct on the student's academic transcript.

The full policy, examples of academic misconduct, report form and a flowchart of the procedures for resolving alleged student academic misconduct is available at:

Policies

- ARP 5-10 (https://arp.nmsu.edu/chapter-5/5-10.html)
- ARP 5-11 (https://arp.nmsu.edu/chapter-5/5-11.html)

Examples of Academic Misconduct and Report Form

- ARP Appendix 5.10-A (Examples) (https://arp.nmsu.edu/appendices/appendix-5-10-a.html)
- ARP Appendix 5.11-B (Form) (https://cm.maxient.com/reportingform.php?NewMexicoStateUniv&layout_id=15)

Flowchart of Procedures

- ARP Appendix 5.11-A (https://arp.nmsu.edu/pdf/Appendix-5-11-A.pdf)

Grievance Procedures

NMSU Policy 5.05 – Student Grievance Procedures

PART 1: SCOPE AND PURPOSE

This rule applies throughout the NMSU System. Any undergraduate or graduate student who believes that they have been treated unjustly by an NMSU process or person may seek redress through the appropriate university process. If there is a specific policy or rule applicable to the subject matter of the student's concern, grievance or complaint (hereinafter "grievance"), that policy or rule and its procedures will govern. This rule provides general principles governing student grievances (Part 2); identifies the areas where a specific grievance process is available to the student (Part 3); and sets forth a general student non-academic grievance procedure to govern when no specific grievance resolution process applies (Part 4). If unsure about which process applies to a particular situation, students may obtain guidance from the dean of students or designee in the office of Student Life.

PART 2: GENERAL PRINCIPLES APPLICABLE TO ALL STUDENT GRIEVANCES

Unless in direct conflict with a specific provision in the other rules cited in Part 3, which provide distinct procedures for resolving certain types of student grievances, the following general principles apply:

1. **Day**: When used in this rule, a day means a university business day, Monday through Friday (8:00 am to 5:00 pm), excluding official NMSU holidays and closures.
2. **Official Correspondence**: Communications relating to grievances may be delivered in person, via email using the official NMSU email account, or by U.S. mail to the address maintained in official NMSU records.
3. **Impartiality of Fact Finders and Decision Makers**: Grievances will be investigated and resolved professionally by an objective individual not directly involved in the matter. When a conflict of interest or other type of bias is alleged, senior administration will assist to recommend or take action to ensure the appointment of an impartial decision maker.
4. **Legal Representation**: The purpose of this rule is to allow the parties to resolve grievances at the lowest administrative level in a fair and expeditious manner, without the need for legal counsel. Grievance proceedings at NMSU are not legal proceedings and formal rules of evidence are not applicable. If any party, including the university, elects to utilize legal counsel, the attorneys may attend any meeting or proceeding to advise their client, but must not actively participate in the hearing or speak for the client.
5. **Non-Retaliation**: Students will not be treated adversely for having filed a grievance or participated in the grievance resolution process. Claims of retaliation will be taken seriously and investigated promptly outside of the grievance process. If retaliation is substantiated, appropriate disciplinary action will be taken.
6. **Prompt Resolution**: The time required to resolve a grievance will vary depending upon the nature of the claim and the extent of investigation required. The grievance resolution procedures identified in Part 3 include time deadlines which apply for that process. Grievances filed pursuant to the general student non-academic grievance process set forth in Part 4 below should be finally resolved within sixty (60) Days of the first formal filing, including the appeal process, without extenuating circumstances and notice thereof.
7. **Retention of Student Grievance Records**: Documentation relating to student grievances will be maintained by the dean of students or designee within the office of Student Life, or by the official(s) responsible for administration of the grievance procedures identified in Part 3, with notification to the dean of students, for a minimum of the records retention period required by New Mexico law and regulations (NMAC 1.21.2.1 et seq), and no sooner than three years from the filing of the grievance, as required by NMAC 5.99.1.19 B. The documentation maintained must include a copy of the grievance and any records reflecting the processing of the grievance.

PART 3: PROCEDURES FOR SPECIFIC TYPES OF STUDENT GRIEVANCES

Students, faculty and staff are directed to the following rules which provide distinct procedures for the resolution of certain types of grievances.

1. **Academic Appeals**: If a student's grievance involves dissatisfaction with a grade assigned by an instructor or other concern in the academic environment, the governing rules are ARP 5.13 (for undergraduate courses) or ARP 5.14 (for graduate courses). ***See ARP 5.13 – Review of Undergraduate Student Academic Grievances (Grade Appeals); ARP 5.14 – Review of Graduate Student Academic Grievances (Grade Appeals)***
2. **Reporting Cheating or Other Breach of Academic Integrity**: If a student wishes to report suspected cheating or other breach of academic integrity, the governing rules are ARP 5.10 and 5.11. ***See ARP 5.10 – Student Academic Code of Conduct – Academic Integrity and ARP 5.11 – Procedures to Respond to Allegations of Student Academic Misconduct***
3. **All forms of Discriminatory Misconduct**: If a student's grievance involves any type of illegal discrimination, ARP 3.25 governs ***RPM 3.25, Equal Opportunity and Prohibition of Unlawful Discrimination; ARP 3.25 – Discrimination, Harassment and Sexual Misconduct on Campus.*** Complaints by students or by third parties alleging or reporting unlawful discrimination must be reported to the Office of Institutional Equity at:**O'Loughlin House**
MSC 3515, P.O. Box 30001
Las Cruces, NM 88003
Title IX and Section 504 Coordinator: Laura Castille, OIE Executive Director
Phone: 575-646-3635; **Email:** equity@nmsu.edu; website: http://equity.nmsu.edu
4. **Failure to Provide Reasonable Accommodations**: If a student's grievance relates to a request for reasonable accommodations based on disability, ARP 3.40 and the operational procedures of Student Accessibility Services govern. ***See ARP 3.40 – Process for Disability***

Accommodation; ARP 3.25 – Discrimination, Harassment and Sexual Misconduct on Campus.

