2024-25 Catalog

COCHISE COLLEGE

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2024-2025 Catalog

Welcome to Cochise College

Dear Students,

Throughout the years, the college has remained focused on its mission, vision, and values. Today, we continue to be driven by the mission with our commitment to providing accessible educational opportunities that support social responsibility, community engagement, meaningful careers, and lifelong learning.

As we celebrate our 60th anniversary, we reflect on "futures created" from the educational opportunities offered by Cochise College. At Cochise College, you are surrounded by people who want you to succeed and will assist you along the way. Many resources are available to our students, including academic advising, tutoring, career planning, and access to health and wellness resources. The college continuously seeks to advance student experiences by providing state-of-the-art facilities designed to provide immersive learning opportunities.

I encourage you to explore the college's full array of services and activities, including over 90 degrees and certificate programs. Whether you are developing leadership skills, want to make new friends, or are interested in civic engagement, our knowledgeable and caring faculty and staff are here to support you.

Sincerely,
J.D. Rottweiler, Ph.D.
President

Toll Free: (800) 966-7943
www.cochise.edu
Regular Hours: 8 a.m. – 4:30 p.m. Monday - Friday
Summer Hours: May 20 – Aug. 9, 2024, 7 a.m. – 5 p.m. Monday - Thursday
All information, including statements on tuition, fees, course offerings, admission, and graduation requirements, is subject to change without notice, obligation or liability.
Published: June 2024

College Locations

Benson Center

1025 State Route 90
Benson, AZ 85602-6501
(520) 586-1981

The Benson Center is a 13,000-square-foot facility that includes classrooms, computer labs, a learning center and Wi-fi access. For-credit, developmental, and personal interest classes are offered in the day and evening. Full-time staff assists students with admissions, registration, placement testing, advising and financial aid.

Douglas Campus

4190 West Highway 80
Douglas, AZ 85607-6190
(520) 364-7943

The Douglas Campus is located in a scenic area between Douglas and Bisbee and serves approximately 1,000 students each semester with a diverse curriculum of general education, transfer and direct employment programs, and adult education classes. The campus includes residence halls, an on-campus airport and athletic facilities.

Downtown Center

2600 East Wilcox Drive
Sierra Vista, AZ 85635
(520) 515-0500

In 2016, Cochise College began offering classes in a new facility in downtown Sierra Vista. The Downtown Center offers degrees and certificates in nursing and health sciences, online, culinary arts and electronics technology. The center also provides continuing education classes and entrepreneurial advising through the Center for Lifelong Learning and Small Business Development Center.

Fort Huachuca

Army Education Center
Building 52104
Fort Huachuca, AZ 85613-6000
(520) 533-2391

The Cochise College office on Fort Huachuca (Building 52104) provides advising and student services to military students and their families as well as civilians who can access Fort Huachuca. Classes are usually offered in eight-week sessions and meet in the classrooms at the Fort Huachuca Center (Building 67601).

Sierra Vista Campus

901 North Colombo Avenue
Sierra Vista, AZ 85635-2317
(520) 515-0500

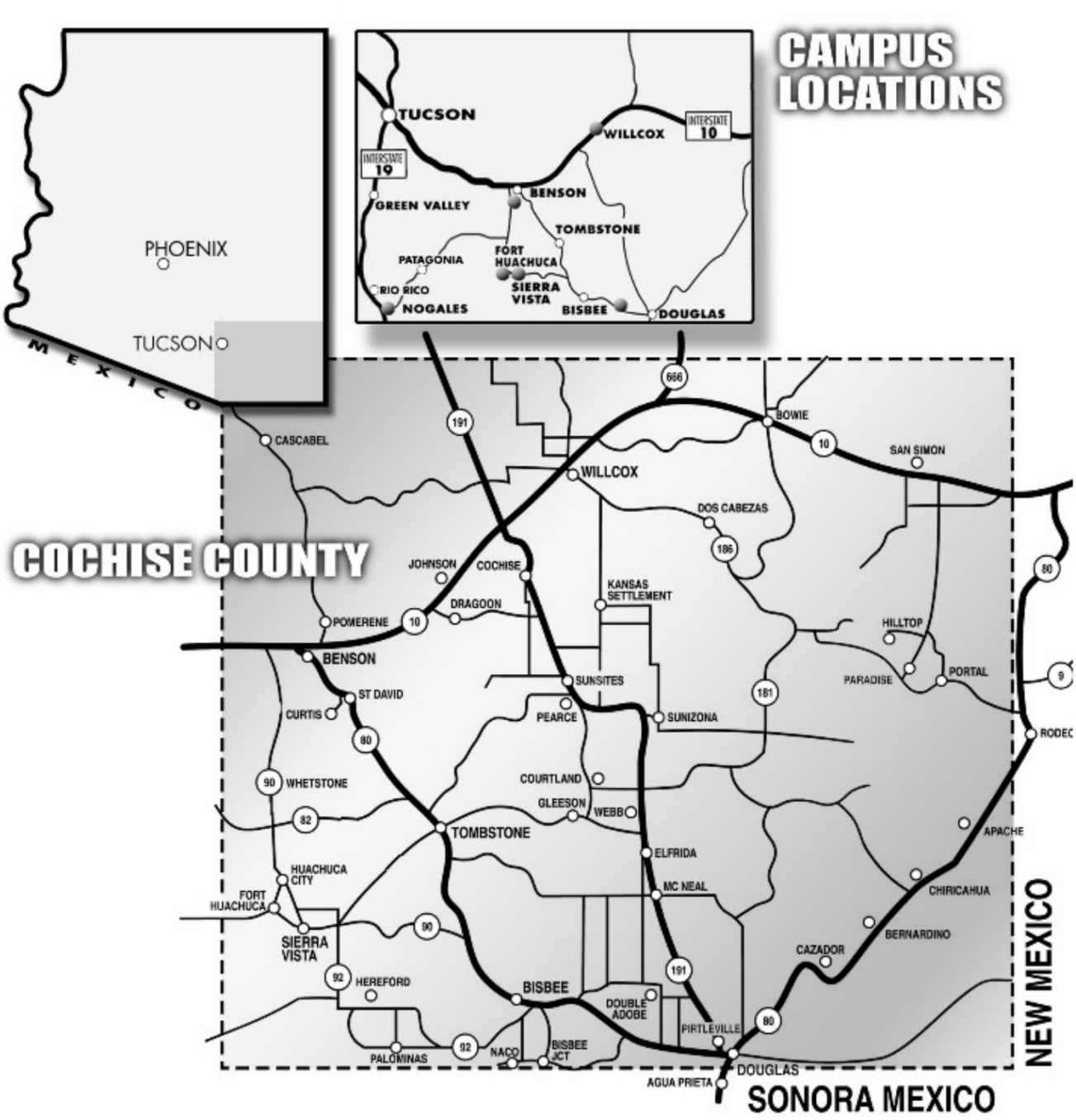
The Sierra Vista Campus is located at the eastern edge of Sierra Vista, approximately one-mile northeast of the junction of state highways 90 and 92. The Sierra Vista Campus serves about 2,000 students each semester with a diverse curriculum of general education, transfer and direct employment programs, and adult education classes.

Willcox Center

470 N. Bisbee Ave.
Willcox, AZ 85643-1500
(520) 384-4502

The Willcox Center is located on Willcox Unified School District property near the high school. The center opened in 2010 with several classrooms, computer and science labs, open study space, up-to-date technology and Wi-fi access points across the center. Full-time staff are available to assist with admissions, registration, placement testing, advising, financial aid and dual enrollment support to Bowie, San Simon and Willcox High School students.

Area Map


CAMPUS LOCATIONS
TUCSON
WILLCOX
INTERSTATE 10
INTERSTATE 19
GREEN VALLEY
BENSON
TOMBSTONE
PATAGONIA
FORT HUACHUCA
RIO RICO
SIERRA VISTA
NOGALES
BISBEE
DOUGLAS
PHOENIX
TUCSON
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COCHISE COUNTY
CASCABEL
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666
BOWIE
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SAN SIMON
WILLCOX
DOS CABEZAS
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JOHNSON
COCHISE
KANSAS SETTLEMENT
DRAGOON
POMERENE
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BENSON
ST DAVID
CURTIS
80
SUNSITES
PEARCE
SUNIZONA
HILLTOP
PARADISE
PORTAL
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RODEO
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WHETSTONE
COURTLAND
GLEESON
WEBB
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TOMBSTONE
ELFRIDA
APACHE
HUACHUCA CITY
FORT HUACHUCA
MC NEAL
CHIRICAHUA
SIERRA VISTA
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CAZADOR
BERNARDINO
92
HEREFORD
BISBEE
191
DOUBLE ADOBE
PIRTLEVILLE
80
PALOMINAS
92
NACO
BISBEE JCT
DOUGLAS
AGUA PRIETA
NEW MEXICO
SONORA MEXICO

Academic Calendar

SUMMER SEMESTER 2024

Eight-Week Session:	*May 28 - July 23*
Summer 8-Week: Last day to add/drop classes without a penalty	May 30
Summer 8-Week: Tuition/course liability begins	May 31
Summer 8-Week: Last day to change to withdraw or audit status	July 18
Grades due by noon	July 25
Financial Aid:	
Summer freeze date*	June 5
Summer disbursement date	June 6
Last day to accept summer financial aid applications	June 13
* Financial aid will not pay for classes added after this date.	
Holidays (no classes):	
Memorial Day	May 27
Juneteenth	June 19
Independence Day	July 4

Fall Semester 2024

Police Academy Semester (20 Week)	July 22 - Dec 5
Flight 21-Week Semester	July 22 - Dec 13
Flight & Police Academy freeze date*	July 30
Flight & Police Academy disbursement date	July 31
Convocation (offices closed)	August 12
Spring registration begins	November 1
16-Week Semester:	*Aug 19 - Dec 16*
Last day to add/drop without a penalty	August 23
Tuition/Course liability begins	August 26
Last day to withdraw or change to audit status	December 5
Finals (including Saturday)	December 10 - 16
Grades due by noon	December 19
First Eight-Week Session:	*Aug 19 - Oct 15*
Last day to add/drop without a penalty	August 21
Tuition/course liability begins	August 22
Last day to withdraw or change to audit status	October 10
Grades due by noon	October 18
Second Eight-Week Session:	*Oct 21 - Dec 16*
Last day to add/drop classes without a penalty	October 23
Tuition/course liability begins	October 24
Last day to withdraw or change to audit status	December 11
Grades due by noon	December 19
Financial Aid:	
16-week and First Eight-Week freeze date*	August 27
16-week and First Eight-Week disbursement date	August 28
Second Eight-Week freeze date*	October 29
Second Eight-Week disbursement date	October 30
* Financial aid will not pay for classes added after this date.	
Holidays (no classes):	
Labor Day	September 2
Columbus Day/Indigenous Peoples Day	October 14
Veterans Day Holiday	November 11
Thanksgiving recess	November 28 - 29
Winter break (all staff)	Dec 23 - Jan 3

SPRING SEMESTER 2025

Police Academy Semester (20 Week)	Jan 13 - May 29
Flight 21-Week Semester	Jan 13 - June 12
Summer and Fall registration begin	April 14
Commencement	May 16
16-Week Semester:	*Jan 13 - May 12*
Last day to add/drop without a penalty	January 17
Tuition/Course liability begins	January 21
Last day to withdraw or change to audit status	May 1
Finals (including Saturday)	May 6 - 12
Grades due by noon	May 15
First Eight-Week Session:	*Jan 13 - Mar 7*
Last day to add/drop without a penalty	January 15
Tuition/Course liability begins	January 16
Last day to withdraw or change to audit status	March 3
Grades due by noon	March 10
Second Eight-Week Session:	*Mar 17 - May 12*
Last day to add/drop without a penalty	March 19
Tuition/Course liability begins	March 20
Last day to withdraw or change to audit status	May 7
Grades due by noon	May 15
Financial Aid:	
Policy Academy freeze date*	January 22
Police Academy disbursement date	January 23
Flight Freeze date*	January 22
Flight disbursement date	January 23
16-Week and First Eight-Week freeze date*	January 22
16-Week and First Eight-Week disbursement date	January 23
Second Eight-Week Session freeze date*	March 25
Second Eight-Week Session disbursement date	March 26
* Financial aid will not pay for classes added after this date.	
Holidays (no classes):	
Martin Luther King Day	January 20
Lincoln/ Washington Presidents' Day	February 17
Spring Break	March 10 - 14

SUMMER SEMESTER 2025

Summer business hours	May 19 - Aug 8
Eight-Week Session:	*May 27 - July 21*
Last day to add/drop without a penalty	May 29
Tuition/Course liability begins	May 30
Last day to change to withdraw or audit status	July 16
Grades due by noon	July 24
Financial Aid:	
Summer freeze date*	June 4
Summer disbursement date	June 5
Last day to accept summer financial aid applications	June 12
* Financial aid will not pay for classes added after this date.	
Holidays (no classes):	
Memorial Day	May 26
Juneteenth	June 19
Independence Day Observed	July 3

General Information

History

Cochise College held its first classes on September 21, 1964 as one of the first community colleges in Arizona. It is located in an area rich in history and cultural diversity and has come a long way from its humble beginnings, when the administration offices were housed in the Gadsden Hotel in Douglas.

From the beginning, the college has been committed to serving citizens throughout Cochise County. Cochise College is Arizona's largest rural community college, serving approximately 15,000 students annually.

The establishment of the college can be attributed to the efforts of the dedicated citizens of Cochise County, who voted in 1961 to create a community college district. A 1962 bond election resulted in the construction of the Douglas Campus, a 540-acre facility featuring unique architecture and panoramic views of the Mule and Chiricahua mountains, as well as neighboring Sonora, Mexico.

The population growth of Fort Huachuca and Sierra Vista and the increased interest in higher education created a need for a second campus in the western part of the county. The campus in Sierra Vista evolved from a handful of temporary buildings at Buena High School in the early 1970s to the full-fledged separate campus that opened its doors to classes in 1978 at its present location on North Colombo Avenue. In partnership with Fort Huachuca, Cochise College also occupies a facility on post, providing classes and support services to active military and community-based residents.

The Benson Center opened in fall 2000 in the northwestern part of Cochise County. The Willcox Center opened in 2010 on Willcox Unified School District property in northeastern Cochise County. These centers provide a variety of programs and services throughout the region.

In recent years, the college has put significant resources toward facility renewal projects across the district. On both its Douglas and Sierra Vista campuses, new construction and major renovations provide space to meet the needs of 21st-century learners and educators. In addition, the college has made major technology investments in its classrooms and support areas.

In the fall of 2016, Cochise College welcomed students into its new Downtown Center, located in Sierra Vista. The Downtown Center houses the college's nursing and allied health, culinary and cybersecurity programs. It features state-of-the art labs to support hands on learning.

Cochise College continues its journey as a learning community. This direction focuses on teaching and learning, access and diversity, and the use of technology and innovative instruction.

Accreditations and Certifications

Cochise College is accredited by the Higher Learning Commission of the North Central Association. In 2015, the college received the maximum accreditation of 10 years; the next re-accreditation visit will be in 2025-2026. The college holds memberships in the Council of North Central Two-Year Colleges, the American Association of Community Colleges, the Hispanic Association of Colleges and Universities (HACU), and the Association of Community College Trustees.

The Higher Learning Commission of the North Central Association
230 South LaSalle Street, Suite 7-500
Chicago, IL 60604
(800) 621-7440 or (312) 263-0456
Fax: (312) 263-7462
www.hlcommission.org

The nursing program is accredited by the Accreditation Commission for Education in Nursing and the Arizona State Board of Nursing.

Accreditation Commission for Education in Nursing
3343 Peachtree Road NE, Suite 850
Atlanta, GA 30326
(404) 975-5000
Fax: (404) 975-5020
www.acenursing.org

Arizona State Board of Nursing
1740 W Adams Street, Suite 2000
Phoenix, AZ 85007
(602) 889-5150
Fax: (602) 889-5155
www.azbn.gov

The paramedicine program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
(727) 210-2350
www.caahep.org

The paramedicine and emergency medical technician programs are certified through Arizona Department of Health

Services, Bureau of Emergency Medical Services and Trauma System.

Arizona Department of Health Services
Bureau of Emergency Medical Services and Trauma System
150 N. 18th Avenue, Suite 540
Phoenix, AZ 85007
(800) 200-8523 or (602) 364-3150
Fax: (602) 364-3568
www.azdhs.gov/bems/

The professional pilot program is certified by the Federal Aviation Administration under 14 CFR Part 141.

GOVERNANCE

The college district is governed by a five-member governing board elected from precincts in Cochise County:
Tim Quinn, Chair
Montana State University, B.A.
Kansas State University, M.S.
National Defense University, M.S.
Dennis L. Nelson, Secretary
University of Alaska, B.A.
University of Alaska Anchorage, M.A.
University of Gonzaga School of Law, J.D.
David DiPeso, Member
Cochise College, A.A.
University of Arizona, B.S.
Don Hudgins, Member
United States Department of Labor
Bureau of Apprenticeship and Training, Electrical Power Lineman
National Joint Apprenticeship and Training Committee for the Electrical Industry
I.B.E.W. Local 125, Journeyman Lineman
Jane Strain, Member
Midwestern State University, B.S.E.
Chapman University, M.Ed. Education Leadership
University of Arizona, M.Ed. Educational Psychology
U.S. Army Command Staff General College

The college is financed by legislative appropriation, a countywide tax levy and student tuition.

FOUNDATION

The Cochise College Foundation is a nonprofit organization that provides hundreds of thousands of dollars in scholarships to Cochise College students each year. The foundation also works with donors who are interested in supporting specific academic programs and with capital projects. The foundation accepts monetary gifts, property, gifts-in-kind or other items of value bequeathed or donated for the benefit of the college. The Cochise College Foundation can be reached at cochise.edu/give, (520) 417-4735 or foundation@cochise.edu.

MISSION, VISION, AND GUIDING STATEMENTS

Mission

Cochise College provides inclusive and accessible educational opportunities that support social responsibility, community engagement, meaningful careers, and lifelong learning.

Vision

Cochise College is a leading and responsive college which transforms and empowers our community by fostering collaborative relationships and providing innovative educational pathways.

Guiding Statements

In all we do, we exhibit collaboration, encouragement, respect, innovation, and service.

Collaboration: We actively connect with our students and community by providing accessible learning opportunities and resources to overcome barriers, build relationships, and cultivate economic, social, and cultural growth.

Encouragement: We provide personal support to students and staff, faculty, and community members through active engagement and compassion.

Respect: We are a community of acceptance which engages our diverse population (diversity), provides resources appropriate to the needs of individuals (equity), and extends opportunity to all (inclusion).

Innovation: We create new learning experiences to respond and adapt to the needs of our community.

Service: We engage our community through service-learning projects, volunteerism, and civic participation.

Getting Started

CAMPUS TOURS

Cochise College encourages new and prospective students to visit its campuses and centers. The College Success Navigators arrange tours on an individual or group basis. Tours for all campuses can be scheduled by requesting them online at www.cochise.edu/tours or info@cochise.edu.

ADMISSION

Admission Criteria

Anyone who meets one of the following criteria will be admitted:

1. A graduate of a high school that is accredited by a regional accrediting association as defined by the United States Office of Education or approved by the Arizona Board of Education or the appropriate state educational agency;
2. An individual with a high school certificate of equivalency such as a GED;
3. A person 18 years or older on or before the first day of classes for which the application is made;
4. A transfer student in good standing from another college or university; or
5. A high school student with a concurrent registration form signed by the student and a parent or guardian.

Additional admission criteria are required for international, aviation, nursing, police academy, transfer, and concurrent high school students.

Admission Procedures

Students will be admitted to Cochise College after the Admissions Office has received and approved their application for admission.
Border commuters and international students must submit an international student application and fee.
All applicants applying for admission to the aviation or nursing programs, those participating in athletics, or those who wish to live in the residence halls at the Douglas Campus must complete the Student Health Record: Part II. The college reserves the right to require a physical examination or immunizations when deemed necessary by a particular college instructional program.

Re-Admission

Students who have been absent from Cochise College for longer than two years will need to re-apply for admission prior to the beginning of the semester for which they desire to enroll.

TRANSFER TO COCHISE COLLEGE

Prospective students who have attended other institutional accredited colleges and universities must have official copies of their academic records sent to the Registration Office. Accredited higher-education institutions are those that are accredited by the New England Association of Schools and Colleges, Middle States Association of Colleges and Schools, North Central Association of Colleges and Schools, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools and Western Association of Schools and Colleges.
Transfer of college- or university-level courses will be accepted from other institutional and programmatic accredited institutions that are listed in the latest edition of the Higher Education Directory, a directory of postsecondary, degree-granting institutions in the U.S. and its possessions and territories accredited by regional, national, professional and specialized agencies recognized as accrediting bodies by the U.S. Secretary of Education and by the Council for Higher Education Accreditation (CHEA).
Students who are requesting an evaluation of transcripts for the purpose of seeking a Cochise College degree must have submitted an admissions application to create a student record. The following regulations govern the acceptance of academic credit from other institutions:

1. Courses accepted for transfer-in credit must have been completed with a grade of C or better.
2. Cochise College may grant academic probation to students who transfer in with an earned grade point average (GPA) below 2.0.
3. Students who have been academically dismissed from another higher education institution may not attend Cochise College for one full semester after dismissal.
4. At the discretion of the Aviation Department, a professional pilot candidate who transfers to Cochise College may receive credit for previously earned certificates and ratings if they complete at least one Cochise College flight course resulting in a certificate or rating.
5. Grade point averages earned at other institutions are not calculated with the GPA earned at Cochise College.
6. College transcripts must be mailed directly or sent electronically by the issuing institution to the Registration Office. Official sealed transcripts hand-carried by the applicant are acceptable.
7. Evaluation and posting of credits shall be made once a student has been admitted to Cochise College. Students may not request nor will they be given an official or unofficial Cochise College transcript until they have

registered for and completed a Cochise College course with grade of A, B, C, D, F, P or Audit.

Academic Renewal - Forgiveness

Academic renewal/forgiveness allows a student who previously attended Cochise College to have selected grades (D, F and/or WF) excluded from the calculation of the grade point average (GPA). A student returning to the college after an absence of at least three years and has completed 12 or more credits with a minimum GPA of 2.00 following re-enrollment is eligible to pursue academic renewal/forgiveness. Students can only pursue this once in their academic tenure with the college. Contact the Admissions & Registration Office for more information.

Student Identification and Email

Identification Number

Disclosure of social security numbers to Cochise College is voluntary and not required by either statute or regulation; however, social security numbers will aid in matching current and future academic records with any past records, ensuring that full credit is received for all academic work completed at Cochise College. If students decline to provide their social security number, opportunities for claiming tuition on taxes will not be available through the American Opportunity and Lifetime Learning Credits (Form 8863).
Students, faculty, and staff are assigned individual identification numbers–not identical to their social security numbers–during the admission and/or hiring processes. The student identification number, which is sent by mail and email to new students, is used to obtain most services provided by the college; however, a student's social security number may still be required for some services, such as financial aid and reporting education tax credit information to the federal government.

Email

Cochise College's email system is recognized as an official mode of communication between the college's faculty, staff, and students. Email accounts are free and provide a way to receive college news and other notifications. Login at my.cochise.edu to access a college email account.

Online Technical Requirements

For the best learning experience, students should meet the following recommendations for all programs:
Devices

- Desktop / Laptop
- Microphone and webcam

Note: Some students have found it helpful to possess additional peripherals, such as a printer and headphones or a headset, although these are not required unless specified by your program.
Operating System

- Windows 10 and above or macOS10.6 and above
- Memory: 8GB or higher (RAM)
- Hard Drive: 120GB or higher

Note: Android devices and iPhones should not be a primary device.
Internet Connection

- Must have consistent access to the internet (High-speed internet recommended)

Supported Browser Recommendations

- Mozilla Firefox or Chrome are preferred browsers.

Certain programs and/or courses may require other devices and software.

Admission of International Students

International Students will be admitted to Cochise College after the International Student Office has received and approved their international application, application fee, and required documents for admission. Below are steps students need to take to be eligible to receive an I-20 for F-1 visa status.

Application Deadlines for International Students

- Fall Semester – July 7
- Spring Semester – December 8

Documentation

• **STEP 1:** Complete the online international application at www.cochise.edu/international
• **STEP 2:** Pay the nonrefundable $75 application fee by calling the Business Office at (520) 417-4076.
• **STEP 3:** Provide a copy of your current passport. It cannot expire within 6 months.
• **STEP 4:** Fill out the Affidavit of Support Form. The affidavit must be submitted with a copy of the official bank statement or be verified with a bank seal and a signature.
• **STEP 5:** Proof of English Proficiency is required for students interested in an Academic/Degree-Seeking program.
• **STEP 6:** Provide copies of high school records and transcripts, properly translated into English.

English as a Second Language (ESL)

Cochise College offers an English as a Second Language (ESL) program for students who would like to eventually earn credits towards a certificate and/or associate degree program. Once students successfully complete the ESL program, students have the option of transitioning into an academic program of study.

• **STEP 1:** Complete the online international application at www.cochise.edu/international
• **STEP 2:** Pay the nonrefundable $75 application fee by calling the Business Office at (520) 41-7-4076.
• **STEP 3:** Provide a copy of your current passport. It cannot expire within 6 months.
• **STEP 4**: Fill out the Affidavit of Support Form. The affidavit must be submitted with a copy of the official bank statement or be verified with a bank seal and a signature.
• **STEP 5:** Completed ESL Placement Test. Students may take the placement test after all required documents are approved and on file.

Border Community Student

Available to Sonora residents only.
In compliance with the U.S. Citizenship and Immigration Services regulations, a border commuter student is a national of Canada or Mexico who is admitted to the United States as an F-1 nonimmigrant student to enroll in a full course of study, albeit on a part-time basis, in an approved school located within 75 miles of a U.S. land border. A border commuter student must maintain an actual residence and place of abode in the student's country of nationality, and seek admission to the United States at a land border port-of-entry. Border commuter students must meet certain requirements in order to study at Cochise College as a F-1 visa student. Please follow these steps to fulfill I-20 eligibility criteria.
Border commuter student eligibility:
• Must enroll in a minimum of 6 credits each semester.
• Must be a resident of Mexico.
• Maintain residence in Mexico while studying with this type of visa.
• Seek admission to the United States (U.S.) at a land border port-of-entry and depart the U.S. by the end of each day.
Application Deadlines for Border Commuter Students:
• Fall Semester – July 7
• Spring Semester – December 8
Documentation:
• **STEP 1:** Complete the online international application at www.cochise.edu/international
• **STEP 2:** Pay the nonrefundable $20 application fee by calling the Business Office at (520) 417-4076.
• **STEP 3:** Provide a copy of your current passport. It cannot expire within 6 months.
• **STEP 4:** Fill out the Affidavit of Support Form. The affidavit must be submitted with a copy of the official bank statement or be verified with a bank seal and a signature.
• **STEP 5:** Proof of English Proficiency is only required for students interested in an Academic/Degree-Seeking program.
• **STEP 6:** Provide copies of high school records and transcripts, properly translated into English.
• **STEP 7:** Submit the Sonora Arizona Agreement Form along with a copy of one of the following documents:

- Copy of your driver's license
- Copy of your voter registration card
- Copy of your high school transcript.