5. **Service Animal or ESA Issues**: If a student's grievance relates to use of a Service Animal or an Emotional Support Animal, ARP 3.45 and 3.25 are the governing rules ***ARP 3.45 – Assistive, Service, and Companion Animals on University Premises; ARP 25 – Discrimination, Harassment and Sexual Misconduct on Campus.***
6. **Bullying, Hazing or Non-Discriminatory Hostile Misconduct**: If a student's grievance involves bullying, hazing or other non-discriminatory hostile misconduct, ARP 3.80 applies ***ARP 3.80 – Prohibition of Bullying, Hazing and Hostile Misconduct (Non-Discriminatory).***
7. **Student Conduct Complaints**: If a student has a complaint about other general misconduct or social behavior by another student or student organization, ARP 5.20 governs. ***See ARP 5.20 – Student Social Code of Conduct.***
8. **Intellectual Property Complaints**: If a student's grievance involves a dispute over ownership of intellectual property, ARP 11.05 applies ***ARP 11.05 – Intellectual Property Management and Commercialization.***
9. **Employee Grievances**: If a student also serves in an employee capacity, the university's HR rules will govern. See https://www.arp.nmsu.edu (https://arp.nmsu.edu/)
10. **Grievances by NMSU Students Residing outside of New Mexico**: In addition to the other grievance procedures set forth in this rule, NMSU Students enrolled in courses on-line who reside in a state participating in the State Authorization Reciprocity Agreement (SARA) may obtain an additional review of their grievance from the New Mexico SARA Portal Entity. SARA is an agreement among member states, districts and territories that sets national standards for interstate offering of postsecondary distance education courses and programs and allows students to benefit from educational services across state lines. (https://hed.nm.gov/students-parents/student-complaints (https://hed.nm.gov/students-parents/student-complaints/)). Appeals to the SARA Portal are subject to the following:
    a. Grievances alleging false or misleading information relating to the accuracy of institutional or program accreditation status, tuition and fee expenses, course transfer information, requirements to meet professional licensure requirements or other institutional representation that are not resolved by NMSU may be appealed to the New Mexico SARA Portal Entity (https://hed.nm.gov/students-parents/nc-sara/).
    b. With the exception of grade appeals and student conduct matters, all other grievances not resolved by NMSU, including alleged violation of SARA policies, may also be appealed to the New Mexico SARA Portal Entity (https://hed.nm.gov/students-parents/nc-sara/) within two years from the date of the incident giving rise to the grievance.
    c. In the event of an appeal by a student residing in a state participating in SARA, the NM SARA Portal Entity will notify that state's SARA Portal Entity about the appeal, coordinate with that Entity if it desires to assist with the resolution, and inform that Entity of the final disposition.
    d. Questions concerning NMSU Distance Education or SARA policies and procedures may be emailed directly to **online@nmsu.edu** or mailed to: Distance Education
    New Mexico State University
    Milton Hall, Rm 185
    2915 McFie Circle
    MSC IIQ; P.O. Box 30001,
    Las Cruces, NM 88003
    575-646-8231
    888-729-6678
    575- 646-1650 (DE Director)
    e. Information about SARA may be found at: https://hed.nm.gov/students-parents/nc-sara (https://hed.nm.gov/students-parents/nc-sara/) and grievances may be directed to the New Mexico State Portal Entity Contact at: Alicia Armijo, SARA Coordinator
    New Mexico Higher Education Department
    2044 Galisteo Street, Suite 4
    Santa Fe, NM 87505-2100
    (505) 476-8411
    HigherEd.Info@hed.nm.gov

PART 4: GENERAL STUDENT NON-ACADEMIC GRIEVANCE PROCEDURE

If there is no specific rule or procedure to address the subject matter of a student's concern or grievance, the general student non-academic grievance procedures, set forth below, govern.

1. **Time Deadline to Initiate Grievance**: Absent extenuating circumstances, a student must initiate action pursuant to this procedure within sixty (60) Days following the date that the alleged incident or issue occurred or became known to the student, whichever is later. A failure by the university to respond to the student within the applicable time limits set forth below will entitle, but not require, the student to proceed to the next step in the process.
2. **Grievance Steps:**
    a. **Step 1 (Informal Grievance Resolution)**: The aggrieved student may (but is not required) to attempt an informal resolution directly through written correspondence or in person discussion with the involved staff member. If the matter is not resolved informally, the student may proceed to Step 2.
    b. **Step 2 (Resolution of Written Grievance):** The Student must submit a written grievance to the appropriate unit director or department head, who will typically serve as the grievance officer. In cases where the unit director or department head has involvement in the events leading to the grievance, the grievance may be submitted directly to the cognizant dean or vice president, who will then serve as the grievance officer, or will appoint another individual to serve in this capacity.
        i. The student's grievance should be in the form of a memo and clearly identify that it is a grievance, using the word "grievance" in the subject line. The grievance memo should also include the following: (1) identification of the respondent(s) by name and job title, if known; (2) the issue or allegations that form the basis for the grievance and points in support of the grievant's position; (3) names of individuals with personal knowledge of the facts; and (4) a statement of the relief sought or the desired outcome.
        ii. After confirming that none of the processes identified in Part 3 applies to the facts alleged in the grievance, the grievance officer will conduct additional fact finding to ascertain all relevant facts. Typically, the grievance officer will facilitate a meeting between the involved parties, or will meet with each individually. Students are entitled to bring any support person of their choice to any meeting called for

the purpose of grievance resolution; such support person is not permitted to actively advocate nor speak for the grievant, unless permitted as an approved disability accommodation. After consideration of the relevant facts, the unit head or department head will issue a written decision to the student and to the named respondent(s).

iii. Step 2 will be concluded within twenty (20) Days of the date the grievance was received by the unit director or department head, absent extenuating circumstances and notice to the student.

c. **Step 3 (Appeal; Final Grievance Decision)**: The decision of the unit director or department head may be appealed within five (5) Days from receipt of the written decision, by submitting a written Notice of Student Grievance Appeal to the relevant campus president who will act as, or appoint another individual to serve, as the appeal officer.

i. Upon receipt of the Notice of Student Grievance Appeal, all records pertaining to consideration of the grievance will be forwarded to the appeal officer by the grievance officer.

ii. The appeal officer will review the matter on appeal and issue a final decision on behalf of the university.

iii. As part of the appeal review process, the appellant and the parties involved in the grievance will be permitted to submit their position relative to the issues raised in the Notice of Student Grievance Appeal and to rebut the information submitted by the other parties to the appeal.

iv. Solely at the discretion of the appeal officer, the student and the unit director or department head and/or other involved parties may be requested to attend a meeting in person to summarize their respective positions relative to the grievance decision on appeal, and to answer questions.

v. The appeal officer will consider the grievance record and any additional information offered by the parties and will issue a final decision supported by the facts found by a preponderance of the evidence standard. The final decision may uphold, reverse or modify the decision of the grievance officer. Absent extenuating circumstances and notice to the student, the final decision will be issued no later than twenty five (25) Days from the date the grievance record was received by the office of the appeal officer.

Additional Policies and Procedures

Section 4

Additional Policies and Procedures

Alcohol Policy

[Amendment Adopted by Administrative Council 10.11.05; Ratified by Board of Regents 09.08.06] [Amendment Adopted by Administrative Council 07.13.10; Approved by the Board of Regents 07.20.10]

Statement of Purpose

The Board of Regents of New Mexico State University recognizes that diversity of opinion and freedom of choice are concepts upon which higher education has been established. Inherent within these two basic concepts are the exercise of individual responsibility and making informed decisions on matters related to personal behavior. These are concepts basic to all American freedoms.

Within the university setting, faculty, staff and students must demonstrate a mutual respect and commitment to the institution's educational mission while at the same time fostering diversity of opinion, freedom of choice, and responsibility. In this regard, the university respects the right of those of legal age to consume alcohol if they so choose, providing they do so in accordance with this policy and all applicable laws.

This Alcohol Policy shall apply to every function or event, including but not limited to receptions, banquets, dinners, picnics, or any outdoor event, social event, and campus-wide activity sponsored by organizations or individuals associated with New Mexico State University. Off-campus events conducted by university approved organizations are bound by this policy.

NMSU/DACC recognizes it cannot protect its staff and students from making decisions that could potentially cause harm to themselves or others. NMSU/DACC disclaims any intention to assume duties to protect its staff and students from their own abuse of drugs or alcohol or to protect third party persons from conduct of the staff or students.

Scope of Policy

This Alcohol Policy shall apply to all NMSU campuses (Las Cruces main and community colleges) that have applied for and received a waiver from their respective county jurisdictions.

Permissible Use of Alcohol

Where permitted under the policy, the use of alcohol shall be considered a privilege and may be allowed only if consistent with local, state and federal laws and university policy, and only when it does not interfere with the academic atmosphere of the university.

1. Students of legal age are permitted to use alcohol only in a manner consistent with this policy and the Student Code of Conduct.
2. Students who reside on campus and are 21 years of age or older may possess and consume alcohol as permitted by law and in areas designated by the director of Housing and Residential Life. Refer to the housing policy for those areas designated as "alcohol free".
3. Selling, either directly or indirectly, of alcoholic beverages on campus is prohibited, except in those university facilities possessing a state alcohol license granted under the authority of the Board of Regents, or where pre-approved by the president or designee by event type. The president or designee has authorization, at their discretion, to grant permission for the serving or sale of alcohol at any other on-campus events. All venues approved for the routine sale of alcoholic beverages must have in place an approved policy for the sale and service of alcoholic beverages.
4. Events occurring on campus involving alcohol must obtain the proper approval/permit. The following shall apply:

- Any event involving alcohol must be registered and approved by the university in order to obtain a proper permit.
- Student groups, campus organizations and Greek affiliates who wish to host events involving alcohol must have proper policies in place, consistent with university policies and local, state and federal laws, before they will be issued a permit for their event.
- Student fees may not be used directly to purchase alcohol. However, in certain cases, student fees may be used to fund events where alcohol may be served, provided the appropriate permits are obtained and applicable policies are adhered to.
- Permits will be issued by the president or designee.
- State law requires that anyone serving alcohol must complete a class and receive a server's permit.

- If the consumption of alcohol is a normal part of an academic class, written approval for use must be obtained from the Office of the Executive Vice President and Provost and the Alcohol Review Committee.

Unacceptable Use of Alcohol

NMSU/DACC discourages the use of alcohol that is inconsistent with local, state and federal laws and university policy. NMSU/DACC recognizes that the illegal use of alcohol interferes with the academic environment of this institution and the personal growth of its students.

1. NMSU/DACC explicitly prohibits the unlawful use, possession, sale, or distribution of alcohol or controlled substances by all students and employees. Any violation of applicable local, state, and/or federal law is considered to be a violation of this institution's policies.
2. Staff and/or students will be disciplined if their use of alcohol threatens to create disorder, public disturbances, danger to themselves or others, or property damage.
3. Students who have not yet reached legal age are prohibited from purchasing, using, and/or possessing alcohol.
4. Except as outlined by this policy, consumption or possession of alcohol intended for consumption is prohibited on the university campus. Possession of alcohol intended for consumption is permitted for the sole purpose of prompt delivery to a designated, approved location.
5. Open containers of alcohol are prohibited outside of designated areas.
6. Kegs, party balls or common containers are not permitted, unless in conjunction with an event approved by the president or designee.

Alcohol-Related Misconduct

1. Possession of false identification. Students found in possession of or attempting to use false identification in order to procure alcohol will be subject to the fullest force and effect of the consequences outlined in this policy and/or the Student Code of Conduct.
2. Alcohol as an aggravating factor to other violations. If alcohol is found to be an aggravating factor in other violations of the Student Code of Conduct and/or local, state and federal laws, the student may be subject to more severe punitive sanctioning.
3. Off-campus violations of Student Code of Conduct. The university reserves the right to impose sanctions upon students and student organizations that violate this policy and/or the Student Code of Conduct, even if such actions occurs off-campus.

Consequences for Violations

1. Students found to be in violation of any of these policies through Student Judicial Services will be subject to disciplinary action ranging from Disciplinary Probation in conjunction with educational sanctioning through Expulsion from the university.
2. Students in violation may also be subject to the disciplinary procedures of Housing and Residential Life, if applicable.
3. Staff or students found to be in violation will also be subject to all local, state and federal laws and nothing in this policy shall be construed to protect staff or students from such actions as local, state and/or federal law enforcement deem appropriate. Similarly, if local, state and/or federal law enforcement entities decide not to pursue action against violators, the university reserves the right to process violations through the Student Judicial Services and/or Housing and Residential Life, if applicable.
4. Staff or students who have not been found to be in violation of any of the policies herein who wish to self-identify and seek confidential help through the Employee Assistance Program, Counseling Center and/or the Wellness, Alcohol and Violence Education Program, will not jeopardize their employment or academic status. This benefit will continue as long as the staff member or student refrains from further alcohol misuse and/or abuse.

Children in the Academic Workplace

Students, staff, faculty, and administrators can expect to attend and teach class, or complete work or research in laboratories, libraries, offices, and other workplaces with a minimum of distractions or interruptions. Consequently, the following regulations have been established, and will be enforced by the appropriate dean or administrative supervisor, to ensure that an appropriate academic environment is maintained:

1. Children visiting campus must be closely supervised by an adult at all times.
2. Children will be prohibited from entering dangerous settings such as labs and equipment rooms without the approval of the appropriate dean or administrative supervisor.
3. Children may not attend a class in session without the prior approval of the instructor. Children under the care of the instructor may not attend class without the prior approval of the immediate supervisor.
4. Children may, on rare occasions and with the approval of the supervisor, accompany a parent to the workplace. However, the expectation is that parents will make alternate arrangements for the care of their children during normal working hours.
5. Children taking part in programs and/or special events on-campus are expected to abide by the rules and regulations established by the program or event sponsors.

Family Education Rights and Privacy Act (FERPA)

FERPA, the Family Educational Rights and Privacy Act, is a federal law that protects the privacy of student education records and affords students the right to refuse to permit New Mexico State University/Doña Ana Community College from releasing or disclosing any information about them. Additionally, FERPA gives parents certain rights with respect to their children's education records.

More information about FERPA at NMSU can be found on the Registrar's Office website.

Film Policy

In order to comply with the Federal Copyright Act (Title 17 United States Code) which governs how copyrighted materials, such as films/movies, may be used, it is strongly suggested that chartered student organizations and university departments of New Mexico State University review and adhere to the following guidelines as indicated by the Motion Picture Licensing Corporation when the proposed event involves the screening of a film/movie on the campus. The Department of Campus Activities will be available for consultation regarding the public performance licensing procedures, but will not be responsible for ensuring that the student organization or university department have complied with the intent of the law and have secured the appropriate license.

By law, as well as by intent, the pre-recorded videocassettes and DVDs (referred to henceforth as "Videos") which are available in stores throughout the United States are for all purposes intended for "home use only." Rentals or purchases of Videos do not carry with them licenses for non-home showings. Before you can legally engage in any non-

home showings, you must have a separate license, which specifically authorizes such use.

Any institution, organization, company or individual wishing to engage in non-home showings of Videos should be aware of the Copyright Act's provisions governing the showing of Videos. The Copyright Act grants to the copyright owner the exclusive right, among others, "to perform the copyrighted work publicly." (Section 106 -FCA) In summary, the Copyright Act mandates:

1. The rental or purchase of a Video does not carry with it the right "to perform the copyrighted work publicly." (Section 202 – FCA)
2. Videos may be shown without a license in the home to "a normal circle of family and its social acquaintances" (Section 101 – FCA) because such showings are not "public."
3. Videos may also be shown without a license for non-profit educational purposes and in certain narrowly defined "face-to-face teaching activities" (Section 110. 1 – FCA) because the law makes a specific, limited exception for such showings. (Sections 106 and 110(1) – FCA)
4. Other showings of Videos are illegal unless they have been authorized by license. Even "performances in 'semipublic' places such as clubs, lodges, factories, summer camps and schools are 'public performances' subject to copyright control." (Senate Report No. 94-473, page 60; House Report No. 94-1476, page 64)
5. Institutions, organizations, companies or individuals wishing to engage in non-home showings of Videos must secure licenses to do so – regardless of whether an admission or other fee is charged. This legal requirement applies equally to profit-making organizations and non-profit institutions (Senate Report No. 94-473, page 59; House Report No. 94-1476, page 62)

Showings of Videos without licenses, when one is required, are infringements of the established copyright. If done "willfully and for purposes of commercial advantage or private financial gain," they are a federal crime and subject to a $150,000 penalty per advantage or private financial gain," they are a federal crime and subject to a $150,000 penalty per exhibition (Section 506 – FCA). In addition, even innocent or inadvertent infringers are subject to substantial civil damages ($750 to $30,000) for each illegal showing and other penalties. (Sections 502-505 – FCA)

To Obtain Public Performance License

Obtaining a public performance license is relatively easy and usually requires no more than a phone call. Fees are determined by such factors as the number of times a particular movie is going to be shown, how large the audience will be and so forth. While fees vary, they are generally inexpensive for smaller performances. Most licensing fees are based on a particular performance or set of performances for specified films. The major firms that handle these licenses include:

Swank Motion Pictures, Inc.
http://www.swank.com
(800) 876-5577

Criterion Pictures
http://www.criterionpicusa.com

Motion Picture Licensing Corporation (MPLC)
http://www.mplc.org
(800) 462-8855

Freedom of Expression Policy

New Mexico State University/Doña Ana Community College recognizes and promotes an intellectually open campus. The free exchange of ideas through written, spoken, and other forms of expression reflects its public land-grant heritage, support of diverse points of view, and commitment to excellence in education and research.