TRANSFER F-1 STUDENT
If you are an F-1 student and want to transfer to Cochise College, please follow these steps.
Application deadline: All admission requirements must be satisfied no later than one week before the semester begins.
• STEP 1: Complete the online international application at www.cochise.edu/international
• STEP 2: Pay the nonrefundable $75 application fee by calling the Business Office at (520) 41-7-4076.
• STEP 3: Provide a copy of your current passport. It cannot expire within 6 months.
• STEP 4: Fill out the Affidavit of Support Form. The affidavit must be submitted with a copy of the official bank statement or be verified with a bank seal and a signature.
• STEP 5: Provide copies of all your I-20 form(s)
• STEP 6: Provide a copy of your previous and current unofficial transcript(s)
• STEP 7: Proof of English Proficiency is only required for students interested in an Academic/Degree-Seeking program.
Additional Requirements
• International students must attend fall and spring semesters and take at least 12 credit hours each semester.
• International students are not permitted to enter the United States of America (U.S.A) until 30 days prior to their start of date on their SEVIS Form I-20.
• All international students are required to meet with a Designated School Official (DSO) immediately after arriving on campus to receive individual guidance. The DSO gives assistance to students in meeting U.S.A. Immigration and Customs Enforcement requirements concerning, visas, passports, permission to work, and related matters.
• International student living and studying in the U.S. are required to have health insurance.

For more information, visit www.cochise.edu/international-students/

Office of Accessibility Services

Cochise College fully recognizes all provisions of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. The college will make reasonable modifications to policies, practices, and procedures so that individuals with disabilities can access all the goods, services, and opportunities offered by the college. The Disability Services Accessibility Office at Cochise College provides various support services to meet the individual needs of faculty, staff, and students with documented disabilities. Upon request, reasonable accommodations will be made for eligible individuals.

Examples of Reasonable Accommodations Include:

- **Alternative Format Material**: e-text, electronic handouts, Braille
- **Alternative Testing Arrangements**: extended testing time, reduced-distraction testing area, use of access technology
- **Access Technology**: voice recognition software, text-to-speech software, magnification software,
- **Classroom/Workplace Accommodations**: accessible furniture, interpreters, note-taking support and preferential seating

Examples of Supporting Documentation:

- Medical Documentation from Qualified Health Care Professional
- IEP/MET/504 Plan
- Behavioral Health Reports
- Veterans Administration Determinations
  To Begin the Welcome Process Please Visit: www.cochise.edu/accessibility

Residency Requirements

Proposition 300 Tuition Assessment

Cochise College's registration procedure for credit classes complies with the requirements of Proposition 300. Approved by Arizona voters in November 2006, Proposition 300 requires verification of eligibility for in-state tuition rates for U.S. citizens and qualifying legal immigrants.

The law does not prevent anyone from enrolling at Cochise College. It does require that students who are not citizens or legal residents pay out-of-state tuition rates. The law further states that persons who are not citizens or legal residents are not entitled to tuition waivers, fee waivers, grants, scholarship assistance, financial aid, tuition assistance, or any type of financial assistance that is subsidized with state monies.

A list of qualifying documents to verify eligibility for in-state tuition is available online at www.cochise.edu/admissions. Documentation can be returned to the Admissions and Registration Office or scanned and emailed to adm@cochise.edu. Please call (800) 593-9567 for more information.

Each applicant shall have legal residency determined prior to the time of registration and payment of fees. It is the student's responsibility to register under the correct residence determination. Enforcement of residency requirements and regulations are the responsibility of the Cochise College president.

Appeal of residency interpretation or judgments rendered by the college administration shall be handled through appeal channels as established by the district governing board in accordance with the Arizona Revised Statutes, which determine classification for tuition purposes.

Definitions

Arizona Revised Statutes (ARS 15-1801 et seq.) and Cochise College policies determine classification for tuition purposes.

Adult means a person who is 18 years of age or older.

Armed Forces of the United States means the Army, the Navy, the Air Force, the Marine Corps, the Coast Guard, the Commissioned Corps of the United States Public Health Services, and the National Oceanographic and Atmospheric Association. (ARS 15-1801)

Continuous attendance means enrollment at an educational institution in this state as a full-time student, as such term is defined by the governing body of the educational institution, for a normal academic year since the beginning of the period for which continuous attendance is claimed. Such person need not attend summer sessions or other such intersession beyond the normal academic year in order to maintain continuous attendance. (ARS 15-1801)

Domicile means a person's true, fixed and permanent home and place of habitation. It is the place where he/she intends to remain and to which he/she expects to return when he/she leaves without intending to establish a new domicile elsewhere. (ARS-15-1801)

State resident means a person who is domiciled in the State of Arizona for not less than one year or 365 days. (ARS 15-1802)

County resident means a person who is domiciled in the State of Arizona for not less than one year and who has been physically present in the county for at least 50 days prior to the first day of classes of the semester. (R7-1-23)

Dependent means any person (son, daughter, or legal ward) who receives more than half of his/her support for the calendar year from a parent or guardian, as documented on the federal income tax form, and who is domiciled in Arizona.

Alien means a person who has been granted refugee status in accordance with all applicable laws of the United States, has met all other requirements for domicile, and who is entitled to classification as an in-state refugee student.

Emancipated person means a person who is neither under a legal duty of service to his/her parent nor entitled to the support of such parent under the laws of this state. (ARS-15-1801)

Parent means a person's father or mother, or if one parent has custody, that parent. Or, if there is no surviving parent or the whereabouts of the parents are unknown, then a guardian of an unemancipated person (if there are no circumstances indicating that such guardianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person). (ARS 15-1801)

Residency Status

In-State Status

Except as otherwise provided in this catalog, no person having a domicile elsewhere than in this state is eligible for classification as an in-state student for tuition purposes. (ARS 15-1802)
A person is not entitled to classification as an in-state student until he/she is domiciled in this state for one year, unless he/she meets one of the following requirements:

1. His/her parent's domicile is in this state for not less than one year and his/her parent is entitled to claim him/her as an exemption for state and federal tax purposes.
2. He/she is an employee of an employer that transferred him/her to this state for employment purposes or he/she is the spouse of such employee.
3. The domicile of an unemancipated person is that of such person's parent. Any unemancipated person who remains in this state when such person's parent, who had been domiciled in this state, moves from this state is entitled to classification as an in-state student until attainment of the degree for which currently enrolled, so long as such person maintains continuous enrollment.
4. A person who is a member of the armed forces of the United States stationed in this state pursuant to military orders, or who is the spouse or dependent child as defined in section 43-1001 of a person who is a member of the armed forces of the United States stationed in this state pursuant to military orders. The student, while in continuous attendance toward the degree for which currently enrolled, does not lose in-state student classification.
5. A person who is honorably discharged from the United States armed forces and provides a DD Form 214 with honorable discharge notation.
6. A person who is a member of an Indian tribe recognized by the United States Department of the Interior, whose reservation land lies in this state and extends into another state and who is a resident of the reservation.

Proof of Residency

Students must file a domicile affidavit with the Admissions Office verifying continuous residency in the state for a 12-month period. At least three of the following items will be used to establish proof of residency:

1. Filing of state income tax report for the previous year
2. Current registration of motor vehicle in Arizona
3. Current registration as a voter in the state
4. Arizona driver's license issuance date
5. Graduation from an Arizona high school
6. Bank statement from an Arizona banking institution
7. Source of support (employer)
8. Dependency as indicated on federal income tax declaration for dependents.
9. Utility bill for student's Arizona residence.

Concurrent Enrollment: Nonresident Tuition

It is unlawful for any nonresident student to register concurrently in two or more public institutions of higher education in this state, including any university or community college, for a combined student credit-hour enrollment of more than six semester hours without payment of nonresident tuition at one of such institutions.
Any nonresident student desiring to enroll concurrently in two or more public institutions of higher education in this state, including any university or community college, for a combined total of more than six semester hours and who is not subject to nonresident tuition at any of such institutions shall pay the nonresident tuition at the institution of his/her choice. The amount will be equivalent to nonresident tuition at such institution for the combined total of semester hours for which the nonresident student is concurrently enrolled. (ARS 15-1807)

Enrollment Verification

Students requesting verification of their enrollment for any purpose, such as life insurance or loan deferment, can do so by visiting any of the Admissions and Registration Offices or by submitting an online request, free of charge, to transcripts@cochise.edu any time after the start of a semester. The National Student Clearinghouse is Cochise College's authorized agent for providing degree and enrollment verifications at **www.degreeverify.org**.
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Family Educational Rights and Privacy Act (FERPA)

Cochise College shall not permit, without the written consent of the student, the disclosure of information from educational records—or personally identifiable information contained therein—other than directory information, to any individual, agency, or organization other than in specific situations as outlined by the Family Educational Rights and Privacy Act of 1974, its amendments
and the final rule of the U.S. Department of Education.
Students may withhold disclosure of any directory information by submitting written notification to the Admissions Office prior to the first day of classes each semester. Failure on the part of any student to specifically request the withholding of directory information indicates individual approval for disclosure. One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by Cochise College in an administrative, supervisory, academic, research, or support staff position (including law enforcement personnel and health staff); or a person or company with whom Cochise College has contracted (such as an attorney, auditor, collection agent, or official of the National Student Clearinghouse).
Cochise College designates the following items as directory information: student name, major field of study, participation in officially recognized activities and sports, dates of

attendance, degrees and awards received and most recent previous school attended. The college may disclose any of those items without prior written consent, unless notified in writing to the contrary by the student in advance of any request.

Online access is available to students and confidentiality is provided through secure username/password access by logging into the My.Cochise.edu portal website. Class schedules, grades, transcripts, accounts and more are available 24/7.

Questions about your student records? Contact the Admission and Registration office by email at reg@cochise.edu or call 800-593-9567.

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Money Matters

Payment of Tuition and Fees

All fees approved by the governing board are subject to change. Tuition and fee information is available from the Admissions Office, the Business Office or at www.cochise.edu/tuition.

Class schedules include specific registration and payment dates. All tuition and fees are due as the final step in the registration process. Cochise College accepts checks or credit card payments. Students may also pay online in full or set up a payment plan.

If a check is returned unpaid, students will be assessed a service fee and dropped from all classes. If tuition and fees are not paid in full on or before the due date, students will be dropped from all classes and will be prohibited from any future registration. Past due accounts may be turned over to a collection agency and students are liable for any collection or attorney fees.

If students have been approved to receive financial aid, it will be applied to their accounts. If the financial aid award does not cover the amount owed, students need to pay their remaining balance. If the financial aid is more than the amount owed, students will receive a refund.

Tuition

In-state	$95 per credit
In-state tuition (per credit hour) for Nursing NUR and Police Academy LEO	$133 per credit
In-state tuition (per credit hour) for Aviation PFT	$287 per credit
Out-of-state 1-6 credits	$142 per credit
Out-of-state over 6 credits (retroactive to first credit)	$255 per credit
Out-of-state tuition for Nursing NUR	$358 per credit
Out-of-state tuition for Aviation PFT	$407 per credit
Student without Prop 300 documentation	$255 per credit
Online in-state courses (per credit hour)	$95 per credit
Online out-of-state (per credit hour)	$255 per credit
Co-op education courses	$48 per credit
New Mexico Tuition Waiver (NMW)*	$95 per credit
NMW tuition for Nursing NUR and Police Academy LEO	$133 per credit
NMW tuition for Aviation PFT	$407 per credit
Western Undergraduate Exchange Tuition (WUE)**	$142 per credit
WUE tuition for NUR and Police Academy LEO	$199 per credit
WUE tuition for Aviation PFT	$407 per credit
Golden Apache (county resident 60+ years):	
Regular course	$48 per credit
Online courses	$48 per credit

*A special tuition agreement exists for full-time students between Cochise College and Western New Mexico University. Information is available from the Admissions Office.

**Cochise College is a member of the Western Undergraduate Exchange (WUE) program. Residents of Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Northern Marianas Islands, Oregon, South Dakota, Utah, Washington or Wyoming should contact the Admissions Office for eligibility.

Special Tuition Rates

Special tuition rates are available to student15 credits, Meal Plan and dorm)s, including those from Sonora who want to study at Cochise College. Information is available at www.cochise.edu/tuition/waiver.

Fees

Tuition payment plan fee (e-cashier)	$25
Accuplacer testing retest - one subject	$15
Accuplacer testing retest - two subjects	$20
Accuplacer testing retest - three subjects	$25
Proctor fee - one exam	$20
Proctor fee - one course	$30
CLEP proctor fee	$25
DSST proctor fee	$25
Credit by examination (per credit hour, non-refundable)	$80
Myers-Briggs	$25

Strong Interest Inventory	$20
Other testing services	$20
Typing Test	$15
HAPS Test	$25
HAPS Reschedule Fee	$40
TEAS/HESI entrance exam proctor fee	$10
Missed Clinical Fee	$50
Placement scores (faxed)	$10
MOS credentialing fee	$70
Transcripts (official)	$10
Transcripts (overnight)	$50
Returned check fee (for each returned item)	$50
Check re-issuance fee	$50
Airport tie-down fee (per month)	$100
Replacement of ID card or meal card	$10
Border commuter application fee	$20
International student application fee	$75
International student illness/accident insurance	TBD

Fees are subject to change. The full tuition and fees schedule is at www.cochise.edu/tuition.

On-Campus Living

Rooms

The Douglas Campus offers students enrolled in a minimum of 12 credits the opportunity to live and learn at Cochise College. Our residence halls include suite style (in room, shared bathrooms): Huachuca Residence Hall (single occupancy, approximately 80 residents) and Desert View Townhouses (double occupancy, approximately 100 residents). Residential students are required to purchase a meal plan. There is no room charge for residents enrolled in 15 or more credits for the semester. On-campus living amenities and benefits include: WiFi, laundry facilities, game room equipment (pool tables, ping pong), computer labs, fully furnished bedroom (bed, dresser, desk/chair), closet, free parking, student activities, close proximity to classrooms, professors, fitness center, athletic events and the cafeteria. Payment for room and board (meal plan) is due at registration or by the last day to add classes per semester. On-campus residents must comply with all policies and procedures as they appear in the residence hall contract and the Student/Resident Handbook, as well as local, state and federal laws. The Residential Life Office can be reached at (520) 417-4062 or housing@cochise.edu. For more information please visit: www.cochise.edu/housing.

Deposit

Residence hall	$200*
Laundry Facility Service Fee per semester	$35

*Required. Deposit does not apply toward room and board fees and is carried over year to year for students who continue to live on campus. Housing deposits are refundable following a resident's final checkout from housing less laundry fees, damage fees, or other outstanding balances owed to the College.

Regular Student – Per semester

Meal plan	$3,150
Room rate: Single Room (Huachuca Hall)	$1,725
Room rate: Double Room (Huachuca Hall)	$1,520
Room rate: Double Room (Townhome)	$1,570

Professional Pilot – 21 Weeks

Meal plan	$3,895
Room rate	$2,125

Combined Rate* - Per semester

Regular Student - Meal Plan & Housing with 15 or more Credit Hours of enrollment.	$3,150
Professional Pilot - Meal Plan & Housing with 15 or more Credit Hours of enrollment	$3,895

*Students must apply for the Cochise Combo.

Refunds

Tuition and Fee Refunds

Students are advised to be signed up for class(es) the day prior to the course start date. To receive a full 100% refund and not have a 'W' grade noted on an academic transcript, students must drop a class(es) by the refund schedule published in each semester's class schedule. Students who drop a class after the published add/drop dates, will have a 'W' grade noted on their transcript and will receive a 90% refund up until the semester census date. Students who drop courses after the census date will receive no refund and a 'W' grade on their transcript. Please see the Refund Request Form for exceptions to this procedure.

Residence Hall Refunds

Students are eligible for a 50-percent refund of room fees if leaving residence within 21 days of the first day of classes for each semester or within 21 days of the start date of a specific program in which they are enrolled. Room fees will not be reimbursed after the 21st day as specified above.
Students withdrawing from the college may be eligible for a meal plan refund, prorated on a weekly basis, up to four

weeks after the start of the 17-week term. Students who are enrolled in only a first or second eight-week term will be charged a prorated meal plan rate of 50 percent of a full 17-week meal plan. Departing eight-week-only students are eligible for refunds, prorated on a weekly basis, up to two weeks after the eight-week term begins. Any refund exceptions to this policy must be made in writing to the Vice President of Student Services and must contain the rationale for the request along with any documentation requested by the dean. Requests for exceptions to this policy will not be accepted by the dean after 15 working days from the departure of the student.

Flight Program Fees Refund

At the time of registration, students are required to have secured funding for their flight/course fees for that semester/term. We recognize that funding sources will vary on an individual basis. Students are required to complete and follow all required financial aid processes, forms and documentation. Payment of flight/course fees for aviation classes are subject to the following:

- All flight/course fees to be paid in full prior to the start of the first day of class OR set up a payment plan via WWW.MyCollegePaymentPlan.com/Cochise.
- Failure to make required payments may result in the student being dropped from the course and/or prohibited from continuing to participate in flight training activities.
- The student assumes 100% financial responsibility for any flight/course fees incurred (used} prior to a drop, withdrawal or failure of the course(s).
- All flight/course fees associated with a specific course are required to be paid in full prior to the student being scheduled for any final course stage checks or check rides.

Flight Program Refund Procedure

- If a student chooses to withdraw/drop a flight course or the program; they must complete the following in order to be considered eligible for a refund under the procedure listed below:
  - Request a meeting with either the Director or Chief lnstructor(s)
  - Submit a written/signed request to drop the classes/program to the Director of Aviation
- Any flight/course fees paid for a course the student has not begun activities in may be refunded at 100%
- After the start of each semester/term students who withdraw/or are dropped from a class may be eligible for a refund of UNUSED flight fees upon completion of a full audit of their flight activities. See refund schedule below:
- No refund will be granted if the refund request is made later than the last day of the next semester after the semester in which the class was taken. (Fall semester refunds must be requested no later than the end of the next spring term. Spring refund requests must be requested before the end of the next fall term. Summer session refunds must be requested before the end of the next fall term.)

Weeks 1-6	80%
Weeks 7-12	50%
Weeks 13-21	0%

There is no refund available after the 12th week.
NOTE: Students who drop prior to the start of the semester/term will receive a full refund of their flight/course fees.
NOTE: Tuition, housing/meal plan refunds will be honored based on the meal plan/housing and tuition refund policy of Cochise College. See these policies for details.

Federal Title IV Financial Aid Refunds

The Federal Pell Grant, Supplemental Educational Opportunity Grant (SEOG), and Federal Direct Student Loan programs are subject to this repayment provision. Students who completely withdraw before completing 60 percent of the term are subject to this policy and may owe a repayment of the unearned portion of their grant funds. Students have 45 days to return the funds to Cochise College. If repayment is not made during the 45 days, the repayment owed will be turned over to the Department of Education for collection. Once a repayment is turned over to the Department of Education, eligibility for additional federal aid is suspended until satisfactory payment arrangements are made.
The Federal Pell Grant and Supplemental Educational Opportunity Grant (SEOG) programs are subject to this repayment provision. Students who have received student loan funds are responsible for completing an exit interview and for notifying their lender of the withdrawal or dropping below 6 credits. The federal work-study program is not subject to the refund policy.
The withdrawal date is the date:

- The student began the withdrawal process prescribed by the institution;
- The student otherwise provided the school with official notification of the intent to withdraw; or
- The last date the student academically participated in the course.

The percentage of the payment period or period of enrollment completed for which assistance was awarded is calculated by dividing the total number of calendar days comprising the payment period or period of enrollment for which the assistance is awarded into the number of calendar days completed in that period as of the day the student withdrew. Additional policy and regulatory information is available from the Financial Aid Office.

Financial Aid, Scholarships and Grants

Students applying for financial aid at Cochise College must be admitted into an eligible degree or certificate program of

study and must meet any other eligibility requirements for each program.
Official academic transcripts are required of all transfer students. Transcripts are evaluated and restricted enrollment enforced when applicable. Students who have not met the college's academic standards (2.0 GPA and completion of 67 percent of credits attempted) at the prior institution(s) will be evaluated with the same probation and suspension standards currently in place for Cochise College students. Students who consistently have received W and F grades may be required to complete a progress appeal.
Cochise College provides access to federal, state, and institutional financial aid through the Financial Aid Office. A number of institutional and private scholarship applications are also available. Financial aid may be awarded based on financial need, academic merit, athletic ability, or community service. The application process for most of the programs begins with completion of the Free Application for Federal Student Aid (FAFSA). Students complete the FAFSA online at www.FAFSA.gov. To assist in completing the online application, a FAFSA worksheet is available online or from the Financial Aid Office. Priority consideration for some grants is given to applications received in the Financial Aid Office by May 31.

Federal Pell Grants

A federal Pell Grant is a federal subsidy awarded to students for post-secondary education. It is a form of Federal Financial Aid awarded to undergraduate students who demonstrate financial need. Pell Grants are awarded on the basis of financial need and do not have to be repaid except in rare circumstances. They are grants awarded through participating institutions to students with financial need who have not received their first bachelor's degree. Pell Grant amounts adjust based on a student's enrollment. If a student withdraws from a course or from all courses, the student could face repayment of the Pell Grant or portion of the Pell Grant for not fulfilling the course requirements.

Federal Direct Loans (Stafford Loans)

Low-interest student loans are available to help meet educational expenses. The loans must be repaid. Students must be enrolled in a minimum of six credit hours during a term (including eight-week terms) to be eligible. Loans can also be obtained by students who do not demonstrate a need. A student must complete loan entrance counseling, the master promissory note, and a direct loan request form before a student loan can be certified.

Work-Study Program

The work-study program offers students an opportunity to work up to 16 hours per week to assist with college expenses. Many of these jobs are career related and offer flexible work schedules. Students must be enrolled at least half time, have a minimum 2.0 GPA, and maintain Satisfactory Progress to qualify for these jobs. Work-study jobs are available both on and off campus. Information on student employment is available at our website www.cochise.edu/employment.

Veterans Affairs

The Veterans Affairs Office is located within the Financial Aid Office on the Sierra Vista Campus. Information concerning attendance, benefits, and procedures is available. All veterans are advised to maintain close contact with the college’s certifying official.
Veterans receiving VA benefits are required to immediately report to the college’s certifying official when they add a course, drop a course or withdraw from college. Dropping or reducing enrollment may result in an overpayment of benefits by the VA and veterans may be required to repay all the money received during that term.
Veterans at Cochise College may register and have their classes put on hold to allow for payment to be made by the VA or the veteran. When a veteran enrolls they must notify the VA Office, by submitting a Semester Benefit Request form, the day they enroll or they may be dropped for non-payment of tuition. Veterans are responsible for payment of all tuition and fees, regardless of approval or denial of VA benefit payments, unless VA pays tuition and fees directly to the school.

Scholarships

Scholarships are offered by the Cochise College Foundation each year. These scholarships are funded by private donors. Financial need, grade point average, field of study, leadership and community service may be some of the eligibility requirements. Applications are accepted early in the spring semester for scholarships to be awarded for the following academic year. Notices of other scholarships are publicized periodically. The Cochise College Scholarship Portal application can be found at www.cochise.edu/fa.

Academic Procedures

Catalog Requirements

A student maintaining continuous enrollment in any public community college or public university in Arizona may graduate from Cochise College by meeting the requirements in the college catalog in effect at the time of that student's initial enrollment, or by meeting the requirements in any single Cochise College catalog in effect during any subsequent academic year (fall, spring, summer) of that student's continuous enrollment. Although a student's initial catalog assignment is the academic catalog in effect at the time of initial enrollment, a student's catalog year can change as a result of the following:

- A student who fails to maintain continuous enrollment or changes program of study shall be assigned the current year catalog.
- A student who requests a different catalog year shall be limited to subsequent academic year catalogs.
- A student whose academic catalog has expired, as described below, shall be assigned the next academic year catalog.

Continuous enrollment is defined as being enrolled during consecutive academic years in which course credit is earned. Noncredit and audited courses do not count toward continuous enrollment. For the purpose of determining a student's catalog requirements, continuous enrollment is limited to the five (5) academic years prior to the student's current year of enrollment. The five-year continuous enrollment limit moves forward with the student into year six and beyond. Re-enrollment is required of any student who has been absent from Cochise College for two (2) or more semesters, as stated in Administrative Policy 4001 Admissions.

Academic Classification and Status

Classification of Students

Freshman: Student with fewer than 31 passing units of college credit.
Sophomore: Student with 31-60 passing units of college credit or completion of associates degree.
Junior: Bachelor degree seeking students with 61-90 passing units of college credit.
Senior: Bachelor degree seeking students with 91 or more passing units of college credit.
Full-time: Student carrying 12 or more credits during a semester.
Three-quarter-time: Student carrying 9 or more but fewer than 12 credits during a semester.
Half-time: Student carrying 6 or more but fewer than 9 credits during a semester.
Less than half-time: Student carrying fewer than 6 credits during a semester.

Academic Status

Good Standing: A cumulative grade point average (GPA) of 2.0 or higher on a 4.0 scale.
Probation: After attempting 13 or more credits, a student's academic status is reviewed after each semester. A cumulative GPA below 2.0 places a student on academic probation, with the academic status noted on the student's transcript. While on probation, a student is permitted to enroll in 12 or fewer credits.
Suspension: If a student's cumulative GPA falls below 2.0 for two consecutive terms, the student is suspended from school and the academic status noted on the student's transcript. A student suspended following the spring semester may not attend classes the following summer and fall terms. A student suspended following the fall semester may not attend classes the following spring and summer terms.

Teaching Modalities

Classes taught at Cochise College may employ any one of these teaching modalities:

1. Face-to-Face: Classes that meet physically and students are required to attend regular face-to-face sessions.
2. Live Streaming Room-to-Room: A class where students participate in real time either in person or through a web conferencing system. All participants are required to be physically present in a college classroom or computer lab, and actively participate in class activities during the scheduled class times.
3. Live Streaming Anywhere: A class where students participate in real time through a web conferencing system. Students may utilize college computer resources to participate in the class, but may also be able to join the class from other locations. All participants are required to be present and actively participate in class activities during the scheduled class times.
4. Online: Classes that require no on-site meetings. These classes may include one or two activities where the instructor and students meet in real time through a web conferencing system, but they are designed to be completed by students who do not need to be physically present. These classes may also require a proctored final examination.
5. Hybrid-Online/Face-to-Face: Classes where content is delivered using both online and face-to-face modalities in approximately equal proportions.
6. Hybrid-Online/Live Streaming Room-to-Room: Classes where content is delivered using both online and Live

Streaming Room-to-Room modalities in approximately equal proportions.
7. Hybrid-Online/Live Streaming Anywhere: Classes where content is delivered using both online and Live Streaming Anywhere modalities in approximately equal proportions.
8. HyFlex: Classes delivered face-to-face are also delivered via live streaming and are recorded and posted online to provide flexibility to students as needed throughout the semesters.