A. **Campus Use for Free Expression**

Any outdoor area that is generally accessible to the public may be used by any individual or group for petitioning, distributing written material, handing out newspapers, or conducting speech acts. Prior approval is not necessary as long as the primary action is not to advertise or sell a commercial product. Activities must follow all applicable fire codes, local, state, and federal laws. Activities shall not:

- Unreasonably obstruct vehicular or pedestrian traffic.
- Block the entrances or exits to buildings and facilities.
- Permanently occupy land areas or permanently locate signs and posters.
- Erect permanent structures, shelters or camps.
- Unreasonably interfere with classes, university work, and scheduled events.

In exercising the right of free expression, one must also accept the responsibility of following the laws related to the safety of people and property. If property damage or excessive littering occurs, or other unusual expenses are incurred by the university as a result of the event, event organizers may be held responsible for reasonable charges if deemed appropriate by the President or his/her designee.

1. Petitioning and the Distribution and Posting of Literature and Signs
    a. All literature distributed must contain identifying information either (1) the name of an NMSU/DACC sanctioned organization, or (2) the name and address (which may be an organization and e-mail address) of the unaffiliated entity or person or the telephone number of the unaffiliated entity or person for someone to contact in case of litter problems.
    b. Literature may be distributed hand-to-hand, through the use of tables, or by posting on designated bulletin boards and kiosks.
    c. Written materials may not be placed in non-approved locations. Written materials may not be placed on any part of a university building or structure without university permission. Posting on traffic signs, power poles, trees, and automobile windshields is not allowed.
    d. Tables are allowed as long as they do not unreasonably interfere with pedestrian traffic. Materials may not be left on unattended tables. While scheduling of tables is not required in advance, those individuals who have previously scheduled a site through the Campus Activities Office or other appropriate university offices will take precedence.
2. Group Speech Activities
    a. Group speech activities, including rallies, parades and demonstrations, that are advertised through public media including newspapers, radio, television, flyers, or electronic lists may need to be coordinated through the NMSU Police Department (as described in 2b).
    b. Any individual, group, or organization sponsoring a group speech activity that is expected to draw more than 100 persons at one time and uses public media for advertising must notify the NMSU Police Department no less than 72 hours in advance

of the activity, so that the NMSU Police Department can take appropriate actions to ensure the safety of the event and issue a permit as proof of prior notification. Activities expected to draw 500 or more participants, or require road closures or detours, must be scheduled two weeks in advance.

c. Any individual, group, or organization planning a group speech activity is encouraged to contact the Campus Activities Office in advance so that activities may be coordinated with appropriate university offices. This will allow for locations to be reserved or other concerns to be addressed, such as the use of sound amplification equipment. Contacting the Campus Activities Office is voluntary and does not constitute an approval process.
   i. All scheduling is done on a "first come, first serve" basis.
   ii. Activities that are scheduled receive priority in the use of space on campus.

3. Electronic Sound Amplification
   a. The use of electronic sound amplification equipment is authorized in the open lots to the East of the Pan American Center and Aggie Memorial Stadium, the Corbett Center Outdoor Stage, and the "Aggie Pond" area off Espina Street, from 7:00 a.m. to 7:00 p.m. Sunday through Thursday, and from 7:00 a.m. to midnight on Friday and Saturday.
   b. Sound amplification equipment may be allowed at other times and in other locations if coordinated in advance through the Campus Activities Office.
4. Use of Chalk
   a. Chalk may be used on campus as long as it is restricted to concrete walkways.
   b. All chalk used must be of a temporary or removable nature. Permanent chalk, such as surveyor's chalk, may not be used under any circumstances.

B. **Policy Enforcement**

Any person violating this policy will be subject to:

1. Being asked to cease and desist or to relocate by appropriate university employees acting within the scope of their duties.
2. Being ordered to leave the premises or property owned or controlled by the university by the police or a person in charge of the property.
3. Institutional disciplinary proceedings under the Student Code of Conduct if violation by a student. Violations by faculty or staff will be referred to the appropriate department or academic unit.
4. Arrest for violation of local, state, and federal law(s).
5. Restriction of future use of, or access to, the NMSU/DACC campus.

C. **Reference to Other Policies Impacting Freedom of Expression**

In the event that the terms of this policy conflict with other existing policies impacting freedom of expression in areas generally accessible to the public, the terms of this policy shall prevail.

Fund Raising/Sales and Solicitation

Raising funds is a means for campus organizations to supplement their other resources in meeting the goals of their organization. In order to avoid conflicts, duplications, or violation of laws or regulations, it is necessary to establish guidelines to aid in coordinating such activities.

Although the University supports organizational fund-raising efforts, it recognizes that the campus is not a market place to be exploited by opportune entrepreneurial projects. Fund raising is not the primary function of student organizations, and campus organizations do not have an implicit right to use the campus or the community for fund-raising activities.

Fund raising through sales and solicitations, both on and off-campus, are governed by University Sales and Solicitation Policies. Full text copies of these policies are available from the Campus Activities Office. The Director of Campus Activities makes interpretation of the Sales and Solicitation Policy. The Campus Activities Office is located in Corbett Center Student Union Room 235.

Housing and Residential Life Application Acceptance Policy

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

Housing and Residential Life Dining Regulations

Dining regulations are contained in the Dining Services contract, which each student agrees to when applying for dining services. Additional copies are available in the ID Card Office. Upon reasonable notice and for good cause the University reserves the right to terminate the dining agreement for failure of the student to abide thereby. Examples of good cause include, but are not limited to, failure to abide by the terms of the Dining Agreement, a change in student status (including academic or disciplinary suspension), or a failure to comply with the policies and regulations contained in the Campus Dining Services program brochure and/or official informational bulletins distributed by Campus Dining services which are hereby incorporated into Dining Services Agreement. Dining regulations are enforced under the Student Code of Conduct.

Housing and Residential Life Regulations

Housing regulations are contained in the Single Student Housing License Agreement, which each student agrees to when applying for housing services, as well as the "Housing and Residential Life Handbook," which each student receives at move-in. Additional copies are available at the Housing Office and all residential area offices. Students living off-campus are also subject to housing regulations when visiting residential areas. Housing regulations are enforced through the Housing and Residential Life Office as well as through the Student Code of Conduct.