In addition to the above, the following types of specialized classes may be scheduled that use one or more of the teaching modalities:

1. Modular: A class where students complete a series of online modules and demonstrate mastery at the conclusion of each module. While these classes are somewhat self-paced, students are expected to reach specific milestones during the term of the class. Modular classes use a face-to-face, online or hybrid-online/face-to-face modality.
2. Collaborative: Two or more independent classes where instructors conduct joint activities; for example, a reading and sociology collaboration may have reading activities assigned from sociology books. Students must register for both classes. The two classes may be taught using any of the modalities.
3. Concurrent: Two or more classes that meet as one. For example, a basic and advanced section of a class may meet as a single class and the instructor would conduct activities appropriate for both sections. These classes can be taught using any of the modalities.
4. Cooperative: A class in which a student completes work-related objectives or projects that are negotiated between the student, an employer related to the student's field of study, and the instructor. The student regularly submits assignments and other reports to the instructor. These classes are coordinated by an academic dean or instructor and do not follow any particular modality.

GRADING SYSTEMS

The following are grade designations earned in each course and recorded on a student's permanent record.

A Indicates the highest academic grade possible. It is reserved for accomplishment that is truly distinctive and demonstrably outstanding.

B Denotes achievement considerably above acceptable standards and mastery of course materials.

C Indicates a satisfactory degree of attainment and is the least acceptable standard for graduation from college or for additional studies within the discipline. This grade implies completion of the minimum outcomes identified in the course curriculum.

D Denotes a limited understanding of the subject matter. This grade will not transfer to another institution of higher education and it is unacceptable for additional studies within the discipline.

F Indicates inadequate or unsatisfactory attainment, serious deficiency in understanding of course material or failure to complete requirements of the course.

W Indicates a withdrawal from the course by the designated drop date.

I Indicates that, for a justifiable reason, a student failed to complete all requirements of the course. The instructor has the option of issuing an incomplete rather than an F to the Registration Office. The student must make up an incomplete grade during the succeeding semester to avoid an F. An incomplete grade is not computed in the student's GPA.

IW IW Indicates that, for a justifiable reason, a student failed to complete all course requirements for the course. The instructor has the option of issuing an incomplete to withdrawal grade. The grade is typically only used by MOS students (military credentialing). It was also used during the spring 2020 term, for students affected by the COVID-19 Pandemic. The student must complete all coursework within a one-year period, or the IW will be changed by the Registrar to a withdrawal (W). An incomplete/withdrawal grade is not computed in the student's GPA.

AU Indicates that a student will not receive a grade or credit. Registration and fee policies apply. Pass/fail classes may not be audited. Instructors give priority to students registering for credit, and they do not require audit students to take examinations or to hand in assignments. A student auditing a class may not change to a credit basis later than Friday of the second week of the semester. A student may change from a credit to an audit basis up to five calendar days prior to the start of finals. The drop/add procedure is used to effect such changes.

IP Indicates that a student's coursework is in progress at the time grades are due.

P Indicates C or higher work in a class taken for pass/fail.

X Indicates a D or failed grade in a class taken for pass/fail.

Grade Point Average (GPA)

Semester grades are assigned grade points as follows:

Grade	Points per credit earned
A	4
B	3
C	2
D	1
F	0

For example, a three-credit course with a grade of A earns 12 grade points. The total grade points accumulated are divided by the total credits attempted (excluding W, I and AU) to determine the GPA. In determining academic standing at Cochise College, the GPA of a transfer student is computed on the basis of credits attempted at Cochise College only and does not include credits and grade points earned at another college.

Grade Reports

Cochise College has an online student grade report system for viewing and printing grades.

Grade Change

A grade that has been reported to the registrar by an instructor may be changed only by the instructor issuing the grade or by the academic dean.

Academic Honors and Honors Distinction

President's List and Dean's List

Students who complete 12 or more credits in one 16-week semester or term at Cochise College and maintain a semester GPA of 3.9 or higher are recognized as achieving high academic honors and placed on the President's List. Students who complete 12 or more credits in one 16-week semester or term at Cochise College and maintain a semester GPA of 3.5 to 3.899 are recognized as achieving academic honors and placed on the Dean's List.

Honors Distinction

Students completing 16 credits of honors coursework and having a 3.5 cumulative GPA or higher earn an Honors Program Distinction seal on their Cochise College diploma, a medallion, as well as a notation on their transcripts and in the commencement program.

Transfer to University Honors Programs

Students earning the Cochise College Honors Program Distinction are often invited to join university-level honors programs upon transfer. Scholarship opportunities are also available to honors students.

Academic Restrictions

Attendance

Student attendance is a major factor in academic success. Cochise College conducts a census report by the second week of classes each semester. Students who have not attended in that time are dropped for non-attendance. Instructors are responsible for establishing specific attendance criteria for each class and communicating the criteria to students in writing during the first week of class. Instructors may drop students who exceed their limit of absences. Students who are dropped during the census or by their instructor will not receive a refund on tuition and fees. Students on college-sponsored trips may be excused; however, they are responsible for all missed assignments.

Course Repeats

A course may be repeated six times for a grade. All courses will be listed on the student's transcript with the grade received. The highest grade earned will be computed for graduation and cumulative grade point average. Students are not required to repeat a failed course unless it is a prerequisite for another course or required for graduation or transfer.

Credit Load Limitations

Maximum educational benefits accrue when students enroll for a reasonable course load. The college has established the following credit load limitations:

Beginning freshmen (first-time college students) and returning students with a cumulative GPA of 2.0 or higher	19 credits
Concurrently enrolled high school students and returning students with a cumulative GPA below 2.0	14 credits

Final Exams

Final examinations are required and serve an important purpose in the academic process. Certain courses may call for demonstration of competency with final projects requiring more than two hours of work; these projects may serve as the final examination. Such projects must necessarily begin and end before the examination period; however, these courses must meet during the scheduled examination period for review, critique or other meaningful activity. The final examination schedule is printed in the class schedule at the beginning of each semester. Students must attend all final examinations or their instructor may issue a failing grade.

Course Withdrawal

Students may withdraw from a course by logging into my.cochise.edu or by completing a drop/add form from the Registration Office. Failing to withdraw could jeopardize the receipt of any refunds and may result in an F grade.

Academic Dishonesty

Cochise College requires students to adhere to the highest level of ethical academic conduct and has no tolerance for academic dishonesty. The college may impose serious academic sanctions as a result of academic dishonesty up to and including suspension and expulsion from a specific program or from the college. A statement regarding and defining academic dishonesty must be part of every course procedure sheet.

Academic dishonesty consists of many forms of unethical academic conduct, including, but not limited to, cheating, fabrication, plagiarism, and facilitating academic dishonesty.

1. Cheating means intentionally using or attempting to use unauthorized materials, information or study aids, as well as unauthorized devices such as cell phones and other technology.
2. Fabrication means intentional falsification of any information or citation.
3. Plagiarism means intentionally or knowingly representing the words or ideas of another as one's own.
4. Facilitating academic dishonesty means intentionally or knowingly helping another to commit an act of academic dishonesty.
5. Other forms of academic dishonesty include:

a. Submitting work to more than one instructor for credit without disclosure and approval.
b. Knowingly violating the terms of any academic sanction imposed for an earlier violation of Policy 3010.

Mandatory Advising

Cochise College recognizes that students are more successful when they have academic goals and career plans in place. Establishing mandatory advising for students in specific categories is an effort to assist students in establishing these critical milestones. The following student categories are those which will be required to seek advising before registration:

- Current high school students
- International students (F1 visa students)*
- All other students having between 0 and 14 earned college credits

These students are required to register for courses each semester through an academic advisor. An advising hold will be placed on student records. This hold will be removed once the student has earned 15 college credits. **International students must always meet with an academic advisor until they graduate or leave the school.*

Cochise READY provides students an opportunity to get acquainted with Cochise College, meet with an academic advisor and enroll in their first semester of college. It is recommended that all new to college students participate in a Cochise READY session. For more information call 520-515-5484 or email advising@cochise.edu.

Adding and Dropping Courses

Adding Classes

Students who wish to add classes to their schedule must register by the drop/add deadline date.

Dropping Classes

Classes dropped after the last day of the drop/add period and up to five calendar days prior to the start of finals will result in a W on the student's transcript. After this time, instructors must assign a grade of A, B, C, D or F or an incomplete (I or IW).

Wait Listed Classes

When a student is wait listed for a class it puts them on standby for future openings in the class. If an opening becomes available the student will receive notification through their Cochise College email. The student then has 24 hours to register for the class.

Prior Learning Assessment (PLA)

A maximum of 30 credits are allowed for prior learning assessment. In addition, certain departments allow students to receive credit for earned certificates if they are enrolled in a related Cochise College certificate or degree program. Prior learning assessment credits do not count toward the college residency requirement. More information is available in Policy 4020.

Advanced Placement

The Advanced Placement (AP) program offers college-level courses and examinations to high school students. AP exams are administered in high schools by the College Board each year in May. Students who receive a score of 3, 4 or 5 on an AP subject exam may be awarded college credit. Students should consult with an advisor in the Student Development Center to confirm AP credit. Information about the AP program is available on the College Board website at www.collegeboard.org. A list of available tests and their corresponding credits is available on www.aztransfer.com.

CLEP and DSST

Cochise College accepts both College Level Examination Program (CLEP) exams and DSST exams for college credits, provided satisfactory scores are attained. A list of available tests and their corresponding credits is available on www.aztransfer.com. Students cannot be awarded CLEP or DSST credit for courses taken in the same subject at the same level. Conversely, students cannot receive course credit at the same or lower level if they have already received CLEP or DSST credit.

Military Service Schools and MOS

The college follows the credit recommendations of the American Council on Education (ACE) for Military Occupational Specialty (MOS) training. Colleges differ on their policies related to credit allowed for military service schools. Credit granted by Cochise College does not obligate any other college or university to accept such credit. Evaluation and posting of credits shall be made once a student has been admitted to Cochise College. Students may not request, nor will they be given, an official or unofficial Cochise College transcript until they have registered for and completed a Cochise College course with grade of A, B, C, D, F, P or Audit. Credit earned for military service may not be used toward the college's 16-credit residency requirement.

Degree and Certificate Requirements

Degree Requirements

Students earning an Associate of Arts, Associate of Arts in Elementary Education, Associate of Business, Associate of Science, Associate of General Studies, Associate of Applied Science, Bachelor of Applied Science in Leadership, Management, and Operations (BAS-LMO), and Bachelor of

Science in Nursing (BSN-NUR) must complete all coursework with a grade of C or better. Program specific requirements may also apply. To receive any degree, a student must also have a cumulative grade point average (GPA) of 2.0 or higher. Students must complete a minimum of 16 lower division (100-and 200-level courses) residency credits to earn an associate degree. Students must complete at least 30 residency credits, including a minimum of 18 upper division (300- and 400-level courses) credits to earn a bachelor's degree.
Additional degree requirements are found in the Degrees and Programs (p. 38) section of this catalog.

Bachelor's Degree Waiver of General Education Requirements

Students who have already earned a bachelor's degree from an Institutional Accrediting Body and are interested in pursuing the Associate of Applied Science (AAS) degree may use a bachelor's degree to satisfy the general education requirements for most AAS degrees. Students interested in pursuing the Bachelor of Applied Science in Leadership, Management, and Operations (BAS-LMO) degree may be eligible to use a previous bachelor's degree to satisfy the lower division general education requirements for the BAS-LMO degree. Students should consult with an academic advisor to determine their eligibility to waive the general education requirements.

Certificate Requirements

A Certificate of Completion is awarded to students who complete a certificate program outlined in the college catalog. All course work must be completed with a grade of C or better. A minimum of 25% of the required credits must be taken in residency from Cochise College for each Certificate of Completion granted.
Additional certificate requirements are found in the Degrees and Programs (p. 38) section of this catalog.

Additional Associate Degrees

Candidates for each additional degree at Cochise College must complete the following:

- All requirements for the additional degree and
- Sixteen Cochise College credits not used in any previous Cochise College associate's degree(s).

Graduation Application Process

Students can apply for graduation to have their degree(s) or certificate(s) officially awarded on their college transcript. Graduating students can complete and submit the online graduation application at www.cochise.edu/advising/graduation. Students should notify an academic advisor of any change of name or address that occurs during the application process period.
Degree earning students wanting to participate in the annual commencement ceremony should review information on cochise.edu/advising/graduation to determine deadlines. If students miss the application deadline their name may not appear in the commencement program.
For certificates, students can file an application at any time during the semester they are completing the requirements for their certificate.
Diplomas and Certificates of Completion are mailed after final grades are processed, and records evaluated and posted to official transcripts. Students should ensure there are no encumbrances or holds on their college account to avoid delays in distribution of their transcript, diploma or certificate. Additional copies of student credentials (Certificates or Diplomas) can be requested through the Cochise College Graduation Technician's office for a fee. For more information contact: graduating@cochise.edu.

Transcripts

A transcript is a copy of a student's permanent academic record. Transcript processing time is normally five business days after receiving the signed request form and payment. During high traffic time, transcript requests can take up to 10 business days. Archived transcripts (prior to 1985) may require additional processing time. Transcripts are mailed via the United States Postal Service. Cochise College offers an expedited service for an additional fee. According to federal law, transcript requests must be submitted in writing or online and include the student's signature; telephone requests are not honored. Transcript requests can be submitted online at www.GetMyTranscript.com or www.cochise.edu/transcripts or in person at the Admissions Office.
Transcript fees must be paid at the time the transcript request is submitted. Payment may be made by check payable to Cochise College, or by credit card. The college accepts Visa, MasterCard, Discover, and American Express. Transcripts are not sent to students who have an outstanding financial obligation with the college.
Unofficial transcripts are strictly copies of the computerized records on file (after 1985) in the Student Information System. Unofficial transcripts are available at MyCochise or my.cochise.edu.

Student Complaints and Grievances

Students who have complaints, grievances or personal concerns about a Cochise College course, instructor or grade are encouraged to first discuss the problem with their instructor. Students who are still dissatisfied may contact the appropriate academic dean or director or submit a student complaint the Vice President of Student Services.
The Arizona State Authorization Reciprocity Agreement (SARA) Council has non-academic complaint jurisdiction for distance education classes over all SARA-approved institutions in the state, including Cochise College. Academic

complaints, such as grade appeals, are not reviewed by the Arizona SARA Council and should not be submitted to that organization for review. Prior to submitting a nonacademic complaint with the Arizona SARA Council, the student must complete Cochise College's complaint process as listed above. Nonacademic complaints may be submitted at the AZ SARA website.

Student Complaint Log

All complaints directed to college personnel by students are considered important and will be addressed by the respective employee, department and/or office personnel pursuant to Policy 4008.

Complaints are documented and investigated, and their resolution and/or disposition noted, with a record of such complaints maintained for no less than two years. Information about these complaints will be shared with the college's accrediting agency, the Higher Learning Commission of the North Central Association; however, individual identities of students will be shielded without the express permission of said complainants. The complaint log is reviewed on an annual basis by the Executive Vice President/ Provost, who ascertains whether the complaints follow any particular pattern and whether special intervention, direction and/or staff development is needed to mitigate subsequent complaints or address institutional problems.

Services for Students

Libraries

The Charles Di Peso Library on the Douglas Campus and the Andrea Cracchiolo Library on the Sierra Vista Campus house a diverse collection of books and media items, including DVDs and audiobooks, to support Cochise College curriculum and lifelong learning. There is a robust Early Childhood Education collection at each campus that includes teaching resources for K-12 classrooms, children's books, games, and activities. Each library also has open study areas, study rooms, photocopiers, WEPA print stations, and computers with Internet access. Special collections and services within the libraries also include Spanish-language & Spanish/English bilingual materials and college archives.
The online library, available at www.cochise.edu/library, provides access to magazines and scholarly journals, ebook collections, and streaming educational and documentary videos. The online library is available 24/7 to students, faculty, and staff from campus, home, and mobile devices. Cochise College librarians offer individual and group research instruction and are available to help with research in-person, by phone, by email, and by online chat.

Bookstore

The Campus Store carries all required and recommended textbooks and supplies. New, used, and digital options for textbooks - rental and buyback available to help save! Also available are scrubs, nursing supplies and other needed course materials. The Campus Store carries supplies, technology, snacks and swag to show off Apache pride! Visit The Campus Store in the Student Union Building on the Sierra Vista Campus or shop online at www.cochiseshop.com! Tel: 520-515-5419 E-mail: cochise@bkstr.com

Academic Services

Academic Advising Services

Cochise College advisors assist our diverse student population in defining, planning, and achieving success. This collaborative effort results in students taking responsibility for achieving education, personal/social, and career goals. Our goal as Cochise College advisors is to provide the support needed to be successful in desired educational and career goals. Our advisors will assist in creating, reviewing, and re-evaluating educational and life goals, while serving as a resource for information on college policies and procedures, degree requirements, and university transfer.

Academic advisors are here to help:

- Understand degree/certificate programs and requirements
- Create educational plans
- Select classes to meet degree/transfer requirements
- Connect students to college services and support
- Help students apply for graduation

New to College
We know the first semester of college can be mixed with excitement, anticipation and some uncertainty. Cochise READY is a new student onboarding program designed to help students prepare for a successful college experience. Participating in a Cochise READY session is an opportunity to get acquainted with college services and support, meet with an academic advisor and REGISTER for your first semester of college. For more information, visit cochise.edu/advising, call 520-515-5482 or send an email message to advising@cochise.edu.

Placement Assessment
Students entering Cochise College programs are expected to possess basic academic proficiency in English, mathematics, and reading before taking college-level courses. Those students who do not demonstrate this proficiency may need to take courses that will not necessarily count toward their degree. Lack of academic preparation is one of several factors affecting students' ability to complete their programs in a timely fashion while maximizing the advantages of financial aid.
All new students are required to determine their skill levels in English, mathematics, and reading prior to registration. To meet this requirement, students complete the Directed Self-Placement (DSP) assessment. The DSP is a widely used tool for placing a student in their first-year English, math, and reading classes. The DSP process guides students to choose the course they feel is best aligned with their sense of readiness for college English, math, and reading. Through the DSP, students are able to take an active role in the decision about their first-year courses. All of the DSP assessments can be completed on an internet-ready device at https://www.cochise.edu/dsp/.
Students who determine they are at the developmental level in any of the three areas above should consult an advisor to select the right courses designed to prepare them for college-level work. These courses currently include the following:

- ENG 095, Basic Writing
- ENG 096, Intermediate Writing
- MAT 081, Beginning Algebra
- MAT 091, Intermediate Algebra
- RDG 020, Basic Reading
- RDG 092, College Reading

The above developmental courses all count toward meeting full-time status for financial aid purposes but any course

numbered 099 and below cannot be used to meet graduation requirements. Any student registering in his or her first developmental course(s) must enroll concurrently in CPD 150, Student Success Strategies, and complete it successfully.
ACCUPLACER
Applicants to Cochise College may submit ACCUPLACER, ACT, SAT or GED College Ready scores which are no more than three years old before registering for any courses that have academic skills prerequisites. Transferred scores must come directly from the institution previously attended or from the testing agency.
Placement testing may be waived for students who provide a transcript or diploma showing completion of an accredited associate or higher degree, or for transfer students whose official transcripts show completed coursework in a corresponding subject with a grade of C or better.
Pre-nursing and Allied Health program students, please refer to the Allied Health department requirements for placement testing.
Developmental Course Sequencing toward College Level
English pathway
ENG 095 > ENG 096 > ENG 101
Mathematics pathways
Most AAS degrees: MAT 081 > MAT 132
Most AA degrees: MAT 081 > MAT 142
ABUS degrees: MAT 081 > MAT 142 > MAT 151, or MAT 167 > MAT 212
Most AS degrees: MAT 091 > MAT 151, MAT 182, or MAT 187 > MAT 220 > MAT 231 > MAT 241, MAT 252, or MAT 262
Reading pathway
RDG 020 > RDG 092 > Reading Exempt
Typical English, Mathematics, and Reading Program Requirements
English requirement
AA, AAEE, AAS, ABUS, AGS, AS: ENG 101 and ENG 102
Mathematics requirement
AA and AAEE: MAT 142 or higher
AAS: MAT 132 or MAT 142 or higher
ABUS: MAT 212 or MAT 220
AGS: MAT 132 or higher
AS: MAT 220 or higher
Reading requirement
AA, AAEE, ABUS, AS, AGS, AAS: RDG 092 or exemption

Tutoring

Cochise College provides free tutoring in a number of academic areas. Professionals, para-professionals, and peer tutors work with students individually and in small groups to support them as they sharpen their academic skills. Staff members at the Tutoring and Learning Centers help students prepare for class and work through academic concepts. Students can receive assistance preparing for tests, understanding mathematical concepts, generating ideas for essays, working through the writing process, conducting research, building confidence, and more. Tutoring services are also available online. More information is available at www.cochise.edu/tutoring.

Career Technical Education Programs (CTEPS)

CTEPS offers various support services to students enrolled in career and technical education programs, including academic advising, advocacy, career exploration, and financial assistance. More information is available at www.cochise.edu/cteps.

TRiO Student Support Services

The TRiO program helps students overcome class, social, and cultural barriers to their college education. To qualify, a student must be enrolled or accepted for full-time enrollment at Cochise College, be a U.S. citizen or legal permanent resident, demonstrate a need for academic support, and meet at least one of the following criteria:

- First-generation college student (parents or guardian did not receive a bachelor's degree);
- Low-income student as established by the Department of Education; or
- Learning or physically disabled student registered with the Office of Accessibility Services.

More information is available at www.cochise.edu/trio or at the TRiO Student Support Services Office on the Douglas Campus.

Cooperative Education

Cooperative education is required in some academic programs This requirement consists of experiential learning under the direction of a faculty member and the appropriate department. Refer to the program of study academic map indicating cooperative education credits are required. Further guidance will be provided by the department overseeing the academic program.

STUDENT ACTIVITIES

Extracurricular activities include community service, civic engagement, and campus events. Student government and various clubs plan activities that promote leadership and social development. More information is available at www.cochise.edu/events.

Student Government

Student Government Association (SGA) is established on both the Douglas and Sierra Vista campuses. At each campus, SGA is comprised of six appointed officers: president, vice-president, secretary, treasurer, vice-president of student programming, and vice-president of public relations, who are selected based on an application process each summer. Student government plans, coordinates, promotes, sponsors fun, educational, cultural, and social events and activities in

partnership with Student Clubs for the entire student body through its mission and procedures outlined in the SGA Constitution. All students are encouraged and invited to take an active part in Student Government. More information is available at www.cochise.edu/sga.

Clubs and Organizations

Extracurricular activities through clubs and organizations can bring a whole new perspective to your life as a Cochise College student. Many campus events are the result of student clubs and organizations, which are governed by the Student Government Association. For more information on existing clubs or how to start a new club, visit www.cochise.edu/clubs.

Athletics

Student athletic programs reside on the Douglas Campus. Athletes compete in men's baseball, men's and women's basketball, men's and women's rodeo, and women's soccer. Cochise College is a Division I National Junior College Athletic Association school and a member of the National Intercollegiate Rodeo Association. The school colors are red and white, and the mascot is the Apaches.

OTHER EDUCATIONAL SERVICES

Learning Communities

Learning communities use collaborative teaching to bring together different academic disciplines and teach students how these areas are related. Instructors from different academic disciplines restructure their curriculum thematically to foster community, coherence and connections among disciplines. Learning communities increase student engagement, motivation and intellectual development.

Dual Enrollment

High school students taking certain academic and/or career and technical education classes in high school can earn college credit. These courses count for credit at both the high school and at Cochise College. A list of courses that meet dual enrollment guidelines is available from high school counselors or the Cochise College Early College coordinator. Information is available at https://www.cochise.edu/early-college/dual-enrollment/.

Adult Education

Cochise College Adult Education helps adult learners acquire the skills and knowledge necessary to enter the workforce or post-secondary education. Our focus areas are academics, technology, and communication in job and college contexts. Classes provide instruction for:

- Foundational skill building (reading, writing, math)
- High school equivalency test preparation (GED® Test prep)
- English language acquisition for nonnative speakers

Classes are held at Cochise College locations in Sierra Vista, Douglas, Benson, and Willcox. For more information visit www.cochise.edu/adult-education/.

Integrated Education Training (IET)

The Cochise College Integrated Education and Training (IET) Program is an innovative combination of education and job skills training, used to transition adult learners beyond adult basic education and through a career pathway that offers job training with a focus toward gainful employment. To learn more about this program contact the Adult Education Center at 520-515-5456 or email adulteducation@cochise.edu.
English as a Second Language (ESL)
The mission of English as a Second Language (ESL) courses at Cochise College is to provide students with high-quality language instruction and cultural skills necessary for success in their academic, professional, civic, and personal lives. In ESL courses, students develop speaking, listening, reading, grammar, and writing skills that enable them to transition to remedial and regular academic programs at the college. ESL Levels I, II, and III consist of skill-building courses which prepare students for the transition into developmental coursework. ESL I courses are prerequisite to ESL II courses, ESL II courses are prerequisites to ESL III courses, and ESL III courses are prerequisite to ESL IV courses. ESL Level IV consists of additional ESL support courses along with developmental courses in English (ENG) and reading (RDG), or college-level courses in ENG and RDG, appropriate to the individual student. Students in Level IV may also enroll in any course which pertains to their degree plan and for which they meet the established prerequisite.

Level III students may choose to participate in a test-out during Week 13 of the semester. The test-out will determine if they are ready to transition to college level courses, or if they need to remain in ESL courses and register for ESL Level IV in the subsequent semester. Transitioning to college level courses is not an option if the student chooses to not participate in the test-out and registration in Level IV classes will be required.

Upon completion of ESL and developmental coursework, students are prepared to advance into the academic courses of their choice.

POLICIES

Title IX

Cochise College prohibits any discrimination as defined by Title IX of the Education Amendments of 1972 to include, but not limited to, gender-based discrimination, sexual harassment, sexual misconduct, and sexual violence towards its employees and students by supervisors, other employees and students, and the general public. Behaviors considered to

be sexual harassment include the following: sexual assault, domestic violence, dating violence, stalking, and/or unwelcome physical touching, verbal insults and/or sexually explicit suggestions or rumors designed to cause emotional distress, interfere with an individual's work or study performance, or create an intimidating, hostile and/or offensive work or educational environment. Such acts can interfere with a student's ability to participate in or benefit from the college's academic and non-academic programs, an employee's ability to function in the workplace, or a campus visitor's ability to utilize the college. Accordingly, these behaviors are strictly prohibited.

Cochise College Administrative Policy 1029 Title IX and Sexual Harassment Compliance describes the college's policy and procedures in detail. In an effort to ensure broad scale awareness of students' rights and responsibilities under Title IX Compliance, the college conducts training for students, required to be taken within the first six months following initial registration. Failure to complete the required training shall result in the student being unable to register for classes following the six-month period until the training has been completed.

As required by Title IX, Cochise College does not discriminate on the basis of sex in its educational programs or activities, including in admission and employment. Questions concerning the application of Title IX or the college's policies may be directed to the Director of Student Advocacy & Wellness/Title IX Coordinator, 901 North Colombo, Student Union, Room 1055, Sierra Vista, AZ 85635, titleix@cochise.edu, (520) 417-4752 or to the U.S. Department of Education, Assistant Secretary, or both.

Campus Crime Report

According to federal statute and regulations, colleges and universities are required to prepare and distribute each year an annual security report. The Campus SaVE Act details those reporting requirements. Within the report, colleges must set forth their policies on crime prevention and sex offenses and give statistics on the number of crimes reported on campus. Other reported crimes include the number of arrests for liquor law and drug violations and weapons possessions. The crime report is updated each September. The report may be reviewed at www.cochise.edu/securityemergency.
Under the Violence Against Women Act (VAWA, 1994), colleges are required to provide "primary prevention and awareness programs" for all incoming students, as well as ongoing prevention and awareness campaigns. Information about Cochise College's prevention and awareness programs can be obtained by contacting the Title IX Coordinator or the Vice President of Student Services.

Alcohol- and Drug-Free Workplace

Cochise College is committed to the prevention of alcohol and drug abuse, recognizing that the abuse of alcohol or other drugs poses serious risks to a person's health. Cochise College conforms with and supports all federal, state, and local laws, and regulations that prohibit the unlawful manufacture, distribution, dispensation, possession, or use of alcohol or any prohibited or controlled substance at any college location. Students registered at Cochise College assume an obligation to conduct themselves in a manner compatible with the college's function as an educational institution and are expected to exercise personal responsibility and make informed choices concerning the use and misuse of alcohol and illicit drugs.
Cochise College will impose disciplinary sanctions that include, but are not limited to, verbal or written reprimands, disciplinary probation, removal from classes, suspension, expulsion, or possible referral to local, state, or federal law enforcement agencies, for any unlawful on-campus manufacture, distribution, use, or possession of alcohol or any prohibited controlled substance.

Smoking

Smoking is not permitted in any building or classroom at Cochise College. Designated smoking areas may be used outside of buildings on each campus and at each center. Information on designated smoking areas can be obtained from campus security or the dean of Student Services.

Teach-Out Process for a Deleted Program

Almost any deleted program will have some students that are still in some stage of active pursuit of the program credential. These students must be offered an opportunity to complete the credential. This requires the submission of a good faith teach-out plan for any deleted program. This plan will need to be submitted to the Higher Learning Commission and any other accreditation bodies. This plan should include the following elements:

- reasonable timeline for the anticipated closure
- process to equitably obtain individual student's interest and intent regarding completion options
- method(s) for notifying students of the upcoming closure including reasons for the discontinuance of the program
- plan for ensuring course offerings priced at the current tuition schedule to enable student completion will be provided
- process for advising students on the best path for each individual student's completion
- timeline for removal of the program from college publications, accreditation listings and department of education approval lists

The college may choose to offer students a teach-out plan that involves an agreement with another institution that will teach-out the students.

Responsibilities of Students Involved in a Teach-Out

1. The college will assist students desiring to transfer to another institution. Once a student has transferred, they will no longer be involved in the teach-out.
2. Students who fall out of sequence in the program as a result of course failure may retake the course only if it continues to be offered at the college. The student may seek approval from the relevant dean to establish a substitution course or an equivalent from another institution.
3. Students who fail to make satisfactory academic progress and are dismissed from the program will lose their right to be involved in the teach-out.
4. Students are expected to take courses as they are offered according to the teach-out plan. Failure of students to take required courses when offered does not obligate the college to offer the courses again.

Veterans Administration Compliance
Cochise College is committed to complying with the Veterans Benefits and Transition Act of 2018, and satisfying Title 38 US Code, Section 3679(e) School Compliance.
Procedure: 4019.1 Completion of 3679(e) School Compliance Form
The College president or designee shall complete the required forms, attesting compliance with the requirements of Title 38 United States Code, Section 3679(e). This policy will appear in the official College catalog.
Procedure: 4019.2 Covered Individuals
A covered individual is any individual who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill® benefits.
Procedure: 4019.3 Compliance Protecting Covered Individuals
The College shall not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement of funding from the Veteran's Affairs (VA) under chapter 31 or 33. Any covered individual who participates in the course of education during the period beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance under chapter 31 and 33 (a "certificate of eligibility" can also include a "Statement of Benefits" obtained from the Department of VA website – eBenefits, or VAF 28-1905 form for chapter 31 authorization purposes) and ending on the earlier of the following dates: 1. The date on which payment from VA is made to the institution 2. 90 days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility AdCab Approved 06/26/19

Degrees and Programs

Cochise College General Education

Mission

The Cochise College general education curriculum equips students with essential knowledge and skills for the 21st century. It fosters curiosity for learning, broadens diverse and global perspectives, and develops effective communication, critical thinking, and creativity while promoting individual expression. This curriculum supports personal enrichment, community engagement, and data literacy.

Values

In higher education, the values underpinning general education serve as guiding principles that shape the academic experience and prepare students for multifaceted societal roles.

At Cochise College, we:
1. Foster curiosity, collaboration, and lifelong learning.
2. Prioritize critical thinking, scientific inquiry, and data-informed decision-making.
3. Emphasize effective communication in various modalities and contexts.
4. Promote global and cultural awareness and foster respect for diverse perspectives and experiences.
5. Encourage integrity, ethical decision-making, civic participation, and social responsibility.
6. Nurture innovation and creativity, inspiring students to think creatively, solve complex problems, and generate novel ideas.
7. Empower students to take ownership of their learning journey, fostering self-reflection and self-awareness.

Outcomes

Students fulfill general education requirements at Cochise College by demonstrating competency in the following areas: communication, creativity, critical thinking, diverse and global perspectives, and data literacy. These outcomes clearly state the competencies that students are expected to acquire at Cochise College upon completion of a degree.

Communication: Apply writing and/or speaking skills effectively.
Performance Indicators
1. Effective communication
2. Audience-appropriate communication
3. Purpose-appropriate communication

Creativity: Develop analytic insight with individual expression.
Performance Indicators
1. Innovative solutions
2. Novel interpretations
3. Self-expression

Critical Thinking: Apply logical, analytical, analogical, and/or reflective reasoning.
Performance Indicators
1. Logical reasoning
2. Analytical reasoning
3. Analogical reasoning
4. Reflective reasoning

Diverse and Global Perspectives: Recognize the diversity of the human experience.
Performance Indicators
1. Cultural self-awareness
2. Cultural awareness
3. Ethical perspective application

Data Literacy: Use digital tools and resources to gather and evaluate information.
Performance Indicators
1. Source evaluation
2. Information relevance
3. Medium literacy
4. Ethical information use

Cochise College is committed to continuous improvement of its students' learning. The learning improvement process provides evidence of how well the college is meeting its objectives, helps identify areas of improvement, and allows improvements to be implemented. This is achieved by investigating current levels of learning, experimenting with ways to improve learning, and using the experimentation results to integrate successful strategies and actions for improving student learning into the college's curriculum or procedures.

Bachelor Degrees

Cochise College offers two bachelor's degrees. The Bachelor of Science Nursing (BSN-NUR) degree is designed for nurses holding an active, unencumbered Arizona RN license and an associate degree in nursing to pursue educational

advancement while continuing their professional practice. The Bachelor of Applied Science Leadership, Management, and Operations (BAS-LMO) degree is designed to broaden career prospects for students in various fields, including first responders and military services.

BSN-NUR degree

The Nursing (RN to BSN) Bachelor of Science degree program consists of lower division general education and concentration requirements. Upper division (300- and 400-level courses) requirements for the BSN-NUR degree consist of 15 required general education credits and 30 core curriculum credits.

BAS-LMO degree

The Leadership, Management, and Operations Bachelor of Applied Science degree program consists of lower division (100- and 200-level courses) general education, concentration, and elective requirements. Lower division general education requirements for the BAS-LMO degree consist of a minimum of 18 credits selected from the appropriate general education course list. Upper division (300- and 400-level course) requirements for the BAS-LMO degree consist of 15 required general education credits and 30 core curriculum credits.

TRANSFER ASSOCIATE DEGREES

Arizona Transfer

Cochise College offers the first two years of a four-year program for students who wish to earn a bachelor's degree. Transfer degree programs include the Associate of Arts (AA) for liberal arts, social science, and fine arts majors; Associate of Arts Elementary Education (AAEE); Associate of Business (ABUS) for business administration and computer information systems majors; and Associate of Science (AS) for natural, physical, and life science majors. These degrees are designed to transfer to all Arizona public universities. A student can enter the university as a junior after completing one of these associate degrees. Although these degrees are designed for transfer to all Arizona public universities, not all Arizona public universities offer majors in all areas. Students should consult with an advisor in the Student Development Center to ensure that their chosen university offers a degree in their area of study and that they select the most appropriate courses for this degree.

A statewide agreement between Arizona public community colleges and universities guarantees students two ways to transfer: (1) earning an associate degree or (2) completing a general education block called the Arizona General Education Curriculum (AGEC). The AGEC block fulfills the lower-division general education requirements at all Arizona public community colleges and universities. For most majors, Cochise College recommends students transfer after having completed an AGEC or associate degree to ensure a seamless process.

Information on transfer to one of the three state universities—Arizona State University (ASU), Northern Arizona University (NAU), or the University of Arizona (U of A)—is available online at www.aztransfer.com. The AZTransfer website provides information regarding policies and procedures for transferring credits from community colleges to the public universities in the state of Arizona. Students can see how their coursework will transfer to Arizona's public universities by visiting the website of the Arizona Course Equivalency Guide (CEG) at http://aztransmac2.asu.edu/cgi-bin/WebObjects/CEG. In addition, the Shared Unique Number (SUN) System helps students identify courses that will directly transfer among Arizona's community colleges and three public universities. Using the SUN System, students can easily search for and enroll in courses that offer direct equivalency at other Arizona colleges and universities. Information is available online at www.aztransfer.com/sun. Cochise College also has some specific transfer agreements with each of these universities. Students should consult with an advisor for more detailed information on these options.

Private Transfer Agreements

Cochise College also has private articulation agreements with the following institutions. Students can check the websites or consult with a Cochise College advisor.

American Public University System	www.apus.edu
Arizona Christian University	www.arizonachristian.edu
Ashford University	www.ashford.edu
California University of Pennsylvania	www.calu.edu
Capella University	www.capella.edu
Chamberlain College	www.chamberlain.edu
Charter Oak State College	www.charteroak.edu
Embry-Riddle Aeronautical University	www.erau.edu
Franklin University	www.franklin.edu
Grand Canyon University	www.gcu.edu
Kaplan University	www.cc.kaplan.edu
Northcentral University	www.ncu.edu

Ottawa University	www.ottawa.edu
Southern New Hampshire University	www.snhu.edu
University of Phoenix	www.phoenix.edu
University of the Potomac	www.potomac.edu
Wayland Baptist University	www.wbu.edu
Western Governors University	www.wgu.edu
Western New Mexico University	www.wnmu.edu

OTHER ASSOCIATE DEGREES

Other degrees include the Associate of General Studies (AGS) and the Associate of Applied Science (AAS). The AGS degree is designed to be a general studies degree with no area of emphasis. While the AAS degree is designed to prepare students for employment in a specific career upon graduation, some universities offer AAS to BAS (or other bachelor degree) transfer pathways. Students should consult with an advisor in the Student Development Center concerning specific requirements and transfer options available for these degrees.

Associate of General Studies (AGS) Degrees - While not designed primarily for transfer, AGS degrees offer flexibility for the student who may wish to transfer to an out-of-state institution by including general education requirements. The student may also choose to complete an AGEC block to enhance possible transfer to an in-state institution.

Associate of Applied Science (AAS) Degrees - An extensive selection of AAS degree programs is available to students to prepare for employment in a specific career. In some cases, the programs are linked to agreements enabling a student with an AAS degree to transfer to an Arizona university without loss of credit. For more information, students should speak with an advisor or visit www.aztransfer.com/associates_degrees/aas_bas.

COCHISE COLLEGE GENERAL EDUCATION COURSES - BACHELOR DEGREES

BSN-NUR DEGREE

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS 24 CREDITS

Composition 3 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3

Mathematics 3 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3

Laboratory Sciences 12 credits

BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4
BIO 205	Microbiology*‡°	4

Liberal Arts 6 credits

UPPER DIVISION GENERAL EDUCATION REQUIREMENTS 15 CREDITS

ENG 379	Professional Writing in the Workplace°	3
PHI 330	Professional Ethics°	3
PSY 350	Applied Statistics°	3
PSY 390	Applied Research Methods°	3
PSY 395	Psychology of Resilience°	3

BAS-LMO DEGREE

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

UPPER DIVISION GENERAL EDUCATION REQUIREMENTS 15 CREDITS

ENG 379	Professional Writing in the Workplace°	3
PHI 330	Professional Ethics°	3
PSY 350	Applied Statistics°	3
PSY 390	Applied Research Methods°	3
PSY 395	Psychology of Resilience°	3

COCHISE COLLEGE GENERAL EDUCATION COURSES - TRANSFER DEGREES

Arizona General Education Curriculum (AGEC)

Arizona public community colleges and universities have agreed upon a common structure for transfer of general

education curriculum. The Arizona General Education Curriculum (AGEC) block fulfills the lower-division general education requirements at all Arizona public community colleges and universities. Arizona residents who complete only an AGEC need to have a minimum cumulative grade point average of 2.5 and a grade of C or better in each AGEC course for assured admission into an Arizona public university, while Arizona residents who complete an associate degree need to have a minimum cumulative grade point average of 2.0 for assured admission.
The AGEC block at Cochise College consists of 35-39 credits. The three types of AGECs are:

AGEC-A	meets the general education requirements for arts and liberal arts majors in the Associate of Arts (AA) degrees and in the Associate of Arts Elementary Education (AAEE) degree.
AGEC-B	meets the general education requirements for business and information systems majors in the Associate of Business (ABUS) degrees.
AGEC-S	meets the general education requirements for math and science majors in the Associate of Science (AS) degrees.

Coursework should be chosen from the appropriate AGEC course list to meet specific degree requirements.
General education requirements are:

Composition	6 credits
Mathematics	3-5 credits
Laboratory sciences	8 credits
Arts	3 credits
Humanities	3 credits
Social and behavioral sciences	6 credits
Technology literacy (AGEC-B only)	3 credits
AGEC-A: general education electives	4-6 credits
AGEC-B: general education electives	1-3 credits
AGEC-S: additional mathematics and/or laboratory sciences	6-8 credits
TOTAL GENERAL EDUCATION REQUIREMENTS	35-39 CREDITS

The following applies to all Cochise College AGEC blocks:

- All courses must be completed with a grade of C or better.
- Six credits of coursework must be completed to fulfill the intensive writing requirement.
- The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.
- A minimum of eight credits in the AGEC component of any transfer degree must be completed in residency at Cochise College.
- A maximum of 20 credits of the Arizona General Education Curriculum (AGEC) certificate may be satisfied by prior learning coursework.
- Placement testing is required and prerequisites may apply.

AA, AAEE, ABUS, AND AS DEGREES

COMPOSITION 6 CREDITS

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

MATHEMATICS 3-5 CREDITS

AGEC-A

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
MAT 151	Precalculus Algebra*°‡	4
	OR	
MAT 151L	Precalculus Algebra with Support Lab‡	4
MAT 154	Mathematics for Elementary Education Majors I°‡	3
MAT 156	Mathematics for Elementary Education Majors II°	3
MAT 167	Elements of Statistics*°‡	3
MAT 182	Precalculus Trigonometry°	3
MAT 187	Precalculus*°	5
MAT 212	Calculus for Business*°	3
MAT 220	Calculus I*°‡	5
MAT 227	Discrete Mathematics*	3
MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4
MAT 252	Introduction to Linear Algebra°	3
MAT 262	Differential Equations*	3

AGEC-B

MAT 212	Calculus for Business*°	3
MAT 220	Calculus I*°‡	5

AGEC-S

MAT 220	Calculus I*°‡	5
MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4
MAT 252	Introduction to Linear Algebra°	3
MAT 262	Differential Equations*	3

LABORATORY SCIENCES 8 CREDITS

AGEC-A or AGEC-B

ANT 101	Bones, Stones, and Human Evolution°‡	4
ANT 275	Forensic Anthropology‡	4
AST 180	Introduction to Astronomy°‡	4
BIO 100	General Biology (for non-majors)°‡	4
BIO 105	Environmental Biology‡°	4
BIO 156	Introductory Biology for Allied Health‡°	4
BIO 160	Introduction to Human Anatomy and Physiology°‡	4
BIO 181	General Biology I (for majors)*‡°	4
BIO 182	General Biology II*‡	4
BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4

BIO 205	Microbiology*‡°	4
BIO 226	Ecology‡	4
CHM 130	Fundamental Chemistry*°‡	4
CHM 138	Chemistry for Allied Health°‡	4
CHM 151	General Chemistry I*‡°	4
CHM 152	General Chemistry II*‡°	4
CHM 235	General Organic Chemistry I*‡	4
CHM 236	General Organic Chemistry II*‡	4
FOR 105	Forensic Science: Physical Evidence‡	4
GEO 101	Physical Geography°‡	4
GLG 101	Introduction to Geology I (Physical)*°‡	4
GLG 102	Introduction to Geology II (Historical)°‡*	4
PHY 111	General Physics I*‡°	4
PHY 112	General Physics II*‡°	4
PHY 230	Physics with Calculus I*‡°	4
PHY 231	Physics with Calculus II*‡	4

AGEC-S

BIO 181	General Biology I (for majors)*‡°	4
BIO 182	General Biology II*‡	4
CHM 151	General Chemistry I*‡°	4
CHM 152	General Chemistry II*‡°	4
PHY 230	Physics with Calculus I*‡°	4
PHY 231	Physics with Calculus II*‡	4

ARTS 3 CREDITS

ART 103	Two-Dimensional Design and Composition*‡°	3
ART 106	Drawing Foundations*‡°	3
ART 107	Survey of World Art: Prehistoric - Gothic*°	3
ART 108	Survey of World Art: Renaissance to the Twentieth Century*°	3
ART 120	Appreciation of the Visual Arts	3
ART 216	Intermediate Drawing ‡°	3
ART 220	Printmaking I‡	3
ART 225	Printmaking II‡	3
ART 230	Color and Composition‡	3
ART 231	Three-Dimensional Design and Sculpture*‡	3
ART 245	Figure Drawing‡	3
ART 270	Ceramics I‡	3
ART 273	Ceramics IIA‡	3
ART 274	Ceramics IIB‡	3
ART 275A	Ceramics III‡	3
ART 280	Painting Foundations‡	3
ART 281	Intermediate Painting ‡	3
ART 285	Beginning Photography‡	3
ART 286	Intermediate Photography‡	3
ART 290	Sculpture I‡	3
ART 291	Sculpture II‡	3
ART 293	Sculpture III‡	3
ART 294	Sculpture IV‡	3
ART 295	Watercolor Painting I‡°	3
ART 296	Watercolor Painting II‡°	3
DMA 210	Digital Media Arts II°‡	3
DMA 211	Computer Animation II°‡	3
DMA 260	Graphic Design I°‡	3
DMA 261	Graphic Design II‡°	3
DMA 262	Digital Video Production‡	3
DMA 263	Digital Video Production II‡°	3
DMA 266	Digital Photography‡°	3
DMA 267	Digital Photography II‡	3
ENG 119	Creative Writing°~	3
ENG 219	Advanced Creative Writing°~	3
HUM 200	Film History°~	3
JRN 201	Essentials of Newspaper Publishing	3
MUS 100	Fundamentals of Music Notation°	3
MUS 106	Jazz Band I‡	1
MUS 106A	Jazz Band II‡	1
MUS 107	Chorus I‡	1
MUS 107A	Chorus II‡	1
MUS 109	Orchestra I‡	1
MUS 109A	Orchestra II‡	1
MUS 111	Band I‡	1
MUS 111A	Band II‡	1
MUS 123	American Popular Music°	3
MUS 132	Music Theory I°	3
MUS 133	Music Theory II°	3
MUS 201	Ensemble‡	1
MUS 206	Jazz Band III‡	1
MUS 206A	Jazz Band IV‡	1
MUS 207	Chorus III‡	1
MUS 207A	Chorus IV‡	1
MUS 209	Orchestra III‡	1
MUS 209A	Orchestra IV‡	1
MUS 210	Music Theatre Workshop	2
MUS 211	Band III‡	1
MUS 211A	Band IV‡	1
MUS 260	Music Fundamentals through Experience	3
THE 101	Acting I	3
THE 201	Acting II	3
THE 220	Dramatic Structure*	3

HUMANITIES 3 CREDITS

ART 107	Survey of World Art: Prehistoric - Gothic*°	3
ART 108	Survey of World Art: Renaissance to the Twentieth Century*°	3
ASL 101	American Sign Language I°‡	4
ASL 102	American Sign Language II°‡	4
ASL 201	American Sign Language III°‡	4
ASL 202	American Sign Language IV°‡	4
COM 102	Essentials of Communication*°	3
COM 110	Public Speaking°	3
ENG 220	British Literature I°~	3
ENG 221	British Literature II°~	3
ENG 222	Introduction to Shakespeare°~	3
ENG 224	American Literature I°~	3
ENG 225	American Literature II°~	3
ENG 228	Mythology and Folklore°~‡	3
ENG 230	Literature of the Southwest~°	3
ENG 231	Native American Literature°~	3
ENG 255	Introduction to the English Language°~	3
ENG 260	Irish Literature~°	3
ENG 265	Major American Writers~	3
ENG 273	Women and Literature°~	3
HON 260	The Human Quest for Utopia~°	3
HUM 101	Humanities in Contemporary Life°	3
HUM 110	Introduction to Film°	3
HUM 115	Cultural Heritage of the Southwest°	3
HUM 116	Middle Eastern Humanities°	3
HUM 200	Film History°~	3
HUM 205	Cultural Studies through the Humanities I°~	3
HUM 206	Cultural Studies through the	3

	Humanities II°~	
HUM 210	Foreign Film Classics°	3
JRN 101	Introduction to Mass Communications	3
JRN 102	Essentials of News Writing*	3
MUS 101	Introduction to Music	3
MUS 232	Music Theory III*°	3
MUS 233	Music Theory IV*°	3
PHI 111	Introduction to Western Philosophy*°~	3
PHI 113	Introduction to Logic*°~	3
PHI 130	Introduction to Ethics*°~	3
PHI 201	Introduction to Eastern Philosophy°~	3
PHI 202	Philosophy of Religion°~	3
SPA 101	Elementary Spanish I*°	4
SPA 102	Elementary Spanish II*°	4
SPA 115	Conversational Spanish I	3
SPA 116	Conversational Spanish II	3
SPA 201	Intermediate Spanish I*°	4
SPA 202	Intermediate Spanish II*°	4
SPA 215	Conversational Spanish III	3
SPA 216	Conversational Spanish IV	3
THE 103/HUM 111	Introduction to Theatre Arts°*	3

SOCIAL AND BEHAVIORAL SCIENCES 6 CREDITS

AJS 101	Introduction to Administration of Justice*°	3
ANT 101	Bones, Stones, and Human Evolution°‡	4
ANT 102	Exploring Cultural Diversity°	3
ANT 110	Buried Cities and Lost Civilizations°‡	3
ANT 253	Death and Dying Across Cultures°~	3
ANT 275	Forensic Anthropology‡	4
ANT 286	Historic Native Peoples of North America~	3
ANT 287	Ancient North American Civilizations°~‡	3
COM 204	Elements of Intercultural Communication°~	3
ECE 150	Introduction to Early Childhood Care and Education°	3
ECN 201	Principles of Macroeconomics*°~	3
ECN 202	Principles of Microeconomics*°~	3
EDU 201	Introduction to Education	3
EDU 226	Cultural Diversity in Education°	3
GEO 121	World Regional Geography°	3
HIS 110	History of the United States 1607-1877*°‡	3
HIS 111	History of the United States Since 1877*°‡	3
HIS 229	History of Mexico I°~	3
HIS 230	History of Mexico II°~	3
HIS 243	Western Civilization I°~	3
HIS 244	Western Civilization II°~	3
POS 110	American National Government*°	3
POS 220	Federal and Arizona Constitutions°~	3
POS 230	World Politics*°~	3
POS 240	Comparative Politics*°	3
PSY 101	Introduction to Psychology*°	3
PSY 210	Social Psychology°~	3
PSY 231	Human Sexuality°	3
PSY 240	Developmental Psychology°~	3
PSY 250	Introduction to Statistics°‡~	4
PSY 270	Psychological Disorders°~	3
PSY 290	Research Methods°~*	3
SOC 101	Introduction to Sociology*°	3
SOC 215	Race and Ethnicity*°~	3
SOC 202	Social Problems*°~	3
SOC 212	Sociology of Gender°~	3

TECHNOLOGY LITERACY 3 CREDITS

AGEC-B

CIS 120	Introduction to Information Systems*°	3

GENERAL EDUCATION ELECTIVES

AGEC-A	4-6
AGEC-B	1-3

ADDITIONAL MATHEMATICS AND/OR LABORATORY SCIENCES

AGEC-S 6-8

Based on chosen major and after consulting with an advisor, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory science courses. See http://aztransmac2.asu.edu/cgi-bin/WebObjects/agec for a complete list.

COCHISE COLLEGE GENERAL EDUCATION COURSES - NON-TRANSFER DEGREES

AGS DEGREES

COMPOSITION 6 CREDITS

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

MATHEMATICS 3-5 CREDITS

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
MAT 151	Precalculus Algebra*°‡	4
	OR	
MAT 151L	Precalculus Algebra with Support Lab‡	4
MAT 154	Mathematics for Elementary Education Majors I°‡	3
MAT 156	Mathematics for Elementary Education Majors II°	3
MAT 167	Elements of Statistics*°‡	3
MAT 182	Precalculus Trigonometry°	3
MAT 187	Precalculus*°	5
MAT 212	Calculus for Business*°	3
MAT 220	Calculus I*°‡	5
MAT 227	Discrete Mathematics*	3
MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4
MAT 252	Introduction to Linear Algebra°	3
MAT 262	Differential Equations*	3

LABORATORY SCIENCES 4 CREDITS

See list of acceptable courses for transfer degrees.