Nondiscrimination Policy

The university is dedicated to providing equal employment and educational opportunities to all persons without regard to age, ancestry, color, disability, gender, gender identity national origin, race, religion, sexual orientation, spousal affiliation or veteran status. The university strives to comply with all federal and state nondiscrimination laws, including:

- Titles VI and VII, Civil Rights Act of 1964
- Age Discrimination in Employment Act of 1975
- Equal Pay Act of 1963
- Pregnancy Act of 1978
- Education Amendments of 1972, Title IX
- Section 504 of the Rehabilitation Act of 1973
- Vietnam Era Veterans Readjustment Act of 1974
- Executive Order 11246
- Executive Order 11141
- Americans With Disabilities Act of 1990

- Civil Rights Act of 1991
- New Mexico Human Rights Act

This dedication extends to recruitment, hiring, promotion, compensation, training, benefits, separations, and to the availability and delivery of all educational, academic, and student welfare programs and services. The Office of Institutional Equity/EEO Office is responsible for assuring compliance with equal employment opportunity programs throughout the university. Any individual who wishes to file a discrimination complaint or discuss discrimination issues is encouraged to contact the Office of Institutional Equity/EEO Director or the Human Resources (Personnel) Director if the individual is uncomfortable reporting the complaint to the Office of Institutional Equity/EEO Director. For nondiscrimination complaints or matters, employees may contact the Assistant Director of Employee Relations, Hadley Hall, room 15, and the telephone number is 646-4148.

To access the complete grievance procedures for discrimination, please refer to the New Mexico State University Administrative Rules and Procedures Manual (https://arp.nmsu.edu/).

Sexual Harassment Policy/Hostile Work/Academic Environment

To access the complete Sexual Harassment Policy, please refer to the New Mexico State University Administrative Rules and Procedures Manual (https://arp.nmsu.edu/).

All employees and students should be aware that the university is prepared to take action to prevent and remedy such behavior, and that individuals who engage in such behavior are subject to disciplinary action. Faculty and staff with actual or apparent authority who engage in sexual harassment or neglect to control the work environment may be held accountable. Anyone who may have been subjected to sexually offensive behavior or conduct in the classroom or work environment is encouraged to contact the Office of Institutional Equity/EEO Director. The office is located in O'Loughlin House on University Ave. and the telephone number is 646-3635.

Disability: Qualified students with disabilities are to be provided with reasonable accommodation in accessing buildings, programs, and services. Students are encouraged to contact Services for Students with Disabilities (at 527-7548) for academic related services, and may refer to the "Campus Directory" for resource information, telephone numbers, and Telecommunication Devices for the Deaf (TDD) locations. Disability based discrimination grievances may be filed according to the procedures set forth in Section 4.05.10 of the New Mexico State University Policy Manual (May 6, 2011).

Parking and Traffic Regulations

Anyone who parks anywhere on-campus must obtain and display a parking permit, unless the vehicle is parked in a free lot or at a paid parking meter. The individual in whose name a vehicle is registered or a permit is issued with the Parking Office will be responsible for any violations of the Parking and Traffic Regulations. Additionally, all motor vehicle statutes of the State of New Mexico apply. Call 646-1839 or visit http://www.nmsupolice.com/ (http://www.nmsupolice.com) for more information.

Procedures for Entry and Search of University-Operated Housing

The University respects the student's desire for privacy within the realm of the group-living experience on state property and will make every effort to protect that privacy. Campus premises occupied by students and the personal possessions of students shall not be searched unless appropriate authorization has been obtained. Campus living quarters may be entered for the purposes and under the restrictions listed:

A. **Procedures for Entry**

1. Maintenance – Premises may be entered after knocking, to give attention to health, sanitation, maintenance, and safety requirements.
2. Inspections – Housing personnel and any other appropriate University official or staff may enter any room/ house/ apartment for inspection purposes, with appropriate written notice. Twenty-four hours' notice will be given whenever possible. Housing personnel or any other appropriate University official conducting the inspection shall report violations of University regulations and state or federal laws via established procedures.
3. Other –
    a. The University Housing staff may enter a room/ house/ apartment, after knocking, without written authorization when there exists immediate and compelling cause, i.e., loud noise, complaints from other residents, emergency circumstances (such as fire evacuation), or similar overt occurrences. Evidence of regulatory or statutory violations that exists in plain and open view of the entering staff members may be used in initiating disciplinary procedures.
    b. In instances where immediate and compelling cause does not exist, written authorization from the individual in charge of the residential area or his superior must be obtained prior to entry. Such authorization must show reasonable cause, i.e., there must exist a reason to believe, other than mere suspicion, that violations of federal and state statutes or University regulations are occurring. If the occupant of the room/house/apartment is absent, a staff member of the residential area must be present during the entry. Evidence of regulatory or statutory violations that exist in plain and open view of the entering staff member may be used in initiating disciplinary procedures.
    c. Police agency entry – Police entrance shall be governed by the requirements of customary legal investigative practice.

B. **Procedures for Search**

Administrative Search – Upon presentation of reasonable cause, the Director of Housing and Residential Life or his/her superior may issue written authorization for the search of a designated room/house/ apartment and the contents thereof. The authorization stating the reason(s), cause(s), or condition(s) necessitating the search shall be presented to the designated occupant(s) prior to the search. In execution of the search, the Director of Housing and Residential Life or his/her designee, the Coordinator for Residential Communities or his/ her designee and the occupant should be present; however, it is not imperative that the occupant be present.

C. **Appeal and Grievance Redress**

1. Entry and Search Authorization Appeals – In cases where disciplinary procedures arise from evidence obtained on the basis of entry or search authorizations, the cause for, validity, or scope of the authorization may be challenged by the student-defendant and such challenge must be adjudicated by the University disciplinary system before any further action is taken.
2. Grievance Allegations – In such case that a student believes his guaranteed rights have been violated by an act of entrance or search, he/she may present written allegation of this belief to the Vice President for Student Affairs and Enrollment Management, who

shall thereupon require an investigation of the allegation. Should this investigation demonstrate that a University employee has intentionally erred and violated a student's rights, this employee shall be subject to disciplinary action, including possible termination.

Posting Policy

Written information may be posted on campus at designated locations (a list may be obtained from the DACC Student Activities Office). Written materials may not be placed on automobile windshields, traffic signs, power poles, trees or any part of a university building or structure including walls, glass, doors or floors. Permission to use building bulletin boards is at the discretion of the building monitor and use must conform to facility operating policies where they exist.

Posters or signs providing directions or information related to a convention or special event may be placed on single stakes and displayed on the date of the event, but must be removed by the sponsoring group when the event is over.

Questions related to the interpretation of this policy should be directed to the Office of Campus Activities.

Smoking Policy

Accumulating evidence has shown environmental or second hand tobacco smoke increases the risk of cancer and other health hazards for non-smokers as well as smokers. NMSU/DACC has a vital interest in maintaining a healthy and safe environment for its students, faculty, staff and visitors while respecting individual choice. Consistent with these concerns and the New Mexico Clean Indoor Air Act, NMSA 1978, § 24-16-1 through 11, the following policy has been established to restrict smoking of tobacco, or any other weed or plant, and provide procedures for accommodating the preferences of both smokers and nonsmokers.

Smoking of tobacco products is prohibited in all buildings (exceptions below) owned or leased by the University as well as within 25 feet of entrance or exit, vehicles, and during some organized outdoor events on University property.

Smoke-Free Areas

Smoking is prohibited in or at:

- All enclosed buildings and facilities including classrooms, offices, food service venues, lavatories, and most residence halls (in accordance with Housing & Residential Life policies);
- Within 25 feet of building entrances and exits (when reasonable) and fresh air intake grills unless it is a specially designated smoking area
- Partially or fully enclosed walkways, corridors, elevators
- Vehicles owned, leased or rented by the University; and
- Within 50 feet of any area where flammable materials are handled or stored, or where other significant fire hazard may exist
- Indoor athletic or other University-sponsored or designated events

No Smoking signs or the international no-smoking symbol will be posted at major entrances of all University buildings except for those campus residences where smoking is permitted.