ARTS 3 CREDITS

See list of acceptable courses for transfer degrees.

HUMANITIES 3 CREDITS

See list of acceptable courses for transfer degrees.

SOCIAL AND BEHAVIORAL SCIENCES 6 CREDITS

See list of acceptable courses for transfer degrees.

AAS DEGREES

COMPOSITION 6 CREDITS

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

MATHEMATICS/LABORATORY SCIENCES 3-4 CREDITS

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
MAT 151	Precalculus Algebra*°‡	4
	OR	
MAT 151L	Precalculus Algebra with Support Lab‡	4
MAT 154	Mathematics for Elementary Education Majors I°‡	3
MAT 156	Mathematics for Elementary Education Majors II°	3
MAT 167	Elements of Statistics*°‡	3
MAT 182	Precalculus Trigonometry°	3
MAT 187	Precalculus*°	5
MAT 212	Calculus for Business*°	3
MAT 220	Calculus I*°‡	5
MAT 227	Discrete Mathematics*	3
MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4
MAT 252	Introduction to Linear Algebra°	3
MAT 262	Differential Equations*	3

Paramedicine only

BIO 156	Introductory Biology for Allied Health‡°	4
BIO 160	Introduction to Human Anatomy and Physiology°‡	4

LIBERAL ARTS 6 CREDITS

AJS 101	Introduction to Administration of Justice*°	3
ANT 101	Bones, Stones, and Human Evolution°‡	4
ANT 102	Exploring Cultural Diversity°	3
ANT 110	Buried Cities and Lost Civilizations°‡	3
ANT 253	Death and Dying Across Cultures°~	3
ANT 275	Forensic Anthropology‡	4
ANT 286	Historic Native Peoples of North America~	3
ANT 287	Ancient North American Civilizations°~‡	3
ART 103	Two-Dimensional Design and Composition*‡°	3
ART 106	Drawing Foundations*‡°	3
ART 107	Survey of World Art: Prehistoric - Gothic*°	3
ART 108	Survey of World Art: Renaissance to the Twentieth Century*°	3
ART 120	Appreciation of the Visual Arts	3
ART 216	Intermediate Drawing ‡°	3
ART 220	Printmaking I‡	3
ART 225	Printmaking II‡	3
ART 230	Color and Composition‡	3
ART 231	Three-Dimensional Design and Sculpture*‡	3
ART 245	Figure Drawing‡	3
ART 270	Ceramics I‡	3
ART 273	Ceramics IIA‡	3
ART 274	Ceramics IIB‡	3
ART 275A	Ceramics III‡	3
ART 280	Painting Foundations‡	3
ART 281	Intermediate Painting ‡	3
ART 285	Beginning Photography‡	3
ART 286	Intermediate Photography‡	3
ART 290	Sculpture I‡	3
ART 291	Sculpture II‡	3
ART 293	Sculpture III‡	3
ART 294	Sculpture IV‡	3
ART 295	Watercolor Painting I‡°	3
ART 296	Watercolor Painting II‡°	3
ASL 101	American Sign Language I°‡	4
ASL 102	American Sign Language II°‡	4
ASL 201	American Sign Language III°‡	4
ASL 202	American Sign Language IV°‡	4
COM 102	Essentials of Communication*°	3
COM 110	Public Speaking°	3
COM 204	Elements of Intercultural Communication°~	3
DMA 210	Digital Media Arts II°‡	3
DMA 211	Computer Animation II°‡	3
DMA 260	Graphic Design I°‡	3
DMA 261	Graphic Design II‡°	3
DMA 262	Digital Video Production‡	3
DMA 263	Digital Video Production II‡°	3
DMA 266	Digital Photography‡°	3
DMA 267	Digital Photography II‡	3
ECE 150	Introduction to Early Childhood Care and Education°	3
ECN 201	Principles of Macroeconomics*°~	3
ECN 202	Principles of Microeconomics*°~	3
EDU 201	Introduction to Education	3
EDU 226	Cultural Diversity in Education°	3
ENG 119	Creative Writing°~	3
ENG 219	Advanced Creative Writing°~	3
ENG 220	British Literature I°~	3
ENG 221	British Literature II°~	3
ENG 222	Introduction to Shakespeare°~	3
ENG 224	American Literature I°~	3
ENG 225	American Literature II°~	3
ENG 228	Mythology and Folklore°~‡	3
ENG 230	Literature of the Southwest~°	3
ENG 231	Native American Literature°~	3
ENG 255	Introduction to the English Language°~	3
ENG 260	Irish Literature~°	3
ENG 265	Major American Writers~	3

ENG 273	Women and Literature°~	3
GEO 121	World Regional Geography°	3
HIS 110	History of the United States 1607-1877*°‡	3
HIS 111	History of the United States Since 1877*°‡	3
HIS 229	History of Mexico I°~	3
HIS 230	History of Mexico II°~	3
HIS 243	Western Civilization I°~	3
HIS 244	Western Civilization II°~	3
HON 260	The Human Quest for Utopia~°	3
HUM 101	Humanities in Contemporary Life°	3
HUM 110	Introduction to Film°	3
HUM 115	Cultural Heritage of the Southwest°	3
HUM 116	Middle Eastern Humanities°	3
HUM 200	Film History°~	3
HUM 205	Cultural Studies through the Humanities I°~	3
HUM 206	Cultural Studies through the Humanities II°~	3
HUM 210	Foreign Film Classics°	3
JRN 101	Introduction to Mass Communications	3
JRN 102	Essentials of News Writing*	3
JRN 201	Essentials of Newspaper Publishing	3
MUS 100	Fundamentals of Music Notation°	3
MUS 101	Introduction to Music	3
MUS 106	Jazz Band I‡	1
MUS 106A	Jazz Band II‡	1
MUS 107	Chorus I‡	1
MUS 107A	Chorus II‡	1
MUS 109	Orchestra I‡	1
MUS 109A	Orchestra II‡	1
MUS 111	Band I‡	1
MUS 111A	Band II‡	1
MUS 123	American Popular Music°	3
MUS 132	Music Theory I°	3
MUS 133	Music Theory II°	3
MUS 201	Ensemble‡	1
MUS 206	Jazz Band III‡	1
MUS 206A	Jazz Band IV‡	1
MUS 207	Chorus III‡	1
MUS 207A	Chorus IV‡	1
MUS 209	Orchestra III‡	1
MUS 209A	Orchestra IV‡	1
MUS 210	Music Theatre Workshop	2
MUS 211	Band III‡	1
MUS 211A	Band IV‡	1
MUS 232	Music Theory III*°	3
MUS 233	Music Theory IV*°	3
MUS 260	Music Fundamentals through Experience	3
PHI 111	Introduction to Western Philosophy*°~	3
PHI 113	Introduction to Logic*°~	3
PHI 130	Introduction to Ethics*°~	3
PHI 201	Introduction to Eastern Philosophy°~	3
PHI 202	Philosophy of Religion°~	3
POS 110	American National Government*°	3
POS 220	Federal and Arizona Constitutions°~	3
POS 230	World Politics*°~	3
POS 240	Comparative Politics*°	3
PSY 101	Introduction to Psychology*°	3
PSY 210	Social Psychology°~	3
PSY 231	Human Sexuality°	3
PSY 240	Developmental Psychology°~	3
PSY 250	Introduction to Statistics°‡~	4
PSY 270	Psychological Disorders°~	3
PSY 290	Research Methods°~*	3
SOC 101	Introduction to Sociology*°	3
SOC 215	Race and Ethnicity*°~	3
SOC 202	Social Problems*°~	3
SOC 212	Sociology of Gender°~	3
SPA 101	Elementary Spanish I*°	4
SPA 102	Elementary Spanish II*°	4
SPA 115	Conversational Spanish I	3
SPA 116	Conversational Spanish II	3
SPA 201	Intermediate Spanish I*°	4
SPA 202	Intermediate Spanish II*°	4
SPA 215	Conversational Spanish III	3
SPA 216	Conversational Spanish IV	3
THE 101	Acting I	3
THE 103/HUM 111	Introduction to Theatre Arts°*	3
THE 201	Acting II	3
THE 220	Dramatic Structure*	3
WLD 114	Welding for Metal Sculpture‡	3

TECHNOLOGY LITERACY 3 CREDITS

CIS 116	Computer Essentials°	3
CIS 120	Introduction to Information Systems*°	3

DEGREE PROGRAMS

In each of the eight degrees—the AA, AAEE, ABUS, AS, AGS, AAS, BSN-NUR, and BAS-LMO—only approved general education courses may be used to satisfy the general education requirements.

The AA, AAEE, ABUS, and AS degrees are designed for transfer to Arizona State University, Northern Arizona University, and the University of Arizona; however, not all three state universities offer majors in all areas. Students should consult with an advisor in the Student Development Center to ensure that their chosen university offers a degree in their area of study and that they select the most appropriate courses for their area of study. Since university requirements vary considerably, it is strongly recommended that students work closely with an academic advisor to plan their coursework.

BACHELOR OF SCIENCE NURSING (RN TO BSN) DEGREE

The BSN-NUR degree is a post-licensure nursing program. This means that students must already be licensed as an RN to be accepted for admission and must maintain an active and unencumbered RN license throughout their enrollment in the program. The program is designed to expand graduates' knowledge base, enhance their marketability as an RN, and permit them to enjoy greater career stability as an RN.

Nursing (RN to BSN) Major Code - NUR

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS 24 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3

Mathematics 3 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3

Laboratory Sciences 12 credits

BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4
BIO 205	Microbiology*‡°	4

Liberal Arts 6 credits

RN TO BSN CONCENTRATION REQUIREMENTS 55 CREDITS

Program Prerequisites: An active, unencumbered Arizona RN license and an associate degree in nursing. Students must also have ENG 101 (3), MAT 142 (3) or MAT 142L (3), BIO 201 (4), BIO 202 (4), BIO 205 (4), and Liberal Arts (6). An RN license plus an associate degree in nursing will earn a maximum of 55 credits toward the total 124 credits required for the BSN.

UPPER DIVISION GENERAL EDUCATION REQUIREMENTS 15 CREDITS

ENG 379	Professional Writing in the Workplace°	3
PHI 330	Professional Ethics°	3
PSY 350	Applied Statistics°	3
PSY 390	Applied Research Methods°	3
PSY 395	Psychology of Resilience°	3

CORE CURRICULUM (SEE AREAS OF STUDY) 30 CREDITS
TOTAL DEGREE REQUIREMENTS 124 CREDITS

DEGREE REQUIREMENTS:

- Lower division (100- and 200-level courses) general education requirements for the BSN-NUR degree consist of 24 required credits.
- Upper division (300- and 400-level courses) general education requirements for the BSN-NUR degree consist of 15 required credits.
- Specific courses are required for completion of the BSN-NUR degree.
- All courses must be completed with a grade of C or better.
- A cumulative grade point average (GPA) of 2.0 or higher is required for any transfer degree.
- A minimum of 30 credits of any bachelor degree in residency at Cochise College, including a minimum of 18 upper division (300- and 400-level courses) credits.
- A maximum of 60 credits of any bachelor degree may be satisfied by prior learning coursework.

BACHELOR OF APPLIED SCIENCE LEADERSHIP, MANAGEMENT, AND OPERATIONS DEGREE

The BAS-LMO degree provides a detailed exploration of the operations of a business organization through the development of operational skills, management techniques, and leadership ability. The Bachelor of Applied Science degree in Leadership, Management, and Operations (LMO) focuses on the managerial side of the workplace. This degree teaches students to exercise ethical influence, solve complex problems, think critically, inspire teamwork, and manage conflict.

Leadership, Management, and Operations Major Code - LMO

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics/Laboratory Sciences 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Liberal Arts		3
PSY 101	Introduction to Psychology*°	3

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CONCENTRATION REQUIREMENTS (SEE AREAS OF STUDY) 21-55 CREDITS

Program Prerequisite: Completion of an approved associate degree (FST, IOST, LEO, MIST, PAR, UAVO, or UAVT) is required prior to admittance into the BAS-LMO program.

UPPER DIVISION GENERAL EDUCATION REQUIREMENTS 15 CREDITS

ENG 379	Professional Writing in the Workplace°	3
PHI 330	Professional Ethics°	3
PSY 350	Applied Statistics°	3
PSY 390	Applied Research Methods°	3
PSY 395	Psychology of Resilience°	3

CORE CURRICULUM (SEE AREAS OF STUDY) 30 CREDITS

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

TOTAL DEGREE REQUIREMENTS 120-134 CREDITS

DEGREE REQUIREMENTS:

- Lower division (100- and 200-level courses) general education requirements for the BAS-LMO degree consist of 18-19 credits selected from the appropriate general education list.
- Upper division (300- and 400-level courses) general education requirements for the BAS-LMO degree consist of 15 required credits.
- Specific courses are required for completion of each BAS-LMO concentration.
- All courses must be completed with a grade of C or better.
- A cumulative grade point average (GPA) of 2.0 or higher is required for any bachelor degree.
- A minimum of 30 credits of any bachelor degree in residency at Cochise College, including a minimum of 18 upper division (300- and 400-level courses) credits.
- A maximum of 60 credits of any degree may be satisfied by prior learning coursework.

ASSOCIATE OF ARTS DEGREE

The AA degree is recommended for liberal arts, social science, or fine arts students who plan to transfer to a university. These degrees are designed for transfer to all Arizona public universities; however, not all three state universities offer majors in all areas. Students should consult with an advisor in the Student Development Center to ensure that their chosen university offers a degree in their area of study. Cochise College has the following Associate of Arts degrees:

Administration of Justice (p. 65)	Major Code - AJS
Computer Science (p. 77)	Major Code - CSC
Early Childhood Care and Education (p. 66)	Major Code - ECE
Exercise Science, Health and Physical Education, Recreation and Wellness (p. 87)	Major Code - HPES
Fine Arts (p. 56)	Major Code - ARTF
General Requirements (p. 57)	Major Code - GENG
Liberal Studies (p. 58)	Major Code - LBS
Music (p. 59)	Major Code - MUS
Social and Behavioral Sciences (p. 70)	Major Code - SBS
Theatre Arts (p. 60)	Major Code - THE

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

Arts 3 credits

Humanities 3 credits

Social and Behavioral Sciences 6 credits

General Education Electives 4-6 credits

General education electives must be chosen from the general education course list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 9-29 CREDITS

Elective courses must be transferable to the university or universities to which the student plans to transfer.

TOTAL DEGREE REQUIREMENTS 60-64 CREDITS

DEGREE REQUIREMENTS:

- General education requirements for the AA degree consist of 35 credits. Six credits of coursework must be completed to fulfill the intensive writing requirement. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.
- Specific courses are required for the completion of each transfer degree program.
- All courses must be completed with a grade of C or better.
- A minimum of 16 credits of any degree granted must be completed in residency at Cochise College.
- A minimum of 8 credits in the AGEC component of any transfer degree must be completed in residency at Cochise College.
- A maximum of 30 credits of any degree may be satisfied by prior learning coursework (exception as noted for AGEC, if applicable).
- A cumulative grade point average (GPA) of 2.0 or higher is required for any transfer degree.

Associate of Arts Elementary Education Degree

The AAEE degree is designed for elementary education majors who plan to transfer to a four-year university. This degree is designed for transfer to all Arizona public universities. Students should consult with an advisor in the Student Development Center to ensure they are making the correct choices for their target university.

Elementary Education (p. 68) Major Code - EED

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

8 credits must be taken from two different prefixes. AST 180, BIO 100, BIO 105, BIO 201, CHM 130, GEO 101, GLG 101, and PHY 111 are recommended

Arts 3 credits

ART 120 or MUS 260 is recommended.

Humanities 3 credits

COM 102 is highly recommended; ART 107, ART 108, and MUS 101 are also recommended.

Social and Behavioral Sciences 6 credits

POS 220	Federal and Arizona Constitutions°~	3
PSY 101	Introduction to Psychology*°	3

General Education Electives 4-6 credits

General education electives must be chosen from the general education course list. Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current list of intensive writing courses. .
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 22 CREDITS

Elective courses must be transferable to the university or universities to which the student plans to transfer.

EDU 201	Introduction to Education	3
EDU 221	Foundations of SEI/ELL Methods°	3
EDU 222	Introduction to Special Education°	3
EDU 224	Field Experience in Education	1-3
EDU 226	Cultural Diversity in Education°	3
EDU 230	Classroom Management°	3
MAT 154	Mathematics for Elementary Education Majors I°‡	3
MAT 156	Mathematics for Elementary Education Majors II°	3

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

Credits will vary because of credits in language, mathematics, and other courses. 60-62 credits represent the minimum for this degree.

DEGREE REQUIREMENTS:

- General education requirements for the AAEE degree consist of 35 credits. Six credits of coursework must be completed to fulfill the intensive writing requirement. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.
- Specific courses are required for the completion of each transfer degree program.
- All courses must be completed with a grade of C or better.
- A minimum of 16 credits of any degree granted must be completed in residency at Cochise College.
- A minimum of 8 credits in the AGEC component of any transfer degree must be completed in residency at Cochise College.
- A maximum of 30 credits of any degree may be satisfied by prior learning coursework (exception as noted for AGEC, if applicable).
- A cumulative grade point average (GPA) of 2.0 or higher is required for any transfer degree.

ASSOCIATE OF BUSINESS DEGREE

The ABUS degree is designed to satisfy transfer requirements for business and computer information systems majors. These degrees are designed for transfer to all Arizona public universities. Students should consult with an advisor in the Student Development Center for assistance in degree planning. Cochise College has the following Associate of Business degrees:

Business Administration (p. 72) Major Code - BUSG

GENERAL EDUCATION REQUIREMENTS, AGEC-B 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 212	Calculus for Business*°	3
	OR	
MAT 220	Calculus I*°‡	5

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

General Education Electives 1-3 credits

General education electives must be chosen from the general education course list.

CORE CURRICULUM AND ELECTIVES 28 CREDITS

Elective courses must be transferable to the university or universities to which the student plans to transfer.

TOTAL DEGREE REQUIREMENTS 63-65 CREDITS

DEGREE REQUIREMENTS:

- General education requirements for ABUS degrees consist of 35 credits. Six credits of coursework must be completed to fulfill the intensive writing requirement. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.
- Specific courses are required for the completion of each transfer degree program.
- All courses must be completed with a grade of C or better.
- A minimum of 16 credits of any degree granted must be completed in residency at Cochise College.
- A minimum of 8 credits in the AGEC component of any transfer degree must be completed in residency at Cochise College.
- A maximum of 30 credits of any degree may be satisfied by prior learning coursework (exception as noted for AGEC, if applicable).
- A cumulative grade point average (GPA) of 2.0 or higher is required for any transfer degree.

ASSOCIATE OF SCIENCE DEGREE

The AS degree is designed for students interested in transferring to a four-year institution in the areas of natural, physical, or life sciences. These degrees are designed for transfer to all Arizona public universities; however, not all three state universities offer majors in all areas. Students should consult with an advisor in the Student Development Center to ensure that their chosen university offers a degree in their area of study. Cochise College has the following Associate of Science degrees:

Biology (p. 107)	Major Code - BIO
Chemistry (p. 108)	Major Code - CHM
Computer Science (p. 108)	Major Code - CSC
Engineering (p. 109)	Major Code - EGR
General Requirements (p. 109)	Major Code - GENG
Mathematics (p. 110)	Major Code - MAT
Physics (p. 111)	Major Code - PHY

GENERAL EDUCATION REQUIREMENTS, AGEC-S 35-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡ or higher (3-5 credits)	5

Laboratory Sciences 8 credits

BIO 181	General Biology I (for majors)*‡°	4
	AND	
BIO 182	General Biology II*‡	4
	OR	
CHM 151	General Chemistry I*‡°	4
	AND	
CHM 152	General Chemistry II*‡°	4
	OR	
PHY 230	Physics with Calculus I*‡°	4
	AND	
PHY 231	Physics with Calculus II*‡	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional mathematics and/or laboratory sciences 6-8 credits

Based on chosen major and after consulting with an advisor, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory science courses. See http://aztransmac2.asu.edu/cgi-bin/WebObjects/agec for a complete list.

CORE CURRICULUM AND ELECTIVES 21-29 CREDITS

Elective courses must be transferable to the university or universities to which the student plans to transfer.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

DEGREE REQUIREMENTS:

- General education requirements for AS degrees consist of 35-39 credits. Six credits of coursework must be completed to fulfill the intensive writing requirement. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.
- Specific courses are required for the completion of each transfer degree program.
- All courses must be completed with a grade of C or better.
- A minimum of 16 credits of any degree granted must be completed in residency at Cochise College.
- A minimum of 8 credits in the AGEC component of any transfer degree must be completed in residency at Cochise College.
- A maximum of 30 credits of any degree may be satisfied by prior learning coursework (exception as noted for AGEC, if applicable).
- A cumulative grade point average (GPA) of 2.0 or higher is required for any transfer degree.

ASSOCIATE OF GENERAL STUDIES DEGREE

The AGS degree is designed for students who do not plan to transfer or who plan to transfer to an out-of-state university and want more flexibility in selecting courses. Choosing the AGS and fulfilling Arizona General Education Curriculum

(AGEC) requirements will maintain an open door for transferring to an Arizona public university at a later time. The AGS degree is designed to be a general studies degree with no area of concentration. Students planning to transfer to an out-of-state university should work closely with an academic advisor in choosing their coursework. Whenever possible, working with the catalog of the out-of-state university provides the best planning tool for students. Cochise College has the following Associate of General Studies degrees:

Allied Health (p. 84)	Major Code - AHS
Aviation Dispatch (p. 112)	Major Code - AVD
General Studies (p. 57)	Major Code - AGS

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 4 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Foreign Language (100 or higher) or Communications (101 or higher) 3-4 credits
General Education Electives 6-7 credits

General education electives must be chosen from the general education course list.

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Elective courses may be selected from any Cochise College course at the 100 level or higher.

TOTAL DEGREE REQUIREMENTS 60-64 CREDITS

DEGREE REQUIREMENTS:

- The AGS degree requires coursework at the 100 level or higher.
- General education requirements for AGS degrees consist of a minimum of 35 credits. Six credits of coursework must be completed to fulfill the intensive writing requirement. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science courses in the degree.
- All courses must be completed with a grade of C or better.
- A minimum of 16 credits of any degree granted must be completed in residency at Cochise College.
- A cumulative grade point average (GPA) of 2.0 or higher is required for any AGS degree.

ASSOCIATE OF APPLIED SCIENCE DEGREE

The AAS degree is most commonly used to prepare students for employment in a specific career upon graduation. Some Arizona universities have responded to the needs in particular technical fields by creating two-plus-two programs enabling a student with an AAS degree to transfer to a university without loss of credit. These degree programs may require lower-division general education courses in the junior and senior years. Students should consult with an academic advisor for information about the Bachelor of Applied Science (BAS) degrees at Arizona public universities. Cochise College has the following Associate of Applied Science degrees:

Animal Science (p. 105)	Major Code - AGRA
Automotive Technology (p. 92)	Major Code - ATC
Business Management (p. 73)	Major Code - BMT
Computer Information Systems (p. 76)	Major Code - CIS
Computer Programming (p. 76)	Major Code - CPG
Crop Science (p. 106)	Major Code - AGRC
Culinary Arts (p. 114)	Major Code - CUL
Cybersecurity (p. 78)	Major Code - CYB
Digital Media Arts (p. 55)	Major Code - DMA
Early Childhood Care and Education (p. 67)	Major Code - ECE
Education (p. 115)	Major Code - ED
Fire Science Technology (p. 81)	Major Code - FST

Intelligence Operations Studies (p. 102)	Major Code - IOST
Law Enforcement (p. 82)	Major Code - LEO
Military Intelligence Systems Technician (p. 102)	Major Code - MIST
Network Technology (p. 116)	Major Code - NWT
Nursing (p. 89)	Major Code - NUR
Paramedicine (p. 83)	Major Code - PAR
Professional Pilot Technology (p. 61)	Major Code - PPT
Residential Construction Technology (p. 97)	Major Code - RCT
Unmanned Aerial Vehicle Flight Operator (p. 103)	Major Code - UAVO
Unmanned Aircraft Systems Technician (p. 103)	Major Code - UAVT
Welding Technology (p. 101)	Major Code - WLD

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics/Laboratory Sciences 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

BIO 156 or BIO 160 will satisfy the mathematics/laboratory science requirement for the paramedicine program only.
NUR 121A and NUR 121B will satisfy the mathematics/laboratory science requirement for the nursing program only.
PSY 101 will satisfy the mathematics/laboratory science requirement for the electronics technology program only.

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM (SEE AREAS OF STUDY)
TOTAL DEGREE REQUIREMENTS 60-64 CREDITS

DEGREE REQUIREMENTS:

- The AAS degree requires coursework at the 100 level or higher.
- General education requirements for AAS degrees consist of a minimum of 15 credits selected from the appropriate general education course list.
- All courses must be completed with a grade of C or better.
- A minimum of 16 credits of any degree granted must be completed in residency at Cochise College.
- A maximum of 30 credits of any degree may be satisfied by prior learning coursework (exception as noted for AGEC, if applicable).
- A cumulative grade point average (GPA) of 2.0 or higher is required for any AAS degree.

GENERAL EDUCATION CERTIFICATES

The three types of AGECs are: AGEC-A for arts, AGEC-B for business, and AGEC-C for math and science. Cochise College has the following general education certificates:

AGEC-A (p. 55)	35 credits	Major Code - AGCA
AGEC-B (p. 72)	35 credits	Major Code - AGCB
AGEC-S (p. 104)	35-39 credits	Major Code - AGCS

CAREER CERTIFICATES

Cochise College offers many certificates designed for direct employment. A minimum of 25 percent of the required credits used in the certificate must be completed from Cochise College for each certificate granted. All courses must be completed with a grade of C or better. A maximum of 50% of the total credits of any certificate may be satisfied by prior learning course (exception as noted for the AGEC, if applicable). Gainful employment disclosure information for financial-aid eligible certificates includes cost, median loan debt, and normal completion time. Cochise College has the following career certificates:

Advanced Behavioral Health Sciences (p. 85)	20 credits	Major Code - BHSA
Aerospace Welding Technology (p. 98)	18 credits	Major Code - AEWT
Amazon Web Services Cloud Architecting (p. 75)	6 Credits	Major Code - CLDA
Amazon Web Services Cloud Foundations (p. 75)	3 Credits	Major Code - CLDF
Animal Science (p. 105)	16 credits	Major Code - ASC
Automotive Fundamentals (p. 91)	12 credits	Major Code- AUTF

Automotive Technology (p. 92)	24 credits	Major Code - ATC
Basic Behavioral Health Sciences (p. 85)	14 credits	Major Code - BHS
Commercial Driver License (CDL) Training (p. 111)	8 credits	Major Code - CDL
Communications Officer (p. 79)	6 credits	Major Code - COC
Computer-Aided Drafting (p. 95)	26 credits	Major Code - CAD
Crop Science (p. 106)	17 credits	Major Code - CRSC
Culinary Arts (p. 93)	22 credits	Major Code - CULA
Culinary Baking & Pastry (p. 94)	17 credits	Major Code - CULB
Culinary Fundamentals Certificate (p. 94)	7 credits	Major Code - CULF
Culinary Skills Certificate (p. 95)	16 credits	Major Code - CULS
Digital Marketing for Business (p. 74)	21 credits	Major Code - DMB
Early Childhood Care and Education (p. 68)	21 credits	Major Code - ECEC
EKG Technician (p. 86)	4 credits	Major Code - EKGT
Emergency Medical Technician (Prep for External Licensure) (p. 80)	9 credits	Major Code - EMT
Entrepreneurship/Small Business Management (p. 74)	18 credits	Major Code - ENTC
Fire Science Technology (p. 81)	21 credits	Major Code - FST
General Computer-Aided Drafting (p. 96)	16 credits	Major Code - GCAD
General Welding Technology (p. 98)	19 credits	Major Code - GWLD
Google IT Professional (p. 78)	3 credits	Major Code - GITP
Home Health Aide (p. 88)	6 credits	Major Code - HHAC
Horticulture Science (p. 107)	17 credits	Major Code HCSC
HVAC (p. 96)	16 credits	Major Code - HVAC
Law Enforcement (p. 83)	30 credits	Major Code - LEOC
Light Vehicle Diesel Certificate (p. 93)	15 credits	Major Code - ATCD
Linux System Administrator (p. 79)	19 credits	Major Code - LSA
Medical Assistant (p. 88)	27 credits	Major Code - MEDA
Medical Billing and Coding - Certificate (p. 89)	27 credits	Major Code - MBC
Nursing Assistant (Prep for External Licensure) (p. 90)	6 credits	Major Code - CNA
Paraeducator Certificate (p. 69)	28-30 credits	Major Code - PARA
Paramedicine (p. 84)	49-55 credits	Major Code - PAR
Phlebotomy Technician Training (p. 90)	6 credits	Major Code - PTTC
Practical Nursing (Prep for External Licensure) (p. 91)	32 credits	Major Code - PN
Residential Construction Technology (p. 97)	37 credits	Major Code - RCC
Tax Preparer Certificate (p. 74)	16 credits	Major Code - TAXP
Virtual Reality Content Developer (p. 79)	16 credits	Major Code - VRD
Welding D1.1 FCAW/GMAW - Certificate (p. 99)	15 credits	Major Code - WFGM
Welding D1.1 SMAW - Certificate (p. 99)	16 credits	Major Code - WSM
Welding Fundamentals (p. 99)	12 credits	Major Code - WLDF
Welding Motorsports - Certificate (p. 100)	21 credits	Major Code - WMS
Welding Pipe and Fitting - Certificate (p. 100)	22 credits	Major Code - WPF

These programs are inactive, and students are not currently being admitted to the program:

Carpentry Technology (p. 113)	23 credits	Major Code - CTC
Diesel Technology I - Certificate (p. 114)	16 credits	Major Code - DTEC
HVAC Refrigeration (p. 115)	20 credits	Major Code - REFR
Innovation LaunchPoint (p. 116)	4 credits	Major Code - ILP
Residential Construction Fundamentals (p. 117)	14-16 credits	Major Code - RCTF
Supply Chain Management (p. 117)	16 credits	Major Code - SCM
Unmanned Aircraft System Operations (p.)	16 credits	Major Code - UASO
Unmanned Ground Vehicle Technician (p. 118)	16 credits	Major Code - UGVT
Virtual Reality Technologist (p. 119)	16 credits	Major Code - VRTC

Areas of Study

Arts & Humanities

AGEC-A - Certificate (Major Code - AGCA)

The Arizona General Education Curriculum - Arts (AGEC-A) Certificate meets the general education requirements in the Associate of Arts (AA) degrees and in the Associate of Arts Elementary Education (AAEE) degree.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate competency in communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy.

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-5 credits		
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.

TOTAL CERTIFICATE REQUIREMENTS 35 CREDITS

Digital Media Arts - Associate of Applied Science (Major Code - DMA)

The Digital Media Arts Associate of Applied Science degree merges fine arts and technical knowledge required for entry into a digital media content creation profession or university program with an emphasis in digital media art. Students gain the knowledge and skills necessary to prepare them for entry into professions such as digital media content creator, commercial and freelance photographer, videographer, filmmaker, graphic designer, computer animator, along with positions within the advertising, marketing entertainment, social media, or related industries.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Create, manipulate, and enhance digital media content and resolve digital media creation related issues.
- Understand the use and impact of composition, shadow, lighting, color and other visual or graphical concepts as they pertain to visual communication and the digital media arts.
- Develop the use of photography, video production, audio production, motion graphics, imaging, and multimedia techniques and skills to communicate storytelling or messaging in the digital media arts.
- Utilizing integrated knowledge, articulate the uses of still photography, including camera, computer software, lighting, lenses, and composition techniques.
- Determine, as a member of a production team, the correct uses of the digital video camera, camera lenses, audio recording, editing software and computer equipment to communicate a story or digital media message through video production.
- Apply principles of design, composition, color, line, form, and topography in order to visually communicate an idea, message or specific objective for digital and print mediums.
- Develop and apply the use of frame, shape, symbols and graphical manipulation to communicate a story or digital media messaging through the use of computer animation software.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-4 credits		
MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

COM 102	Essentials of Communication*°	3
JRN 101	Introduction to Mass Communications	3

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 32 CREDITS

ART 103	Two-Dimensional Design and Composition*‡°	3
ART 106	Drawing Foundations*‡°	3
ART 230	Color and Composition‡	3
DMA 110	Digital Media Arts I°‡	3
DMA 111	Computer Animation I°‡	3
DMA 210	Digital Media Arts II°‡	3
DMA 214	Digital Media Arts Capstone‡	1
DMA 260	Graphic Design I°‡	3
DMA 262	Digital Video Production‡	3
DMA 266	Digital Photography‡°	3
JRN 224	Field Experience in Communication or Digital Media	1

SELECT ONE COURSE FROM THE FOLLOWING:

DMA 211	Computer Animation II°‡	3
	OR	
DMA 261	Graphic Design II‡°	3
	OR	
DMA 263	Digital Video Production II‡°	3
	OR	
DMA 267	Digital Photography II‡	3

ELECTIVES AS NEEDED TO COMPLETE THE DEGREE.

Department recommended electives include DMA 261, DMA 263, and DMA 267.

TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

Note: Students pursuing a BAS degree must meet with an advisor to determine the appropriate general education and core curriculum requirements. Additional credits required in the general education block for BAS transfer may be used to fulfill core curriculum or elective requirements.

Fine Arts - Associate of Arts (Major Code - ARTF)

The art program at Cochise College has been designed with three goals in mind: (1) as a source of personal growth and self-expression, (2) to fulfill general education requirements for associate or baccalaureate degrees, and (3) to successfully transfer credit to four-year institutions. Students seeking a specialized career in art should see an art instructor for advisement.

The Fine Arts Associate of Arts degree prepares students for transfer to a university program in art. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Demonstrate proficiency in both 2D and 3D media and processes to facilitate effective visual communication and personal expression.
- Apply critical thinking skills, the creative process, and aesthetic/perceptual literacy to solve visual, technical and conceptual problems in various media.
- Identify and understand the social, cultural, historical, and contemporary contexts that influence the creation and interpretation of art.
- Use the critique process to analyze and evaluate art and develop portfolios for transfer, career development, and/or personal enrichment.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 101L	Composition with Support Lab°	3
	OR	
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
MAT 142L	College Mathematics with Support Lab‡	3
	OR	
	or higher (3-5 credits)	

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 15 CREDITS

ART 103	Two-Dimensional Design and Composition*‡°	3
ART 106	Drawing Foundations*‡°	3
ART 107	Survey of World Art: Prehistoric - Gothic*°	3
ART 108	Survey of World Art: Renaissance to the Twentieth Century*°	3
ART 231	Three-Dimensional Design and Sculpture*‡	3

ELECTIVES (AS NEEDED TO COMPLETE 60-62 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com. The Art Department recommends the following: For a two-dimensional concentration, select ART 216, ART 230, ART 245, ART 280, ART 281, ART 285, ART 286, ART 295, or ART 296; for a three-dimensional concentration, select ART 270, ART 273, ART 274, ART 275A, ART 290, ART 291, ART 293, or ART 294.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

General Requirements - Associate of Arts (Major Code - GENG)

The General Requirements Associate of Arts degree is designed for students pursuing no specific area of emphasis who are interested in transferring to a four-year institution.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate competency in communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy.
- Demonstrate knowledge in a variety of areas of study.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

General Studies - Associate of General Studies (Major Code - AGS)

The General Studies Associate of General Studies degree is designed to provide the students with general knowledge. It contains no specific area of emphasis.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate competency in communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy.
- Demonstrate knowledge in a variety of areas of study.

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 4 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits

Foreign Language (100 or higher) or Communications (101 or higher) 3-4 credits
General Education Electives 6-7 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Elective courses may be selected from any Cochise College course at the 100 level or higher.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

Liberal Studies - Associate of Arts (Major Code - LBS)

The Liberal Studies Associate of Arts degree prepares students for transfer to a university program in Communications, English, Humanities, Journalism, Philosophy, or related areas of study. To ensure seamless transfer, students must develop their specific program in close coordination with a Cochise College advisor and in cooperation with department faculty.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

1. Understand, analyze, and articulate the major topics in the Liberal Arts, including Communications, English, Humanities, Journalism, and Philosophy.

Communications Concentration:
2. Demonstrate an understanding of, analyze, and articulate basic communication skills and processes as they relate to a variety of communication situations.
3. Demonstrate an understanding of, analyze, and articulate the theories and techniques of persuasion.
4. Critically analyze oral presentations.
5. Research, construct, and deliver public speeches.

English Concentration:
2. Analyze and critique various worldwide forms of written and visual texts, with emphasis on British and American authors.
3. Construct, according to MLA guidelines, a sustained, sophisticated, and original argument on a specialized topic by using a variety of research strategies and scholarly sources.
4. Employ writing technologies to create academic and professional writing for various audiences and purposes.

Humanities Concentration:
2. Demonstrate an understanding of, analyze, and articulate the fundamentals of art, architecture, history, philosophy, music, literature, and film from ancient times to the present.
3. Demonstrate an understanding of and articulate the value of the humanities in a cultural context.

Journalism Concentration:
2. Demonstrate an understanding of, analyze, and articulate the basics of mass communications media.
3. Gather, write, and evaluate news and other kinds of communication in newspapers, television, radio, magazines, wire services, books, movies, computer/digital form, and other media.
4. Analyze and articulate news values, interviewing techniques, basic newspaper writing formats, and legal and ethical concerns of media, communication, and journalism professionals.
5. Demonstrate an understanding of and analyze public speaking, the fundamentals of speech as they relate to communicating with an audience, and the theories and techniques of persuasion.
6. Prepare and critically analyze oral presentations.
7. Research, construct, and deliver speeches.

Philosophy Concentration:
2. Identify, analyze, and articulate the history, key figures, and major branches of philosophy.
3. Conduct critical reading of selected classical and contemporary texts and analyze their connections to the individual, to society, and to other bodies of knowledge.
4. Engage in oral argumentation and write critical or analytical essays.
5. Identify, analyze, and articulate the elements of formal logic, symbolic logic, logical fallacies, induction, argument, and language.
6. Identify, analyze, and articulate the elements of moral philosophy with emphasis on the philosophical analysis of contemporary issues.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-5 credits		
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	
Humanities 3 credits		
HUM 101	Humanities in Contemporary Life°	3

Laboratory Sciences 8 credits
Social and Behavioral Sciences 6 credits
Arts 3 credits
General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 15-16 CREDITS

COM 102	Essentials of Communication*°	3
JRN 101	Introduction to Mass Communications	3
PHI 130	Introduction to Ethics*°~	3

SELECT AN AREA OF CONCENTRATION BELOW

Communications
Take the following (9 credits):

COM 110	Public Speaking°	3
COM 204	Elements of Intercultural Communication°~	3
COM 270	Interpersonal Communications*°	3

English
Take the following (6 credits):

ENG 220	British Literature I°~	3
ENG 221	British Literature II°~	3

Select one of the following (3 credits):

ENG 224	American Literature I°~	3
ENG 225	American Literature II°~	3
ENG 265	Major American Writers~	3

Humanities

Take the following (6 credits):

HUM 205	Cultural Studies through the Humanities I°~	3
HUM 206	Cultural Studies through the Humanities II°~	3

Journalism
Take the following (6 credits):

JRN 102	Essentials of News Writing*	3
COM 110	Public Speaking°	3

Philosophy
Take the following (6 credits):

PHI 111	Introduction to Western Philosophy*°~	3
PHI 113	Introduction to Logic*°~	3

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.
For the English Concentration, the department recommends that our students satisfy elective credits by selecting ENG 222 Introduction to Shakespeare (3); ENG 224 American Literature (3); ENG 225 American Literature II (3); ENG 228 Mythology and Folklore (3); ENG 230 Literature of the Southwest (3); ENG 231 Native American Literature (3); ENG 260 Irish Literature (3); ENG 265 Major American Writers (3); and/or ENG 273 Women and Literature (3).

TOTAL DEGREE REQUIREMENTS 60 CREDITS

MUSIC - ASSOCIATE OF ARTS (MAJOR CODE - MUS)

The Music Associate of Arts degree prepares students for transfer to a university program in music, interdisciplinary arts and performance, or related areas of study. To ensure seamless transfer, students should develop their specific program of study in close coordination with a Cochise College music instructor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate an understanding of Western music theory from the Renaissance through the present day.
- Transcribe tonal and atonal passages of music into notation after hearing them.
- Perform musical melodies from notation by sight singing.
- Apply performance practices from various eras of Western Art, Jazz, Contemporary, Folk, and/or World music with an instrument or voice.
- Collaborate and perform with others using a chosen instrument or voice.
- Perform alone using a chosen instrument or voice.
- Create original musical compositions.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 20 CREDITS

MUS 113	Instrument - Individual Instruction‡	1-2
	OR	
MUS 115	Voice - Individual Instruction‡	1-2
MUS 132	Music Theory I°	3
MUS 133	Music Theory II°	3
MUS 134	Aural Skills I	1
MUS 135	Aural Skills II	1
MUS 232	Music Theory III*°	3
MUS 233	Music Theory IV*°	3

Select four total ensemble credits from the following: (4 credits):

MUS 106	Jazz Band I‡	1
MUS 106A	Jazz Band II‡	1
MUS 107	Chorus I‡	1
MUS 107A	Chorus II‡	1
MUS 109	Orchestra I‡	1
MUS 109A	Orchestra II‡	1
MUS 111	Band I‡	1
MUS 111A	Band II‡	1
MUS 201	Ensemble‡	1
MUS 206	Jazz Band III‡	1
MUS 206A	Jazz Band IV‡	1
MUS 207	Chorus III‡	1
MUS 207A	Chorus IV‡	1
MUS 209	Orchestra III‡	1
MUS 209A	Orchestra IV‡	1
MUS 211	Band III‡	1
MUS 211A	Band IV‡	1

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

THEATRE ARTS - ASSOCIATE OF ARTS (MAJOR CODE - THE)

The Theatre Arts Associate of Arts degree prepares students for transfer to a university program in drama production, education, or theory. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Analyze theories of dramatic art and practice in acting situations: basic acting techniques, theatrical vocabulary and comportment, and character and script analysis.
- Examine and articulate the history and tradition of Western theatre and its representative drama, from classical to contemporary.
- Evaluate and apply advanced techniques of acting through physical and vocal expression, improvisation, and scene work, with emphasis on the actor's approach to characterization.
- Differentiate among the structural elements of major dramatic forms and styles.
- Review representative plays and analyze their structures in relationship to modes of presentation and the resulting effects.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 12 CREDITS

THE 101	Acting I	3
THE 103/HUM 111	Introduction to Theatre Arts°*	3
THE 201	Acting II	3
THE 220	Dramatic Structure*	3

ELECTIVES (AS NEEDED TO COMPLETE 60-62 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com. The Theatre Arts Department recommends THE 110 and COM 102.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

AVIATION

PROFESSIONAL PILOT TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - PPT)

The Professional Pilot Technology Associate of Applied Science degree is certified under Part 141 by the Federal Aviation Administration (FAA certificate HR8S200Q) regulations. The program provides students with the knowledge, skills, and ratings necessary to become a professional pilot. Areas of study include single-engine, multi-engine, flight instructor, and airline transport. All ratings are offered, and students may enter the program with, or without, prior flight training or certificates. For those with prior training, placement in the flight portion of the program will depend upon a skills analysis when they enter the program. A normal course of study will progress from the private pilot certificate to an FAA-certificated Commercial Pilot, single and multi-engine rated.

NOTE: THE PROFESSIONAL PILOT TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM IS NOT APPROVED FOR VA EDUCATIONAL BENEFITS.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Apply the integrated aeronautical knowledge and airmanship skills of a certified Commercial Pilot Airplane Single and Multi-Engine Land required to perform as a pilot-in-command (PIC).
- Assess, mitigate, and manage the risks associated with aircraft operations while performing as a certificated Commercial Pilot.
- Demonstrate the knowledge and operational skill of advanced avionics and cockpit automation.
- Apply aviation ground, technical, flight, and systems operations as they support airline operations and management.
- Utilize integrated knowledge and understanding of human factors and flight physiology for aviation safety, risk management, and aeronautical decision-making.
- Adapt the elements of crew resource management to automation management, task management, and situational awareness.

PREREQUISITE OR COREQUISITE

This program requires PFT 100 Introduction to Aviation (1 credit).

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 43-54 CREDITS

PFT 101	Private Pilot Ground School°‡	5
PFT 105	Crew Resource Management - Flight	2
PFT 111	Solo Flight Preparation‡	3.5
PFT 112	Cross-Country Navigation‡	1.5
PFT 113	Private Pilot Certification‡	1
PFT 121	Commercial Flight I‡	3
PFT 122	Aviation Weather°	3
PFT 130	Commercial Pilot Ground School°‡	5
PFT 131	Commercial Flight II‡	3
PFT 204	Instrument Rating Ground School°‡	5
PFT 206	Aircraft Systems°	3
PFT 214	Instrument Rating Flight I‡	3.5
PFT 215	Instrument Rating Flight II‡	1.5
PFT 218	Commercial Flight III‡	1

MULTI-ENGINE CONCENTRATION:

PFT 210	Multi-Engine Rating Ground School°‡	1
PFT 211	Multi-Engine Rating Flight‡	1

OR

FLIGHT INSTRUCTOR CONCENTRATION

PFT 230	Flight Instructor - Fundamentals Ground School‡	3
PFT 231	Flight Instructor - Airplane Ground School	5
PFT 235	Flight Instructor - Airplane Stage I‡	1.5
PFT 236	Flight Instructor - Airplane Stage II‡	1.5

OR

AIRLINE CAREER CONCENTRATION

PFT 210	Multi-Engine Rating Ground School°‡	1
PFT 211	Multi-Engine Rating Flight‡	1
PFT 230	Flight Instructor - Fundamentals Ground School‡	3
PFT 231	Flight Instructor - Airplane Ground School	5
PFT 235	Flight Instructor - Airplane Stage I‡	1.5
PFT 236	Flight Instructor - Airplane Stage II‡	1.5

ELECTIVES (AS NEEDED TO COMPLETE 61 CREDITS)

TOTAL DEGREE REQUIREMENTS 61-73 CREDITS

*The AAS-PPT degree program is not approved for VA Educational Benefits.

BACHELOR PROGRAMS

NURSING (RN TO BSN) - BACHELOR OF SCIENCE (MAJOR CODE - NUR)

The Nursing (RN to BSN) Bachelor of Science program is ideal for nurses who would like to expand their knowledge base, increase job security, and enjoy greater career mobility. The RN to BSN degree program is a post-licensure nursing program. This means that students must already be licensed as an RN to be accepted for admission and must maintain an active and unencumbered RN license throughout their enrollment in the program. The program is designed to expand graduates' knowledge base, enhance their marketability as an RN, and permit them to enjoy greater career stability as an RN.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate a leadership role on multidisciplinary teams within a healthcare organization.
- Apply professional nursing practice using research and evidence-based practice.
- Integrate methods of research and knowledge to make and prioritize diagnoses.
- Design care for individuals, groups, and communities.
- Incorporate methods of health promotion and education in the nursing care of individuals, families, and groups with simple to complex healthcare needs.
- Demonstrate accountability and responsibility for professional judgment and actions by using professional values and role behaviors.
- Analyze and assess the problems of contemporary health and illness.

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS 24 CREDITS

Composition 3 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3

Laboratory Sciences 12 credits

BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4
BIO 205	Microbiology*‡°	4

Liberal Arts 6 credits

RN TO BSN CONCENTRATION 55 CREDITS

Program Prerequisites: An active, unencumbered Arizona RN license and an associate degree in nursing. Students must also have ENG 101 (3), MAT 142 (3) or MAT 142L (3), BIO 201 (4), BIO 202 (4), BIO 205 (4), and Liberal Arts (6). An RN license plus an associate degree in nursing will earn a maximum of 55 credits toward the total 124 credits required for the BSN.

UPPER DIVISION GENERAL EDUCATION REQUIREMENTS 15 CREDITS

ENG 379	Professional Writing in the Workplace°	3
PHI 330	Professional Ethics°	3
PSY 350	Applied Statistics°	3
PSY 390	Applied Research Methods°	3
PSY 395	Psychology of Resilience°	3

CORE CURRICULUM 30 CREDITS

NUR 305	Reflective Practice, Issues, and Trends°	3
NUR 310	Health Care Delivery and Quality Outcomes°	3
NUR 335	Developing Nursing Practices°	3
NUR 345	Health Assessment°	3
NUR 415	Nursing Management Services°	3
NUR 421	Leadership and Strategic Planning°	3
NUR 422	Nursing Research°	3
NUR 432	Community Health Nursing°	3
NUR 440	Case Management°	3
NUR 499	BSN Capstone Project°	3

TOTAL DEGREE REQUIREMENTS 124 CREDITS

LEADERSHIP, MANAGEMENT, AND OPERATIONS - BACHELOR OF APPLIED SCIENCE (MAJOR CODE - LMO)

The Leadership, Management, and Operations Bachelor of Applied Science degree provides a detailed exploration of the operations of a business organization through the development of operational skills, management techniques, and leadership ability. Students will learn the skills necessary to coordinate, develop, and direct the resources of various agencies and organizations. Prior to completion of this program, students will complete a required capstone course that culminates the educational experience and enhances employment potential.

Learning Outcomes

- Assess leadership related to workplace behaviors, effective communication, and managing conflict while integrating management theories and resource management practices to lead individuals and teams within an organizational setting.
- Evaluate operational, financial, and economic data to formulate analytically sound decisions for the planning and utilization of organizational resources.
- Summarize an organization's ethical and legal dimensions and apply ethical standards and social responsibility to organizational decision-making.
- Examine project management, innovation, and change management processes necessary for effective growth and governance within an organization.
- Analyze current human and resource management issues to develop effective management strategies that align with organizational policies.

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Liberal Arts		3
PSY 101	Introduction to Psychology*°	3

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

SELECT ONE AREA OF CONCENTRATION 21-55 CREDITS:

Program Prerequisite: Completion of an approved associate degree (FST, IOST, LEO, MIST, PAR, UAVO, or UAVT) is required prior to admittance into the BAS-LMO program.

Fire Science Technology Concentration (30 credits)

Complete the following:

BUS 143	Principles of Management°	3
EMT 174	Emergency Medical Technician‡	9
FST 107	Introduction to Fire and Emergency Services‡	4
FST 108	Fire Operations I‡	4
FST 108	Fire Operations I‡	4
FST 115	Fire Service Apparatus Driver/Operator‡	3
FST 224	Field Experience in Fire Science Technology	3

Intelligence Operations Studies Concentration (21 credits)

Complete any 21 credits from the Cochise College IOS course offerings:

IOS 100	Introduction to Intelligence Operations Studies°	3
IOS 101	Counterintelligence Investigations	3
IOS 102	Security Programs°	3
IOS 103	Intelligence Law and Administration of Justice	1
IOS 104	Analytical Process and Product°	3
IOS 105	Interrogation Operations	3
IOS 106	Map Reading and Analysis	3
IOS 108	Signal Theory	3
IOS 109	Signal Analysis and Security	3
IOS 110	Remote Sensing	3
IOS 111	Information Security for Intelligence Operations	1
IOS 112	Imagery Analysis Techniques	3
IOS 113	Terrorism and Counterterrorism°	3
IOS 114	Reporting of Intelligence Data	3
IOS 115	Briefing Skills	1-4
IOS 116	Imagery Identification	6
IOS 117	Symbology	3
IOS 118	Intelligence Preparation of the Battlefield°	3
IOS 119	Introduction to Communications for Intelligence Operations	3
IOS 120	Records Management	3
IOS 121	Counterintelligence Investigations II	3
IOS 122	Intelligence, Surveillance, and Reconnaissance (ISR)°	3
IOS 123	Targeting	3
IOS 124	Cellular Communication Fundamentals	3
IOS 131	Personal Identification Methods in Battlefield Forensics	2
IOS 141	Battlefield Forensic Investigations I	4
IOS 142	Battlefield Forensic Investigations II	4
IOS 145	Analysis of Counterintelligence I°	3
IOS 201	Collection Operations	3
IOS 202	Force Protection Operations and Support	3
IOS 203	Combating Terrorism°	3
IOS 204	Interrogation and Interviewing Techniques	3
IOS 209	Automated Intelligence Systems	4
IOS 210	Intermediate Remote Sensing	3

IOS 211	Military Decision Making°	1-3
IOS 212	Intermediate Imagery Analysis Techniques	3
IOS 214	Reporting of Intelligence Data II	3
IOS 215	Briefing Skills II	1-3
IOS 220	Reporting of Intelligence Data III	3
IOS 221	Counterintelligence Investigations III	3
IOS 223	Intelligence Law and Administration of Justice II	1
IOS 224	Force Protection Operations and Support II	3
IOS 225	Analytical Process and Product II°	3
IOS 226	Interrogation and Interviewing Techniques II	3
IOS 241	Management of Intelligence and Counterintelligence Operations I	4
IOS 242	Management of Intelligence and Counterintelligence Operations II	4
IOS 245	Analysis of Counterintelligence II°	3

Law Enforcement Concentration (30 credits)

Complete the following:

LEO 200	Introduction to Law Enforcement Technology‡	2
LEO 201	Legal Aspects of Law Enforcement	3
LEO 202	Firearms Training for Law Enforcement	2
LEO 203	Report Writing for Law Enforcement	2
LEO 204	Physical Conditioning and Wellness for Law Enforcement	1
LEO 205	Community Relations for Law Enforcement	2
LEO 206	First Aid for Law Enforcement	1
LEO 207	Defensive Tactics for Law Enforcement	1
LEO 208	Tactical Driving for Law Enforcement‡	1
LEO 209	Criminal Investigations for Law Enforcement	4
LEO 210	Criminal Law for Law Enforcement	3
LEO 211	Patrol Procedures for Law Enforcement	4
LEO 212	Traffic Procedures for Law Enforcement	4

Military Intelligence Systems Technician Concentration (27-40 credits)

Complete any 27-40 credit hours from the following course offerings:

CIS 128	Linux Operating System°‡	4
CIS 140	Introduction to Operating Systems°‡	3
CIS 160	Introduction to Information Security°‡	3
CIS 161	Network Security°‡	4
CIS 179	Applied Technical Writing°	3
CIS 229	Linux System Administration°‡	4
CIS 236	Microsoft Workstation Operating Systems°‡	4
CIS 245	Microsoft Server and Active Directory‡	4
CIS 260	Service and Maintenance of Personal Computers‡	4
CIS 262	Network Support and Troubleshooting‡°	4
CIS 270	Systems Analysis°‡	4
CYB 101	Introduction to Cybersecurity‡°	3
CYB 102	Networking Foundations‡°	3
CYB 103	Basic Operating Systems‡°	3
CYB 201	Cybersecurity for Networking‡°	4
MST 101	Introduction to Electronic Systems	3-4
MST 102	RF Communications Fundamentals	3-4
MST 103	Network Communication Fundamentals	3-4
MST 104	Managing Virtual Machine Infrastructure	1-3
MST 105	Microsoft Windows Operating Systems	3-4
MST 106	Linux Servers and Workstations	4-7
MST 201	Information Security	6-8
MST 202	Integration and Troubleshooting of DPN	4-6
MST 203	Software Defined Receivers	1-3

Note: Students who previously earned credit for CIS 150 may request to substitute it to satisfy core curriculum requirements.