Smoking Permitted Areas

Smoking is permitted outdoors on University property except during organized events which have been designated as "No Smoking". Individuals choosing to smoke outdoors must be 25 feet from doorways, open windows, enclosed walkways, and ventilation systems to prevent smoke from entering enclosed buildings and facilities, and to prevent public access from being denied to an individual with a respiratory medical condition.

In accordance with Housing and Residential Life policies, smoking is permitted in those units which constitute private residences; when everyone in the shared residence is a smoker or at the discretion of each Family Housing unit.

Fraternities and sororities will work toward an agreement, consistent with University policy during the current school year.

Education and Services for Smokers

In light of numerous adverse health effects associated with active smoking, and with exposure to second hand smoke, the University will provide educational services to faculty, staff, and students about the hazards of smoking and information and services on quitting smoking. In addition to consulting with their own health care providers, students, faculty, and staff may get assistance from the following University programs.

- Students may contact the NMSU Student Health Center for information and programs on quitting smoking.
- Faculty and staff may obtain assistance in smoking cessation through the NMSU Student Health Center.

Cooperation and Compliance

This policy relies on the mutual courtesy and cooperation of smokers and nonsmokers for its success. It is the responsibility of all members of the NMSU/DACC community to observe the provisions of this policy on smoking. Complaints or concerns or disputes regarding its implementation should be referred to the immediate supervisor for resolution. Environmental Health & Safety will assist in determining what distance or location is reasonable for the particular situation. If a resolution cannot be reached, the matter will be referred by the supervisor to the appropriate Department Head, Director, Dean, and Vice President for mediation. Managers, Department Heads and unit Directors are responsible for seeing that persons in their areas are informed and comply with this smoking policy. Those having difficulty complying with these restrictions are encouraged to seek assistance from the resources listed in Section 4. Students, faculty, and staff violating this policy are subject to disciplinary action. Any person who commits an unlawful act under any of the provisions of the New Mexico "Clean Indoor Air Act" shall be fined in an amount not less than ten dollars or more than twenty-five dollars for each violation.

Disposal of Tobacco Waste

Anyone who chooses to smoke or use smokeless tobacco on campus must discard the waste in an appropriate manner.

Vacating University Buildings or Property

The University recognizes the importance of providing a venue where members of the community can freely and openly express their ideas. However, if an individual(s) and/or organization improperly or illegally occupy university buildings or property, the following statement will be read.

You are violating university regulations and/or State laws concerning improper occupation of buildings or property. If you leave within the next 10 minutes, no further action will be taken. If you do not leave within 10 minutes you may be arrested. If you are a student, you may also be subject to disciplinary action as outlined in the Student Code of Conduct.

In the event a crime (other than the peaceful, but illegal occupation of a building or property) has occurred, is occurring, or is about to occur,

action may be taken without regard to the above statement by the appropriate university officials in order to protect the safety, lives, and property of the university community.

Student Complaint Procedure for Texas Residents

After exhausting the institution's grievance/complaint process, current, former, and prospective students who are Texas residents may initiate a complaint with the Texas Higher Education Coordinating Board. The required forms must be filed via e-mail or regular mail. Facsimile transmissions of the forms are not accepted.

E-mail Address: StudentComplaints@thecb.state.tx.us

Postal Address:
Texas Higher Education Coordinating Board
College Readiness and Success Division
P.O. Box 12788
Austin, TX 78711-2788

Required Forms:

- A Student Complaint Form
- A signed Family Educational Rights and Privacy Act (FERPA) Consent and Release Form
- A THECB Consent and Agreement Form
- A signed Authorization to Disclose Medical Record Information Form (only in the case of complaints involving students with disabilities)

For more information visit: https://www.highered.texas.gov/.

Constitution of the Student Government Association of DACC

ARTICLE I: Preamble

We, the students of Doña Ana Community College, hereby adopt this Constitution which makes provision for a democratic student government organization. The executive officers will consist of a President, Vice-President, Secretary, and Treasurer, duly elected by the Doña Ana Community College student body and Senate Leader selected by DACC Student Senate. The members of officially sanctioned student organizations' shall elect a senator to serve on the DACC Senate Committee. This student government will provide a communication link with the Doña Ana Community College administration, faculty, and student body facilitating the expression of student opinion and voice on campus. The name of this organization shall be called "Student Government Association of Doña Ana Community College," hereafter referred to as the SGADACC.

ARTICLE II: Purpose

The primary purpose of the SGADACC shall be as follows:

- To represent the student body of Doña Ana Community College.
- To encourage cooperation and communication between the students, faculty, administration, and all other campus organizations.
- To provide a forum for student expression and the exchange of student-faculty views.
- To enhance the quality of student life at this campus.
- To develop good citizenship attitudes by performing community service projects on and off-campus.
- To develop leadership skills, training, and development.
- To provide students with networking skills and opportunities
- To ensure stewardship of funds provided by all students of DACC

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ARTICLE III: Membership

Section 1: The membership of the Student Government Association shall consist of the following:

A: Executive Committee: The Executive Committee shall consist of the following elected officials:

- President
- Vice-President
- Treasurer
- Secretary

B. Executive Board: The Executive Board shall consist of the SGADACC Executive Committee, and the Vice President for Student Services. The Executive Board will meet prior to each SGADACC senate meeting.

C. SGADACC Senate:

- The SGADACC Senate will consist of all senators selected or appointed to SGADACC.
- The SGADACC Senate will meet prior to each SGADACC general meeting. The Senate leader will coordinate and conduct all meetings along with Vice President of SGADACC.

D. Terms of Office: Term Limits: Officers elected to the offices of President, Vice President, Secretary, or Treasurer are limited to two academic years in office. Students are not eligible to stay in any office after serving two academic years. All SGADACC officers and senators shall serve for one (1) year, commencing July 1 and ending June 30 of the following calendar year. Any elected official shall be eligible to remain in office provided that he/she maintain a cumulative GPA of 2.5 for Executive Officers, and 2.0 for Senators.

ARTICLE IV: Meetings and Committees

Section 1: The SGADACC shall hold general meetings at a minimum of once a month during the fall and spring semesters. All meetings shall be conducted according to Robert's Rules of Order.

Section 2: The SGADACC shall hold senate meetings at a minimum of once a month during the fall and spring semesters.

Section 3: All students, faculty, and staff associated with DACC may attend general meetings of the Student Government Association.

Section 4: Standing and Ad Hoc Committees shall be appointed as necessary by the President of the SGADACC and chaired by an officer or Senator. The chairperson will report to the President or designated officer of the SGADACC on the committee's progress and will present recommendations from the committee to the SGADACC in senate meetings. The chairperson shall assist and coordinate the work of the committee.

ARTICLE V: Duties and Responsibilities

Section 1: The duties and responsibilities of Student Government Association elected officials include, but are not limited the following:

1. President:

- Shall serve as a role model to the student body.
- Shall have the responsibility of overseeing the duties and responsibilities of the executive committee.
- Communicating and publicizing the affairs of the student body.
- Shall meet regularly with the Vice President for Student Services or designee
- Preside all SGADACC General meetings.
- Shall represent the student body at the administrative council meetings and/or any other DACC administrative meeting that requires the presence of the SGADACC.
- May attend meetings with Student Government Associations from different colleges and universities.
- Shall approve any Requests for Funding and/or Non-Club Requests for Funding.

2. Vice-President:

- Shall serve as a role model to the student body.
- Shall assume the role of President in their absence.
- Shall preside over SGADACC Senate meetings
- Will oversee all communication with the student organization advisers dealing with requests for funding, activity requests, and/or monthly status reports.
- Will directly manage all communication with student organization advisors dealing with requests for funding, activity requests, and/or monthly status reports
- Will oversee all communication with DACC departments, dealing with non-club requests for funding.
- Shall attend all SGADACC meetings.
- Shall present a report of activities to the student senate.