Paramedicine Concentration (49-55 credits)

Complete the following:

PMD 101	Paramedicine I‡°	6
PMD 201	Paramedicine II‡	7
PMD 202	Paramedicine III‡	7
PMD 203	Paramedicine IV‡	10
PMD 204	Paramedicine V‡	10
PMD 205	Paramedicine VI‡	9
PMD 206	Paramedicine VII‡	6

Note: The program coordinator may waive PMD 101 for students who meet the course requirements.

Unmanned Aerial Vehicle Flight Operator Concentration (26 credits)

Complete any 26 credits from the following course offerings:

PFT 100	Introduction to Aviation	1
PFT 101	Private Pilot Ground School°‡	5
PFT 204	Instrument Rating Ground School°‡	5
PFT 206	Aircraft Systems°	3
PFT 271	Unmanned Aerial Vehicle (UAV) Operator	29
UAS 121	Remote Sensing and Imagery	3
UVO 101	Introduction to Military UAV Operations	5-8
UVO 102	UAV Airfield and Ground Control Fundamentals	4-8
UVO 103	UAV Airspace and Aviation School Fundamentals	5-9
UVO 201	UAV Pilot Flight Operations	5-9
UVO 202	UAV RSTA Missions	5-9

Note: Students who previously earned credit for AVT 224 or PFT 272 may request to substitute these courses to satisfy core curriculum requirements.

Unmanned Aircraft Systems Technician Concentration (24-40 credits)

Complete any 24-40 credits from the following course offerings:

AMT 210	Unmanned Aircraft Systems	6

	Fundamentals	
AMT 212	Unmanned Aircraft Systems Mechanical Maintenance	14
AVT 121	Introduction to Unmanned Aircraft Systems Maintenance	4-6
AVT 122	Unmanned Aircraft Systems Electronics	1-3
AVT 123	Launch and Recovery Systems Maintenance	1-3
AVT 124	Surveillance and Payload Systems	1-3
AVT 211	Unmanned Aircraft Systems Avionics	7
AVT 221	Unmanned Aircraft Systems Maintenance	9-14
AVT 222	Universal Ground Control Station Maintenance	9-14
AVT 223	Ground Support Equipment Maintenance	4-6
ELT 110	Mathematics for Electronics	3

UPPER DIVISION GENERAL EDUCATION REQUIREMENTS 15 CREDITS

ENG 379	Professional Writing in the Workplace°	3
PHI 330	Professional Ethics°	3
PSY 350	Applied Statistics°	3
PSY 390	Applied Research Methods°	3
PSY 395	Psychology of Resilience°	3

CORE CURRICULUM 30 CREDITS

LMO 301	Leadership Theory and Practice°	3
LMO 311	Leadership in Organizations°	3
LMO 321	Industrial and Organizational Psychology°	3
LMO 331	Communication and Conflict Management°	3
LMO 341	Financial Analysis and Budgeting°	3
LMO 401	Data Analysis and Decision Making°	3
LMO 411	Project Management°	3
LMO 421	Innovation and Change Management°	3
LMO 431	Human Capital and Resource Management°	3
LMO 441	Leadership, Management, and Operations Capstone°	3

ELECTIVES AS NEEDED TO COMPLETE THE DEGREE
TOTAL DEGREE REQUIREMENTS 120-134 CREDITS

BEHAVIORAL SCIENCES & HUMAN SERVICES

ADMINISTRATION OF JUSTICE - ASSOCIATE OF ARTS (MAJOR CODE - AJS)

The Administration of Justice Associate of Arts degree is designed to prepare students for a wide variety of criminal justice career fields or for transfer into university degree programs. The degree also provides additional training for certified law enforcement and corrections professionals. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Explain the historical development of American criminal law from its English common law roots to the present and explain the impact of history upon the modern-day criminal justice system in the United States.
- Define and effectively use all forms of American legal terminology.
- Describe the organization, characteristics, and career fields of the United States' system of criminal justice, including law enforcement, the courts, corrections, and juvenile justice.
- Identify the key provisions of the Bill of Rights and the United States' Constitution that pertain to civil liberties and civil rights and differentiate among competing theories of constitutional interpretation and judicial review.
- Examine the fundamental ethical characteristics required in the criminal justice profession and demonstrate critical reasoning in the application of ethics to common criminal justice dilemmas.
- Analyze current issues and trends in crime rates, criminal behavior, and social trends as they impact the criminal justice process.
- Appraise the relationship of socio-economic status, gender, and race and ethnicity to the definition of crime and to adjudication and sentencing.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits

SOC 215	Race and Ethnicity*°~	3
	OR	
PSY 210	Social Psychology°~	3
	OR	
SOC 202	Social Problems*°~	3
	Social and behavioral sciences	3

General Education Electives 4-6 credits

General education electives must be chosen from the general education list.

COM 102	Essentials of Communication*°	3
	General education electives	1-3

Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 21 CREDITS

AJS 101	Introduction to Administration of Justice*°	3
AJS 109	Substantive Criminal Law°	3
AJS 126	Ethics and Criminal Justice°	3
AJS 225	Criminology°	3
AJS 230	The Police Function°	3
AJS 240	The Correction Function°	3
AJS 275	Criminal Investigations°	3

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

Early Childhood Care and Education - Associate of Arts (Major Code - ECE)

The Early Childhood Care and Education Associate of Arts degree prepares students for transfer to a university program in the care and education of young children. It offers in-depth child development theory, practical applications in the workplace, and comprehensive skills for working with children and their families. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Design developmentally appropriate curriculum and strategies that promote the advancement of young children with diverse abilities and cultures.
- Analyze and examine the multiple historical educational theories and methods, philosophical, and social foundations as well as the contemporary trends in early childhood.
- Demonstrate an understanding of the need to plan for and provide a supportive learning environment that is responsive to each child's individual needs.
- Explain the importance of establishing a positive, productive, and reciprocal relationship with children's families.
- Demonstrate an understanding of special education, current practices, and related educational theories.
- Analyze and articulate the relationship of cultural values to the formation of the child's self-concept and learning style.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 -37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

Arts 3 credits

ART 120	Appreciation of the Visual Arts	3
	OR	
MUS 260	Music Fundamentals through Experience	3

Humanities 3 credits

Social and Behavioral Sciences 6 credits

EDU 201	Introduction to Education	3

General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 27 CREDITS

ECE 150	Introduction to Early Childhood Care and Education°	3
ECE 152	Effective Interactions°	3
ECE 160	Early Childhood Growth and Development°	3
ECE 170	Curriculum Development and Strategies for Early Childhood Education°	3
EDU 222	Introduction to Special Education°	3
EDU 226	Cultural Diversity in Education°	3
MAT 154	Mathematics for Elementary Education Majors I°‡	3
MAT 156	Mathematics for Elementary Education Majors II°	3

Choose one of the following:

ECE 155	Children's Language Development°	3
ECE 156	Children's Literature and Literacy°	3
ECE 165	Child Observation and Assessment	3

ELECTIVES (AS NEEDED TO COMPLETE 62 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 62 CREDITS

Note: Some students will have more than 62 credits because of varying credits in language, math, and other courses; 62 credits represent the minimum for this degree.

Early Childhood Care and Education - Associate of Applied Science (Major Code - ECE)

The Early Childhood Care and Education Associate of Applied Science degree is designed for those seeking to comply with industry regulations in child care and for those wishing to transfer to a university Bachelor of Applied Science degree program. Completion of this degree does not guarantee state licensure or certification. Students must obtain licensure through appropriate licensing agencies.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Design developmentally appropriate curriculum and strategies that promote the advancement of young children with diverse abilities and cultures.
- Analyze and examine the multiple historical, philosophical, and social foundations as well as the contemporary trends in early childhood.
- Demonstrate an understanding of the need to plan for and provide a learning environment that is responsive to each child's individual needs.
- Explain the importance of establishing a positive, productive, and reciprocal relationship with children's families.
- Develop inclusive programs that identify and relate child observation and assessment tools and how they are used to guide developmentally appropriate decisions.
- Demonstrate an understanding of special education, current practices, and related educational theories.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics/Laboratory Sciences 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Select two of the following liberal arts courses:

ART 103	Two-Dimensional Design and Composition*‡°	3
ART 120	Appreciation of the Visual Arts	3

COM 102	Essentials of Communication*°	3
MUS 101	Introduction to Music	3
PHI 130	Introduction to Ethics*°~	3
PSY 101	Introduction to Psychology*°	3
SOC 101	Introduction to Sociology*°	3
SOC 215	Race and Ethnicity*°~	3
THE 103/HUM 111	Introduction to Theatre Arts°*	3

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 36 CREDITS

ECE 150	Introduction to Early Childhood Care and Education°	3
ECE 152	Effective Interactions°	3
ECE 155	Children's Language Development°	3
ECE 156	Children's Literature and Literacy°	3
ECE 158	Health, Safety, and Nutrition for Young Children°	3
ECE 160	Early Childhood Growth and Development°	3
ECE 161	Understanding Families, Community, and Diversity°	3
ECE 165	Child Observation and Assessment	3
ECE 170	Curriculum Development and Strategies for Early Childhood Education°	3
ECE 173	Administration of Early Childhood Care and Education Programs°	3
EDU 201	Introduction to Education	3
EDU 222	Introduction to Special Education°	3

ELECTIVES AS NEEDED TO COMPLETE THE DEGREE.

Recommended electives include, but are not limited to, the following: ECE 174, COM 204, PSY 240, and EDU 226. Students should consult an advisor for course selection.

TOTAL DEGREE REQUIREMENTS 60 - 61 CREDITS

Early Childhood Care and Education - Certificate (Major Code - ECEC)

The Early Childhood Care and Education Certificate provides early childhood teacher training for those seeking to provide care and education to young children. Upon completion, students may apply for national Child Development Associate (CDA) credentialing. Completion of this certificate does not guarantee state licensure or certification.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Design developmentally appropriate curriculum and strategies that promote the advancement of young children with diverse abilities and cultures.
- Analyze and examine the multiple historical, philosophical, and social foundations as well as the contemporary trends in early childhood.
- Demonstrate an understanding of the need to plan for and provide a learning environment that is responsive to each child's individual needs.
- Explain the importance of establishing a positive, productive, and reciprocal relationship with children's families.
- Develop inclusive programs that identify and relate child observation assessment tools and how they are used to guide developmentally appropriate decisions.

CORE CURRICULUM 21 CREDITS

ECE 150	Introduction to Early Childhood Care and Education°	3
ECE 152	Effective Interactions°	3
ECE 158	Health, Safety, and Nutrition for Young Children°	3
ECE 160	Early Childhood Growth and Development°	3
ECE 161	Understanding Families, Community, and Diversity°	3
ECE 165	Child Observation and Assessment	3
ECE 170	Curriculum Development and Strategies for Early Childhood Education°	3

TOTAL CERTIFICATE REQUIREMENTS 21 CREDITS

Elementary Education - Associate of Arts (Major Code - EED)

The Associate of Arts Elementary Education (AAEE) degree serves two primary groups: (1) future teachers seeking entrance into teacher education programs through transfer to one of Arizona's public universities, and (2) future and currently employed teacher aides seeking to comply with federal regulations. The degree allows students to satisfy their Arizona General Education Curriculum (AGEC) requirements

and to complete a number of teacher education and/or early childhood education courses. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Assess public education, the education profession, educational institutions, and educational systems within American society, including the public school setting.
- Analyze current educational issues and the role, responsibilities, and qualifications of educators.
- Differentiate and apply connections among educational theories and methodologies.
- Demonstrate an understanding of special education, current educational practices, and related educational theories.
- Analyze and articulate the relationship of cultural values to the formation of the child's self-concept and learning style.
- Characterize and articulate the impact of negative influences on the educational process.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

8 credits must be taken from two different prefixes. BIO 100, BIO 105, BIO 201, GEO 101, PHY 111, CHM 130, AST 180, and GLG 101 are recommended.

Arts 3 credits

ART 120 or MUS 260 is recommended.

Humanities 3 credits

COM 102 is highly recommended; ART 107, ART 108, and MUS 101 are also recommended.

Social and Behavioral Sciences 6 credits

POS 220	Federal and Arizona Constitutions°~	3
PSY 101	Introduction to Psychology*°	3

General Education Electives 4-6 credits

General education electives must be chosen from the general education course list.

Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 22 CREDITS

EDU 201	Introduction to Education	3
EDU 221	Foundations of SEI/ELL Methods°	3
EDU 222	Introduction to Special Education°	3
EDU 224	Field Experience in Education	1-3
EDU 226	Cultural Diversity in Education°	3
EDU 230	Classroom Management°	3
MAT 154	Mathematics for Elementary Education Majors I°‡	3
MAT 156	Mathematics for Elementary Education Majors II°	3

Program Prerequisite: Prior to enrolling in EDU 224 students must obtain a valid Arizona IVP clearance card through the Arizona Department of Public Safety (requires fee).

Notes:

1. Students interested in following UA Pathways with an ESL endorsement need 4 semesters of Foreign Language (replace elective credit with either four semesters of Spanish, American Sign Language, or other).
2. Students interested in teaching kindergarten through third grade (early childhood), replace elective credit with Early Childhood Education classes. This will help to meet the Early Childhood Education endorsement criteria.
3. Students interested in teaching secondary education should select courses in their major area as elective courses (e.g., students who want to teach Biology, should select Biology courses for electives; those who want to teach Math, should select Math courses).

ELECTIVES AS NEEDED TO COMPLETE DEGREE.

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

Some students will have more than 60 credits because of varying credits in language, mathematics, and other courses. 60 credits represent the minimum for this degree.

PARAEDUCATOR - CERTIFICATE (MAJOR CODE - PARA)

The Paraeducator certificate is designed to prepare students to work as paraeducators in K-12 schools under the direction of certified classroom educators. Program requirements include coursework in foundations of education, culturally relevant

pedagogy, and classroom management as well as a practicum within a classroom setting.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate a basic understanding of the educational process and the roles and responsibilities of the paraeducator.
- Analyze strategies for supporting special education students and culturally and linguistically diverse learners in an educational team.
- Apply knowledge of reinforcement, motivation, and data collection to facilitate classroom management and foster a positive learning environment.
- Demonstrate ethical and professional standards of conduct and comply with laws (such as IDEA, Section 504, ADA) and workplace policies and procedures in relation to confidentiality, reporting of abuse, discipline, chain of command and delegation and supervision.
- Identify the historical, legal, social, and practical aspects of American education and evaluate current educational trends, issues, and practices.

CORE CURRICULUM 28-30 CREDITS

EDU 201	Introduction to Education	3
EDU 221	Foundations of SEI/ELL Methods°	3
EDU 222	Introduction to Special Education°	3
EDU 224	Field Experience in Education	1-3
EDU 226	Cultural Diversity in Education°	3
EDU 230	Classroom Management°	3
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	
POS 220	Federal and Arizona Constitutions°~	3
PSY 101	Introduction to Psychology*°	3

Program Prerequisite: Prior to enrolling in EDU 224 students must obtain a valid Arizona IVP clearance card through the Arizona Department of Public Safety (Fee required).

TOTAL CERTIFICATE REQUIREMENTS 28-30 CREDITS

Social and Behavioral Sciences - Associate of Arts (Major Code - SBS)

The Social and Behavioral Sciences Associate of Arts degree prepares students for transfer to a university program in anthropology, history, political science, psychology, sociology, or related areas of study. To ensure seamless transfer, students must develop their specific program in close coordination with a Cochise College advisor and in cooperation with department faculty.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Analyze and articulate the major topics in the social and behavioral sciences including anthropology, history, political science, psychology, and sociology.

Anthropology Concentration

- Critically examine humans as a species, including past and modern human cultures and physical adaptations through the study of the forms and functions of human diversity in the present and the past.
- Demonstrate an understanding of aspects of human development and culture through time using the four-field approach of linguistic anthropology, archaeology, sociocultural anthropology, and biological anthropology.
- Analyze the effects of environment and geography on human evolution and cultural development and on the human physical and cultural development process.

History Concentration

- Analyze the evolution of the United States' political, economic, social, cultural, and geographic development from colonization to the present, and evaluate the causes and consequences of historical events.
- Evaluate the breadth and depth of the human experience by comparative study of past and contemporary societies and cultures.
- Conduct research, analyze and assess evidence, and articulate sound conclusions.

Political Science Concentration

- Critically analyze political events, persons, processes and principles, institutions, forces, theories, and practices.
- Analyze and assess the ideas, motives, and strategies that give reasons for, and form the basis of, both the United States and Arizona Constitutions.
- Evaluate power and politics both critically and historically, craft and defend evidence-based arguments and communicate effectively with attention to and appreciation of diverse cultural contexts.

Psychology Concentration

- Differentiate among, and describe each of, the key concepts, principles, and perspectives in psychology.
- Discuss basic psychological terminology, concepts, and theories in psychology to explain behavior and mental processes.
- Analyze, articulate, and identify appropriate statistical analyses and their application to research.

- Employ American Psychological Association (APA) standards to create and write an APA formatted research report.

Sociology Concentration

- Describe the major sociological concepts.
- Compare and contrast the fundamental sociological frameworks of functionalism, conflict theory, and symbolic interactionism as well as the social construction of reality and intersectionality.
- Apply sociological concepts and theories to real-world situations.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 -37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

ANT 101	Bones, Stones, and Human Evolution°‡	4

*For the Anthropology Concentration, students must take ANT 101 as one of their required Laboratory Science courses (strongly recommend 1st semester).

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits

HIS 110	History of the United States 1607-1877*°‡	3
	OR	
HIS 111	History of the United States Since 1877*°‡	3
	AND	
SOC 101	Introduction to Sociology*°	3

General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 18-22 CREDITS

ANT 110	Buried Cities and Lost Civilizations°‡	3
HIS 110	History of the United States 1607-1877*°‡	3
	OR	
HIS 111	History of the United States Since 1877*°‡	3
POS 110	American National Government*°	3
PSY 101	Introduction to Psychology*°	3

SELECT AN AREA OF CONCENTRATION BELOW

Anthropology Concentration (6-7 credits)

Note: Anthropology students are strongly recommended to take ANT 101 as their laboratory science in the first semester.

Take the following (6-7 credits):

ANT 102	Exploring Cultural Diversity°	3

Select one of the following (3-4 credits):

ANT 214	Magic, Witchcraft, and Healing°‡	3
	OR	
ANT 223	Aztecs, Incas, and Maya	3
	OR	
ANT 253	Death and Dying Across Cultures°~	3
	OR	
ANT 275	Forensic Anthropology‡	4
	OR	
ANT 286	Historic Native Peoples of North America~	3
	OR	
ANT 287	Ancient North American Civilizations°~‡	3

History Concentration (9 credits)
Take the following (6 credits):

HIS 243	Western Civilization I°~	3
HIS 244	Western Civilization II°~	3

Select one of the following:

HIS 229	History of Mexico I°~	3
	OR	
HIS 230	History of Mexico II°~	3

Political Science Concentration (9 credits)
Take the following (9 credits):

POS 220	Federal and Arizona Constitutions°~	3
POS 230	World Politics*°~	3
POS 240	Comparative Politics*°	3

Psychology Concentration (10 credits)
Take the following (7 credits):

PSY 250	Introduction to Statistics°‡~	4
PSY 290	Research Methods°~*	3

Select one of the following (3 credits):

PSY 210	Social Psychology°~	3
	OR	
PSY 231	Human Sexuality°	3
	OR	
PSY 240	Developmental Psychology°~	3
	OR	
PSY 270	Psychological Disorders°~	3

Sociology Concentration (9 credits)
Take the following (9 credits):

SOC 202	Social Problems*°~	3
SOC 215	Race and Ethnicity*°~	3
SOC 212	Sociology of Gender°~	3

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.
For the Psychology Concentration, the department recommends that students satisfy elective credits by taking math courses through MAT 151 College Algebra.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

BUSINESS

AGEC-B - CERTIFICATE (MAJOR CODE - AGCB)

The Arizona General Education Curriculum - Business (AGEC-B) Certificate meets the general education requirements in the Associate of Business (ABUS) degrees.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate competency in communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy.

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 212	Calculus for Business*°	3
	OR	
MAT 220	Calculus I*°‡	5

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

General Education Electives 1-3 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.

TOTAL CERTIFICATE REQUIREMENTS 35 CREDITS

BUSINESS ADMINISTRATION - ASSOCIATE OF BUSINESS (MAJOR CODE - BUSG)

The Business Administration Associate of Business degree prepares students for transfer to a university program in management, marketing, or general business. It also trains them for direct employment in the business world. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Explain the process of maintaining proper accounting records for a business and demonstrate the skills required to maintain such records.
- Demonstrate the ability to interpret and communicate a business' financial information.
- Examine legal and ethical issues from the perspective of a business manager or owner.
- Demonstrate an understanding of the direct issues related to the economic conditions in America and other countries.

GENERAL EDUCATION REQUIREMENTS (AGEC-B) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 212	Calculus for Business*°	3
	OR	
MAT 220	Calculus I*°‡	5

Laboratory Sciences 8 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits

ECN 201	Principles of Macroeconomics*°~	3
	AND	
ECN 202	Principles of Microeconomics*°~	3

Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

General Education Electives 1-3 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 28 CREDITS

BUS 109	Survey of Business°	3
BUS 167	Business Communications°	3
BUS 201	Financial Accounting*°	3

BUS 202	Managerial Accounting*°	3
BUS 219	Business Statistics*°	3
BUS 221	Analytic Methods in Business°	4
BUS 233	The Legal Environment of Business°	3
CIS 181	Computer Applications°	3
CIS 281	Advanced Computer Applications°	3

ELECTIVES (AS NEEDED TO COMPLETE 63-65 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 63-65 CREDITS

Students transferring to Arizona State University, Northern Arizona University, or the University of Arizona should consult the major guides at www.aztransfer.com and see an advisor for specific transfer information.

Business Management - Associate of Applied Science (Major Code - BMT)

The Business Management Associate of Applied Science degree prepares students for employment, or ownership, in the business environment. This is intended to be a non-transfer degree.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Demonstrate an understanding of planning for and operating a business.
- Explain the process of maintaining proper accounting records for a business and demonstrate the skills required to maintain such records.
- Demonstrate the ability to interpret and communicate a business' financial information.
- Demonstrate the knowledge and skills required to be successful in the business management environment.
- Demonstrate an understanding of the basic components needed in business management.

GENERAL EDUCATION REQUIREMENTS 15 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
	OR	
COM 102	Essentials of Communication*°	3

Mathematics 3 credits

BUS 104	Business Math°	3

Liberal Arts 3 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

*ENG 102 recommended for university transfer.

CORE CURRICULUM 30 CREDITS

BUS 109	Survey of Business°	3
BUS 143	Principles of Management°	3
BUS 145	Principles of Marketing°	3
BUS 160	Essential Workplace Success Skills°	3
BUS 165	Sales	3
BUS 167	Business Communications°	3
BUS 183	Starting a Business°	3
BUS 222	Business Leadership°	3
BUS 233	The Legal Environment of Business°	3
BUS 245	Seminar: Trends and Practices in Business°	3

CERTIFICATE PROGRAM (15 + CREDITS) AS ELECTIVES

Choose a Cochise College Certificate Program that has a minimum of 15 credits (15+ credits): All courses within the certificate program must be 100 level, or above, college courses. The certificate must be a minimum of 15 credits. Certificate must be approved by the Academic Dean over the Business Department.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

Digital Marketing for Business (Major Code - DMB)

The Digital Marketing for Business Certificate is designed to equip a small business person to create and maintain a digital business presence. Upon completion students will have the basic skills to create digital content that is designed to communicate with a businesses' customers. Students will have the technical skills to create and manipulate digital images or video, and have a working understanding of online advertising.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Correctly define a business' target market and develop effective corresponding web-based content such as a website, Facebook, Instagram, etc.
- Create a customized piece of media content suitable for use in online advertising (such as a Google Ad or social media post).
- Effectively optimize sample website content for optimal display in search engine results.
- Create and manipulate basic photographic still images, moving images, and video content suitable for use on a website or social media account.
- Create basic electronic marketing materials (e.g., PDF brochures).
- Know how to create, implement and analyze an email or social media campaign.

CORE CURRICULUM 21 CREDITS

BUS 145	Principles of Marketing°	3
BUS 218	Digital Marketing°	3
BUS 285	Electronic Commerce°	3
CIS 120	Introduction to Information Systems*°	3
CIS 185	Internet Essentials°	3
DMA 110	Digital Media Arts I°‡	3
DMA 210	Digital Media Arts II°‡	3

TOTAL CERTIFICATE REQUIREMENTS 21 CREDITS

Entrepreneurship/Small Business Management - Certificate (Major Code - ENTC)

The Entrepreneurship/Small Business Management Certificate teaches entrepreneurs a wide variety of small business skills. It is designed to develop entrepreneurs and foster economic growth in the community.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Communicate and interpret a business's financial information and differentiate ways of financing a business.
- Analyze legal and ethical issues from the perspective of a business manager or owner.
- Demonstrate the skills necessary to lead and manage multiple employees in a day-to-day business environment.
- Design marketing for products and services.