3. Treasurer

- Shall serve as a role model to the student body.
- Shall track and manage all Requests for Funding submitted by student clubs and departments of DACC.
- Shall review all Requests for Funding are accurate and submitted in a timely manner.
- Shall keep an accurate record of all monies received and disbursed on a weekly basis
- Shall prepare financial reports for all SGADACC meetings, including current balance and expenditures by category on a monthly basis
- Shall oversee all communication with Business Office.
- Shall meet with the Business Office once a month to check the SGADACC balance. Shall attend all SGADACC meetings.

4. Secretary

- Shall serve as a role model to the student body.
- Shall be responsible for recording the minutes and acting as the official timekeeper of all SGADACC meetings.
- Shall ensure that copies of the minutes of all SGADACC meetings are distributed in a timely manner to all SGADACC officers and the student senate.
- Shall approve the agenda prior to a meeting and prepare a presentation if needed. The agenda/presentation shall be sent to the executive team 2 days prior the meeting.
- Shall prepare the conference room prior to a SGADACC meeting, ensuring that each SGADACC member has a nametag, a hard copy of the agenda, a seat, and keep track of the sign-in sheet, with the SGADACC administrative assistant.
- Shall update the student database with the SGADACC administrative assistant.
- Shall attend all SGADACC meetings.

5. Senators:

- Shall serve as roles models of the student body
- Shall serve on at least one standing committee set forth by the senate leader.
- Shall communicate regularly with the Senate Leader
- Shall participate in at least two SGADACC-sponsored events per semester
- Shall attend all SGADACC meetings.

ARTICLE VI: Petitioning, Campaigning, and Elections

Section 1:

A. Executive Officers shall be elected at large by the general student body at DACC. To be eligible to run for office, a student shall have a cumulative GPA of 2.5 or better, shall be enrolled in a minimum of 6 credits at DACC and have a declared major. DACC Executive Officer candidates must also be in good academic standing and not have any Student Code of Conduct violations as determined by the Vice President for Student Services or designee. During the spring semester, it shall be the duty of the Vice President for Student Services or designee to announce to the student body the date of the election cycle for the next academic year. Each student who desires to become a candidate for executive office must present to the Vice President for Student Services or designee a complete petition for candidacy.

B. All candidates will be given an opportunity to campaign with posters and pin-on materials, to be placed throughout the campus in areas designated by the SGADACC. Any questionable material must be presented for approval to the SGADACC Executive Committee.

Section 2:

A. Voting shall take place on-line and shall be supervised by the Vice President for Student Services or designee. Voting is open to all DACC students. A candidate running for an executive office who receives a majority of the votes cast shall be elected to office. The Vice President for Student Services or designee shall tally the ballots and the results of the election shall be announced at the last general meeting of the SGADACC.

B. All newly elected officers will be affirmed at the last regular meeting of the SGADACC in order to start their tenure on July 1. The affirming ceremony will be conducted by the Vice President for

Student Services or designee at the beginning of the new school year or as determined by the Vice President for Student Services or designee.

ARTICLE VII: Removals and Resignations

Section 1: Removals:

A. Irreconcilable Differences Between Elected Officials: In the event that irreconcilable differences exist between the elected officials, rendering them unable to work together toward the best interests of the Student Government Association, the Vice President for Student Services or designee may remove any or all elected officials in order to preserve the continued well-being of the SGADACC.

B. Elected officials may also be removed from office by the Vice President for Student Services or designee in the event of any egregious and/or neglectful acts that violate NMSU/DACC policy, protocol, or procedures or the SGADACC Constitution.

C. Attendance of each elected or appointed SGADACC officer is mandatory at all meetings. Any officer who is absent from two or more consecutive meetings during one semester without a valid reason shall be sent before the SGADACC Executive Committee for evaluation. Removals are conducted due to the neglect of performance of duties as specified by the Constitution.

Section 2: Resignations:

D. Any elected official desiring to resign from the SGADACC shall submit his/her resignation in writing to the President, who shall read the letter of resignation under "New Business" for the acknowledgment of the Student Government Association.

ARTICLE VIII: Order of Succession

In the event of the President's resignation, the letter will be addressed to the Vice President for Student Services or designee. Should the President, in some manner, be rendered temporarily unable to fulfill the duties and discharge the powers of his/her office, authorities, responsibilities and duties of such office, the Presidency will be turned over to the Vice President, and shall revert back to the President upon his/her declaration of fitness to serve. In the event the President should resign or be removed from his/her office, the duties and responsibilities shall be given to the Vice President. The Vice President for Student Services or designee, Executive Committee, and Senate will determine the order of succession of executive responsibility in the event that both the President and Vice President become unable to fulfill their responsibilities. If the Vice President resigns, procedure will be followed per Article VII, Section 2. If the Vice President is removed from office or in some manner rendered unable to fulfill his/her duties, authorities, or responsibilities of such office, the position of the Vice President will be left to the Executive Committee to fill. An announcement will be made within five (5) working days to all DACC Students that the Vice Presidency is vacant. Proper procedures will be followed with a letter of petition submitted within one (1) week after the vacancy has been announced. These petitions will be reviewed by the Executive Committee and all candidates will be given the opportunity to speak before the SGADACC. A quorum is required to vote, and the SGADACC, by secret ballot, will determine who will fill the position of the Vice Presidency. The Executive Committee shall have the power to appoint a Secretary or Treasurer in the event of a resignation, removal, or other circumstance by which the office becomes vacant.

Senator(s) who resigns his/her/their seat or is/are removed will be replaced by another student in that student club.

ARTICLE IX: Organizations/Clubs

Section 1: To be chartered through the SGADACC, an organization shall have a membership of five or more students and two (2) community-service or campus projects per semester. Organizations shall submit a Student Organization Recognition/Renewal Form (Form A), a Student Organization Officer Roster (Form B), a club membership list, and official by-laws to the Student Government Association prior to the first senate meeting of the fall semester. Updated student organization officer rosters and club membership lists are required prior to the first senate meeting of the spring semester. Forms not submitted by published deadlines will not be chartered for the applicable semester.

Section 2: For the purpose of obtaining any needed funds, all chartered organizations shall make a request to the Student Government Association in the form of a "Request for Funding" (RFF), Refer to the SGADACC Student Organization Handbook to ensure that all procedures are followed. Any organization failing to conduct business in the best interest of the DACC and not abiding by their by- laws, the SGA Constitution, and/or NMSU/DACC policies may no longer be chartered by the SGADACC, thus being denied funds by the Student Government Association. Exception to this policy can be addressed to the SGADACC in a closed meeting.

ARTICLE X: Budgets

Section 1: the Student Government Association of Doña Ana Community College will adhere to expenditure procedures as outlined in the NMSU Business Policies and Procedures Manual. Financial records shall be maintained by the Doña Ana Community College Finance Office. The Finance Office shall provide monthly reports of all transactions to the treasurer of the Student Government Association so that an accurate record of finances can be recorded by the SGADACC. All funds shall be distributed through the DACC Finance office.

Section 2: Student Government Association monies must be expended according to the following guidelines:

a. Annual expense budget will be prepared and submitted by the SGADACC at the beginning of each new fiscal year for the approval of the Vice President for Student Services or designee before any expenditure can be disbursed.
b. Funds can only be used for the benefit of current or prospective DACC students for the purposes of recruitment, enrollment, retention, engagement and/or completion.
c. All funding requests are subject to approval by majority vote of the Executive Committee.
d. All expenditures require the signature of the President, Treasurer, and the Vice President for Student Services or designee

Section 3: The Student Government Association of DACC shall submit an annual expense budget to the Vice President for Student Services or designee for use by the Student Government Association of DACC.

ARTICLE XI: Payment to Officers and Senators

Section 1: Upon the start of a new fiscal year, newly elected executive officers shall be employed as student-employees. As student-employees, newly elected officials will receive the current hourly rate of pay

and hours set by NMSU/DACC. As employees, officers are subject to all NMSU rules, regulations, and protocols governing employee's performance.

Section 2: The Vice President for Student Services or designee and the Executive Committee shall agree on a set amount to be paid each senator on a semester basis given the annual allotment from student fees and budgetary constraints.

ARTICLE XII: Emergency Action Clause

Section 1: The Executive Committee shall establish regular meeting times for themselves to discuss agendas and other issues which need to be presented at general meetings. The Executive Committee shall have the power to act in the name of the Student Government Association in situations where the membership cannot be called into session and immediate action is necessary. The Executive Committee shall report any action taken to the general membership at the next scheduled meeting.

Section 2: The President has executive power to make decisions in the name of the Student Government Association in a situation where the Executive Committee cannot be called into session and when immediate action is necessary. The President shall report any action taken to the Vice President for Student Services or designee. The President shall report any action taken at the next regular scheduled Student Government Association senate and general meeting.

ARTICLE XII: Amendments to Constitution

Section 1: This Constitution can be amended or revised by a two-thirds (2/3) majority vote of the membership of the Student Government Association. The proposed amendment or revision shall be presented at the next general meeting of the Student Government Association. The proposed amendment(s) or revision(s) shall not be discussed or voted upon until the next general meeting. If passed, the proposed amendment(s) or revision(s) will be reviewed by the Vice President for Student Services or designee for approval or veto.

Governance and Personnel

NEW MEXICO STATE UNIVERSITY

Administration
Dr. Valerio Ferme, President of the NMSU System
Dr. Lakshmi Reddi, Interim Provost and Chief Academic Officer

Board of Regents
Michelle Lujan Grisham, Governor of New Mexico, Ex Officio Regent (Santa Fe, N.M.)
Ammu Devasthali, Chair (Las Cruces, N.M.)
Deborah Romero, Vice Chair (Las Cruces, N.M.)
Christopher T. Saucedo, Secretary/Treasurer (Albuquerque, N.M.)
Ricardo (Rico) Gonzales, Member (Las Cruces, N.M.)
Marisol Olivas, Member (Belen, N.M.)

Advisory Members
Dr. Vimal Chaitanya, Faculty Senate Chair
Donna Johnson, Employee Council Chair
Wyatt Ziehe, ASNMSU President

DOÑA ANA COMMUNITY COLLEGE

Administration
Dr. Mónica Torres, Chancellor of the NMSU System Community Colleges
Shannon Bradley, Acting Vice President for Academic Affairs
Kelly Brooks, Vice President for Business and Finance
Amadeo E. Ledesma, Vice President for Student Services
Kristi Martin, Vice President for Strategic Initiatives and Relationships

Advisory Board
Robert Wofford, President (Las Cruces Public Schools)
Arlean Murillo, Vice President (Gadsden Independent School District)
Richard Marquez, Secretary (Hatch Valley Public Schools)
Joaquin Legarreta, Member (Hatch Valley Public Schools)
Christian Lira, Member (Gadsden Independent School District)
Patrick Nolan, Member (Las Cruces Public Schools)

Ex Officio Members
Nubia Tarazona, Acting Superintendent, Gadsden Independent School District
Michael Chavez, Superintendent, Hatch Valley Public Schools
Ignacio Ruiz, Superintendent, Las Cruces Public Schools

Associate Vice Presidents
Shannon Bradley, Academic Affairs
Gerald Lisik, Information Technology (Business and Finance)
Dr. Julien Kouame, Institutional Analysis
Dr. Jesse Haas, Student Engagement (Student Services)

Academic Division Deans
Laura De La Cruz, Advanced Technologies Division
Michelle Guzman-Armijo, Arts, Humanities, and Social Sciences Division
Elmer Gonzalez, Interim Business and Public Services Division
Josefina Carmona, Health Sciences Division
Joe Butler, Science, Engineering, and Mathematics Division

CLICK HERE FOR DACC FACULTY LISTINGS (https://dacc.nmsu.edu/about/faculty-list.html)

Policy Statement on Discrimination and Affirmative Action

Notice of Non-Discrimination

New Mexico State University (NMSU) is dedicated to providing equal opportunities in our employment and learning environments. NMSU does not discriminate on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex (including pregnancy), sexual orientation, spousal affiliation, or protected veteran status in its programs and activities as required by equal opportunity regulations and laws and university policy and rules.

NMSU's Office of Institutional Equity (OIE) is responsible for compliance with state and federal equal employment opportunity laws and

regulations. If you believe you have been treated in a manner inconsistent with equal opportunity, contact the Office of Institutional Equity.

NMSU has designated the Executive Director of OIE as the Title IX Coordinator and is responsible for ensuring compliance with Title IX and other state and federal laws addressing sexual and gender-based harassment, including sexual assault, sexual exploitation, sexual intimidation, dating and domestic violence, stalking, and other forms of sexual violence based on sex, gender, sexual orientation, or gender identity.

NMSU recognizes that individuals with disabilities are entitled to access, support and, when appropriate, reasonable accommodation. The Executive Director of OIE is also assigned to coordinate compliance with the Americans with Disabilities Act ("ADA"), Section 504 of the Rehabilitation Act, and other state and federal laws that prohibit discrimination on the basis of disability in admission, treatment and/or access to its programs and activities.

Inquiries regarding equal employment opportunity, Title IX, and/or ADA/Section 504 should be directed to:

Office of Institutional Equity

Executive Director

Title IX Coordinator and ADA

O'Loughlin House

Las Cruces, NM 88003

(575) 646-3635

Website: equity.nmsu.edu

Email: equity@nmsu.edu

OIE's Deputy Director can be contacted at the O'Loughlin House or by telephone (575) 646-3635.

Complaints of discrimination, harassment, sexual violence, and retaliation may be directed to the Office of Institutional Equity at equity@nmsu.edu. Complaints may also be filed with the United States Department of Education, Office for Civil Rights at https://ocrportal.hhs.gov/ocr/smartscreen/main.jsf, the U.S. Equal Employment Opportunity Commission, and/or New Mexico Human Rights Bureau.

Equal Opportunity/Affirmative Action Statement

New Mexico State University, in compliance with applicable laws and in furtherance of its commitment to fostering an environment that welcomes and embraces diversity, does not discriminate on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex (including pregnancy), sexual orientation, spousal affiliation, or protected veteran status in its programs and activities, including employment, admissions, and educational programs and activities. Inquiries may be directed to the Executive Director, Title IX and Section 504 Coordinator, Office of Institutional Equity, P.O. Box 30001, 1130 E. University Avenue, Las Cruces, NM 88003; 575-646-3635; equity@nmsu.edu.

NMSU is committed to providing reasonable accommodations to qualified individuals with disabilities upon request. To request an accommodation, students should contact Student Accessibility Services on their campus or on Main Campus at Corbett Center Student Union, Room 2008, Las Cruces, NM 88003; 575-646-6840 or sas@nmsu.edu. Employees requiring accommodation should contact the Office of Institutional Equity, O'Loughlin House, 1130 E. University Avenue, Las Cruces, NM 88003; 575-646-3635 or equity@nmsu.edu.

Affirmative Action Statement

For information on NMSU affirmative action please reference the Office of Institutional Equity Affirmative Action page at: https://equity.nmsu.edu/affirmative-action/index.html (https://equity.nmsu.edu/affirmative-action/).

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