CORE CURRICULUM 18 CREDITS

BUS 104	Business Math°	3
BUS 109	Survey of Business°	3
BUS 143	Principles of Management°	3
BUS 145	Principles of Marketing°	3
BUS 165	Sales	3
BUS 183	Starting a Business°	3

TOTAL CERTIFICATE REQUIREMENTS 18 CREDITS

Tax Preparer - Certificate (Major Code - TAXP)

The Tax Preparer Certificate teaches students to apply tax and accounting knowledge to the preparation of individual and business returns. The program is also designed to prepare students to pass the Internal Revenue Service Enrolled Agent Exam.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Record business transactions and prepare financial statements.
- Compute taxable income and tax liabilities for individuals and business entities.
- Utilizing integrated knowledge, prepare individual and business tax returns using blank tax forms and with tax software.
- Examine the rules for tax practice and procedure.

CORE CURRICULUM 16 CREDITS

BUS 146	Introduction to Accounting°	3
BUS 251	Federal Income Taxation°	3
BUS 252	Business Entity Taxation°	3
BUS 253	Tax Practice and Procedure°	3

BUS 254	Tax and Accounting Software°	4

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

COMPUTER TECHNOLOGY

The Computer Information Systems and Computer Science degrees are designed to prepare students for transfer to four-year colleges and universities. The curriculum provides the foundation for many careers, such as applications programmer, systems programmer, aerospace or engineering programmer, computer engineer and database administrator. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.
The various certificates prepare students for employment and/or improved skills in rewarding, technology-related careers.

CIS DEPARTMENT APPROVED ELECTIVES

Students may choose any CIS, CYB, or VRD courses as department-approved electives.

AMAZON WEB SERVICES CLOUD ARCHITECTING (MAJOR CODE - CLDA)

The Amazon Web Services (AWS) Cloud Architecting Certificate comprises two courses, CLD 110 and CLD 120, that focus on the fundamentals of building IT infrastructure on and for AWS. These courses cover AWS services and best practices for the AWS Cloud so that students learn how they fit into cloud-based solutions and how to optimize use of the AWS Cloud. Additionally, these courses introduce design patterns for architecting optimal IT solutions on AWS as well as strategies and services implemented on AWS.

Learning Outcomes
Students who successfully complete the program will be able to do the following:

- Design a cloud environment for high availability, scalability, and cost effectiveness.
- Explain the principles of automating, and decoupling infrastructure.
- Understand the design of web-scale media.
- Visualize the AWS Well-Architected Framework.
- Understand use cases for both dedicated instances and dedicated hosts.
- Execute troubleshooting of common errors on AWS deployments.
- Examine management of cloud security using Identity and Access Management based on recommended best practices.

CORE CURRICULUM 6 CREDITS

CLD 110	AWS Cloud Foundations°	3
CLD 120	AWS Cloud Architecting	3

TOTAL CERTIFICATE REQUIREMENTS 6 CREDITS

AMAZON WEB SERVICES CLOUD FOUNDATIONS - CERTIFICATE (MAJOR CODE - CLDF)

Amazon Web Services (AWS) Cloud Foundations provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support. This certificate is intended for students who seek an overall understanding of cloud computing concepts, independent of specific technical roles and helps to prepare students for the AWS Certified Cloud Practitioner exam.

Learning Outcomes
Students who successfully complete the program will be able to do the following:

- Analyze and explain basic cloud computing concepts, including architecting, balancing, scaling, monitoring, storage, and computation of core level service.
- Create a basic Virtual Private Cloud and database server.
- Examine management of cloud security using Identity and Access Management based on recommended best practices.
- Understand AWS cloud support services.

CORE CURRICULUM 3 CREDITS

CLD 110	AWS Cloud Foundations°	3

TOTAL CERTIFICATE REQUIREMENTS 3 CREDITS

COMPUTER INFORMATION SYSTEMS - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - CIS)

The Computer Information Systems Associate of Applied Science degree provides broad preparation for entry into the field of information technology. Students develop essential skills in networking, operating systems, programming, database management, productivity applications, and technical communications.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Effectively communicate technical concepts to a variety of stakeholders.
- Exhibit proficiency with the Internet and with World Wide Web technologies.
- Create solutions to typical information systems problems.
- Demonstrate an understanding of basic information systems functions.
- Support decision-making and facilitate effective problem-solving by utilizing spreadsheet and database applications.
- Understand basic information system functions including operating systems and modern networks.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-4 credits		
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	
Liberal Arts 6 credits		
Technology Literacy 3 credits		
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 34-35 CREDITS

CYB 102	Networking Foundations‡°	3
CYB 103	Basic Operating Systems‡°	3
CIS 130	Programming Logic°‡	3
CIS 179	Applied Technical Writing°	3
CIS 181	Computer Applications°	3
CIS 185	Internet Essentials°	3
CIS 250	Database Management°‡	4
CIS 268	Technical Presentations°	3
CIS 281	Advanced Computer Applications°	3
CIS 287	World Wide Web Development	3
	CIS Elective	3

ELECTIVES (AS NEEDED TO COMPLETE 60-62 CREDITS)

The CIS Department recommends any course from the list of department approved electives.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

COMPUTER PROGRAMMING - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - CPG)

The Computer Programming Associate of Applied Science degree prepares students to develop software applications that meet the needs of various organizations. Students create solutions to different programming issues across a wide range of modern computing environments.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Differentiate between interpreted and compiled programming languages.
- Demonstrate the proper use of terminology in relation to information technology.
- Design, code, implement, and test computer programming applications using multiple programming languages.

Programming Concentration

- Create solutions to typical information systems problems.
- Design, code, test, and debug programs using structured programming techniques in the command line environment.
- Apply data structures in solving programming problems.

Virtual Reality Development Concentration

- Implement object-oriented Program principles for Virtual Reality.
- Subdivide software project development workflow utilizing the Visual Studio IDE and Git version control techniques.
- Design and implement cross-platform user input for virtual reality controllers.
- Construct virtual environments utilizing the Unity game engine platform.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-4 credits		
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits
Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 43-44 CREDITS

CIS 128	Linux Operating System°‡	4
CIS 181	Computer Applications°	3
CIS 217	Introduction to Visual C#.NET Programming°‡	4
CIS 250	Database Management°‡	4
CYB 101	Introduction to Cybersecurity‡°	3
CYB 102	Networking Foundations‡°	3
CYB 103	Basic Operating Systems‡°	3
CYB 125	Introduction to Scripting for Cybersecurity‡°	4

SELECT AN AREA OF CONCENTRATION BELOW

Programming Concentration

CIS 130	Programming Logic°‡	3
CIS 204	C Programming°‡	4
CIS 208	Java Programming‡	4
CIS 220C	Data Structures-C‡	4
	OR	
CIS 220J	Data Structures-Java*‡	4

Virtual Reality Development Concentration

VRD 130	Virtual Reality Programming Logic‡	3
VRD 144	Virtual Reality Development in Unity‡	5
VRD 244	Virtual Reality Cross-Platform Application Development‡	4
VRD 264	Unity Programming Standards and Application‡	4

ELECTIVES (AS NEEDED TO COMPLETE 61-62 CREDITS)
TOTAL DEGREE REQUIREMENTS 61-62 CREDITS

COMPUTER SCIENCE - ASSOCIATE OF ARTS (MAJOR CODE - CSC)

The Computer Science Associate of Arts degree is designed for students interested in transferring to the University of Arizona South's computer science program. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor and in consultation with a CIS faculty member.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Describe the mechanics of information transfer and control within a digital computer system.
- Design, code, test, and debug programs using structured programming techniques in the command line environment.
- Design, code, test, and debug medium-difficulty C programs using structured and modular techniques.
- Select executable TASM utility programs and libraries.
- Design structured and modular programs.
- Apply data structures in solving programming problems.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 5 credits

MAT 220	Calculus I*°‡	5

Laboratory Sciences 8 credits

Laboratory sciences must be chosen from the following:

BIO 105	Environmental Biology‡°	4
BIO 181	General Biology I (for majors)*‡°	4
BIO 182	General Biology II*‡	4
BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4
CHM 151	General Chemistry I*‡°	4
CHM 152	General Chemistry II*‡°	4
GLG 101	Introduction to Geology I (Physical)*°‡	4
GLG 102	Introduction to Geology II (Historical)°‡*	4
PHY 111	General Physics I*‡°	4
PHY 112	General Physics II*‡°	4
PHY 230	Physics with Calculus I*‡°	4
PHY 231	Physics with Calculus II*‡	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 4 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 8 CREDITS

Non-English language second-semester proficiency.

CORE CURRICULUM 22 CREDITS

CIS 130	Programming Logic°‡	3
CIS 204	C Programming°‡	4
CIS 206	Assembler with Architecture‡°	4
CIS 220C	Data Structures-C‡	4
MAT 227	Discrete Mathematics*	3
MAT 231	Calculus II*°‡	4

TOTAL DEGREE REQUIREMENTS 65 CREDITS

Cybersecurity - Associate of Applied Science (Major Code - CYB)

The Cybersecurity Associate of Applied Science degree will equip students with knowledge, skills, and abilities to succeed in further academic endeavors or direct employment in the field of cybersecurity. Major areas of study include security fundamentals, operating systems, scripting, digital forensics, cyber operations, cloud computing, and network defense. The courses in this degree provide students a hands-on approach to develop and implement appropriate cybersecurity skills and abilities.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Describe cybersecurity and the application of the Confidentiality Integrity and Availability (CIA) model in cyber defense.
- Characterize and document how a systems compromise occurred through an analytical process.
- Securely configure network devices, servers, and workstations and through validation test the effectiveness of the applied controls.
- Analyze network operations, conduct network and host penetration tests, and implement passive countermeasures.
- Identify the basic components of a layered structure for host, network, and organizational defense.
- Differentiate and implement modern automation tools and techniques as they apply to cybersecurity.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Liberal arts 6

Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 48 CREDITS

CYB 101	Introduction to Cybersecurity‡°	3
CYB 102	Networking Foundations‡°	3
CYB 103	Basic Operating Systems‡°	3
CYB 110	Intermediate Operating Systems‡	4
CYB 125	Introduction to Scripting for Cybersecurity‡°	4
CYB 201	Cybersecurity for Networking‡°	4
CYB 210	Scripting for Cybersecurity‡°	4
CYB 220	Digital Forensics and Incident Response‡	4
CYB 260	Introduction to Cloud Technologies‡	4
CYB 275	Applied Cyber Operations‡°	4
CYB 290	Operational Cybersecurity‡°	5

TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

Google IT Professional (Major Code - GITP)

This certificate will help students gain the skills required to succeed in an entry-level Information Technology (IT) capacity. Students will learn to perform day-to-day IT support tasks, including computer assembly, wireless networking, installing programs, and customer service. Students will also learn how to provide end-to-end customer support ranging from identifying problems to troubleshooting and debugging, and how to use software systems including Linux, Domain Name Systems, Command-Line Interface, and Binary Code.

Learning Outcomes

- Demonstrate the Technical Support role by assembling and repairing computer hardware, loading common operating systems, and articulating how applications are created and work.
- Explain the five-layer model of computer networking, standard protocols for TCP/IP communications, services including DNS and DHCP, and cloud computing and storage.
- Utilize both Windows and Linux GUI and CLI to set up users, groups, and permissions; install, configure, and remove software; configure disk partitions and file systems, manage system processes, and work with system logs and remote connection tools.
- Demonstrate the System Administration role through understanding common infrastructure services and servers, utilizing Active Directory and OpenLDAP, information backup and restoration tools, planning and improving

processes for IT environments, and utilizing best practices for selecting hardware, vendors, and services for an organization.
- Employ IT security concepts to include encryption algorithms and techniques, authentication systems and types, differentiate between authentication and authorization, evaluating risks and recommending mitigation, and best practices for securing a network.
- Utilize soft skills and an integrated understanding of the IT Support Specialist role to troubleshoot common issues.

CORE CURRICULUM 3 CREDITS

GOO 101	Google IT Support Professional°	3

TOTAL CERTIFICATE REQUIREMENTS 3 CREDITS

Linux System Administrator - Certificate (Major Code - LSA)

The Linux System Administrator Certificate teaches the basic Linux operating skills related to user groups, scripting, and system administration.

Learning Outcomes

Students who successfully complete this program will be able to do the following:
- Describe how the Linux operating system functions.
- Use the Linux file and directory system and the Linux editor.
- Add, change, and remove users, groups, and peripheral devices.
- Perform routine system administration duties.
- Implement literals, constants, variables, operators, arrays, structures, functions, classes, input and output, and file processing.
- Demonstrate the design, coding, testing, and debugging of scripts using current computer problem-solving methodologies.
- Implement Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and security on a Linux server.

CORE CURRICULUM 19 CREDITS

CIS 128	Linux Operating System°‡	4
CIS 229	Linux System Administration°‡	4
CIS 259	Advanced Linux Systems Administration°‡	4
CYB 103	Basic Operating Systems‡°	3
CYB 125	Introduction to Scripting for Cybersecurity‡°	4

TOTAL CERTIFICATE REQUIREMENTS 19 CREDITS

Virtual Reality Content Developer (Major Code - VRD)

The Virtual Reality Content Developer (VRD) Certificate prepares students for entry-level positions in both educational and gaming content creation. Students will become Unity Certified Associates and be qualified to create Virtual Reality content for both industry and Department of Defense customers. Students will create content for multiple hardware platforms and troubleshoot code for those platforms.

Learning Outcomes

Students who successfully complete this program will be able to do the following:
- Implement object-oriented Program principles for Virtual Reality.
- Subdivide software project development workflow utilizing the Visual Studio IDE and Git version control techniques.
- Support decisions concerning locomotion techniques for room-scale and fixed position virtual reality experiences.
- Design and implement cross-platform user input for virtual reality controllers.
- Propose methodologies for implementation of diegetic and non-diegetic interface in virtual reality.
- Evaluate and resolve issues and problems in object-oriented programming.
- Construct virtual environments utilizing the Unity game engine platform.

CORE CURRICULUM 16 CREDITS

VRD 130	Virtual Reality Programming Logic‡	3
VRD 144	Virtual Reality Development in Unity‡	5
VRD 244	Virtual Reality Cross-Platform Application Development‡	4
VRD 264	Unity Programming Standards and Application‡	4

ELECTIVES 1 CREDIT

Internship opportunity is optional.

VRD 294	Virtual Reality Co-operative Internship	1

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

First Responders

Communications Officer - Certificate (Major Code - COC)

This certificate is designed to provide first responder communication officers with entry-level training in administrative policies and procedures, interpersonal skills, confidentiality, legal issues, telephone and broadcast function, and departmental and external databases. The successful

student will be eligible to apply for employment as a public safety (9-1-1) dispatcher.

Learning Outcomes:
Students who successfully complete this program will be able to do the following:

- Collect, analyze, and interpret data for presentation.
- Articulate a comprehensive review of the public safety communications officer's duties, responsibilities, tasks, confidentiality parameters, and legal issues.
- Identify the different circumstances dispatchers and emergency response agencies communicate with the public.
- Utilize various dispatch equipment and programs.
- Understand the impact of wellness, stress management, professionalism, ethics, and self- determination on the dispatcher and the public.

CORE CURRICULUM 6 CREDITS

AJS 103	Communications Officer Training‡	6

TOTAL CERTIFICATE REQUIREMENTS 6 CREDITS

EMERGENCY MEDICAL TECHNICIAN - CERTIFICATE (MAJOR CODE - EMT)

This program is a study of anatomy and physiology, signs and symptoms of illness and injury, patient assessment, procedures associated with the provision of emergency medical care, triage, basic life support systems, and basic legal responsibilities. It equips students with the knowledge and skills required by the National Registry of Emergency Medical Technicians (NREMT) and the Arizona Department of Health Services – Bureau of Emergency Medical Services (ADHS-BEMS) to practice as an Emergency Medical Technician. Students desiring NREMT/ADHS-BEMS certification must complete the state-required number of clinical experience hours with an Emergency Medical Service provider of out-of-hospital emergency care. This program meets the ADHS-BEMS guidelines and is approved by the state of Arizona and the National Registry of EMTs. Students must pass with a B or better, pass the final with a B or better, and have 10 documented patient contacts.
Medical Direction: Arizona Certified EMTs are authorized to provide treatment, perform procedures, and utilize skills—as defined by the 2016 National EMS Education Standards—only under the medical control of an approved medical director or certified base hospital. Students must be 18 years of age upon course enrollment.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the skills necessary to perform a wide range of duties for employment in a modern medical facility.
- Identify and assess the signs and symptoms of illness and injury in patients and conduct triage as needed.
- Demonstrate an understanding of basic human anatomy and physiology in the application of emergency medical care.
- Provide medical care and basic life support to patients with respiratory, cardiovascular, neurological, allergic, and OB/GYN emergencies, and with age-related and traumatic injuries.
- Demonstrate various examination techniques on patients with a medical or injury related complaint or problem.
- Demonstrate the skills required by the National Registry of Emergency Medical Technicians and the State of Arizona Department of Health Services, Bureau of Emergency Medical Services.

CORE CURRICULUM 9 CREDITS

EMT 174	Emergency Medical Technician‡	9

Notes:
In order to complete the certificate, students must complete EMT 174 with a grade of B or better.
To prepare for state or national certification, students must 1) complete EMT 174 with a grade of B or better, 2) pass final exams with a grade of B or better, 3) document ten (10) patient contacts in the field, and 4) be 18 years of age upon course enrollment.

TOTAL CERTIFICATE REQUIREMENTS 9 CREDITS

FIRE SCIENCE TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - FST)

The Fire Science Technology Associate of Applied Science degree teaches the complete set of skills needed in today's changing fire service. Through coursework in fire and emergency services, students learn to plan for, respond to, and mitigate various emergency situations. The degree program emphasizes career advancement.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Evaluate and apply current and emerging concepts and practices in Fire and Emergency Services.
- Identify and effectively operate apparatus, equipment, and tools essential for successful fire department operations.
- Apply effective communication while utilizing Incident Command/Incident Management skills to manage emergency incidents.
- Identify construction systems and components that impact firefighter safety.
- Analyze ethical situations applicable to the fire science workplace.
- Demonstrate the knowledge and skills required to obtain the Firefighter I and II Certification form the State of Arizona through a rigorous testing process.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

	Liberal arts	3
	AND	
COM 102	Essentials of Communication*°	3

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 30 CREDITS

BUS 143	Principles of Management°	3
EMT 174	Emergency Medical Technician‡	9
FST 107	Introduction to Fire and Emergency Services‡	4
FST 108	Fire Operations I‡	4
FST 109	Fire Operations II‡	4
FST 115	Fire Service Apparatus Driver/Operator‡	3
FST 224	Field Experience in Fire Science Technology	3

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

FIRE SCIENCE TECHNOLOGY - CERTIFICATE (MAJOR CODE - FST)

The Fire Science Technology Certificate teaches the basic skills needed in today's changing fire service. Through coursework in fire and emergency services, students learn to plan for, respond to, and mitigate various emergency situations. Emphasis is on employability.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the knowledge and skills required to obtain certification in hazardous materials emergency response.
- Demonstrate the knowledge and skills required to obtain the Firefighter I and II Certification from the state of Arizona through a rigorous testing process.
- Demonstrate an understanding of the practical application of fire service knowledge and skills in the work environment.
- Demonstrate an understanding of the practical application of basic emergency medical skills.

CORE CURRICULUM 21 CREDITS

EMT 174	Emergency Medical Technician‡	9
FST 107	Introduction to Fire and Emergency Services‡	4
FST 108	Fire Operations I‡	4
FST 109	Fire Operations II‡	4

Note:
Students must complete EMT 174 with a grade of B or better. To prepare for state or national certification, students must 1) complete EMT 174 with a grade of B or better, 2) pass final exams with a grade of B or better, 3) document ten (10) patient contacts in the field, and 4) be 18 to enroll in the program.

TOTAL CERTIFICATE REQUIREMENTS 21 CREDITS

LAW ENFORCEMENT - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - LEO)

The Law Enforcement Associate of Applied Science degree is designed to prepare students for a career in law enforcement. The passing of a prescreening, fingerprint clearance and background investigation are required prior to entry into the Police Academy.
Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply acquired knowledge and skills for the successful completion of the Arizona Peace Officers Standards and Training Board (AZ POST) certification requirements.
- Articulate a comprehensive understanding of legal issues, patrol and investigation techniques, and community relations.
- Demonstrate defensive tactics and tactical driving techniques, knowledge of traffic procedures and the professional use of firearms as applicable to law enforcement guidelines.
- Explain the importance of physical conditioning and wellness, and perform applications of first aid techniques as required for law enforcement.
- Model professional communication ability, write effective reports and demonstrate proficient use of technology.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-4 credits		
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	
Liberal Arts 6 credits		
SOC 215	Race and Ethnicity*°~	3
	OR	
SOC 202	Social Problems*°~	3
	OR	
PSY 210	Social Psychology°~	3
COM 102	Essentials of Communication*°	3
	OR	
COM 204	Elements of Intercultural Communication°~	3
Technology Literacy 3 credits		
CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 30 CREDITS

LEO 200	Introduction to Law Enforcement Technology‡	2
LEO 201	Legal Aspects of Law Enforcement	3
LEO 202	Firearms Training for Law Enforcement	2
LEO 203	Report Writing for Law Enforcement	2
LEO 204	Physical Conditioning and Wellness for Law Enforcement	1
LEO 205	Community Relations for Law Enforcement	2
LEO 206	First Aid for Law Enforcement	1
LEO 207	Defensive Tactics for Law Enforcement	1
LEO 208	Tactical Driving for Law Enforcement‡	1
LEO 209	Criminal Investigations for Law Enforcement	4
LEO 210	Criminal Law for Law Enforcement	3
LEO 211	Patrol Procedures for Law Enforcement	4
LEO 212	Traffic Procedures for Law Enforcement	4

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60 CREDITS

Law Enforcement - Certificate (Major Code - LEOC)

The Law Enforcement Certificate is designed to prepare students for a career in law enforcement. A prescreening process that includes a medical exam, polygraph exam and background investigation are required prior to entry into the Police Academy.
Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Articulate a comprehensive understanding of legal issues, patrol and investigation techniques and community relations.
- Demonstrate defensive tactics and tactical driving techniques, knowledge of traffic procedures and the professional use of firearms as applicable to law enforcement guidelines.
- Explain the importance of physical conditioning and wellness, and perform applications of first aid techniques as required for law enforcement.
- Model professional communication ability, write effective reports and demonstrate proficient use of technology.

CORE CURRICULUM 30 CREDITS

LEO 200	Introduction to Law Enforcement Technology‡	2
LEO 201	Legal Aspects of Law Enforcement	3
LEO 202	Firearms Training for Law Enforcement	2
LEO 203	Report Writing for Law Enforcement	2
LEO 204	Physical Conditioning and Wellness for Law Enforcement	1
LEO 205	Community Relations for Law Enforcement	2
LEO 206	First Aid for Law Enforcement	1
LEO 207	Defensive Tactics for Law Enforcement	1
LEO 208	Tactical Driving for Law Enforcement‡	1
LEO 209	Criminal Investigations for Law Enforcement	4
LEO 210	Criminal Law for Law Enforcement	3
LEO 211	Patrol Procedures for Law Enforcement	4
LEO 212	Traffic Procedures for Law Enforcement	4

TOTAL CERTIFICATE REQUIREMENTS 30 CREDITS

Paramedicine - Associate of Applied Science (Major Code - PAR)

The Paramedicine Associate of Applied Science degree prepares the student to become a Nationally Registered Paramedic. Paramedics render basic and advanced medical treatment before and during patient transport to a medical facility and they assess and treat a wide variety of medical emergencies. Paramedics work for fire departments, law enforcement agencies, private ambulance services, industrial companies, clinics, and hospitals.
Admission into the program requires a separate application. Prior to enrollment in the paramedicine program, all students must pass a computer-based entrance examination.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the legal, ethical, and professional conduct of an entry-level autonomous paramedic.
- Demonstrate an understanding of the roles and responsibilities of an entry-level autonomous paramedic with regard to personal safety and wellness as well as to the safety of others.
- Demonstrate self-confidence as an autonomous and effective team leader in the pre-hospital, hospital, and clinical environment.
- Describe and perform various techniques for successful assessment and treatment of patients of all ages and all complaints.
- Analyze the various considerations when determining ground versus air transport of a patient to an appropriate facility.
- Demonstrate proficiency in all required terminal competencies as verified by the medical director.
- Demonstrate the knowledge, skills, and abilities required for certification as a Nationally Registered Paramedic.

GENERAL EDUCATION REQUIREMENTS 19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics/Laboratory Sciences 4 credits

BIO 156	Introductory Biology for Allied Health‡°	4
	OR	
BIO 160	Introduction to Human Anatomy and Physiology°‡	4

Liberal Arts 6 credits
Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information	3

	Systems*°	

CORE CURRICULUM 49-55 CREDITS

PMD 101	Paramedicine I‡°	6
PMD 201	Paramedicine II‡	7
PMD 202	Paramedicine III‡	7
PMD 203	Paramedicine IV‡	10
PMD 204	Paramedicine V‡	10
PMD 205	Paramedicine VI‡	9
PMD 206	Paramedicine VII‡	6

The program coordinator may waive PMD 101 for students who meet the course requirements.

TOTAL DEGREE REQUIREMENTS 68-74 CREDITS

PARAMEDICINE - CERTIFICATE (MAJOR CODE - PAR)

The Paramedicine Certificate prepares the student to become a Nationally Registered Paramedic. Paramedics render basic and advanced medical treatment before and during patient transport to a medical facility and they assess and treat a wide variety of medical emergencies. Paramedics work for fire departments, law enforcement agencies, private ambulance services, industrial companies, clinics, and hospitals. Admission into the program requires a separate application. Prior to enrollment in the paramedicine program, all students must pass a computer-based entrance examination.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Demonstrate the legal, ethical, and professional conduct of an entry-level autonomous paramedic.
- Demonstrate an understanding of the roles and responsibilities of an entry-level autonomous paramedic with regard to personal safety and wellness as well as to the safety of others.
- Demonstrate self-confidence as an autonomous and effective team leader in the pre-hospital, hospital, and clinical environment.
- Describe and perform various techniques for successful assessment and treatment of patients of all ages and all complaints.
- Analyze the various considerations when determining ground versus air transport of a patient to an appropriate facility.
- Demonstrate proficiency in all required terminal competencies as verified by the medical director.
- Demonstrate the knowledge, skills, and abilities required for certification as a Nationally Registered Paramedic.

CORE CURRICULUM 49-55 CREDITS

PMD 101	Paramedicine I‡°	6
PMD 201	Paramedicine II‡	7
PMD 202	Paramedicine III‡	7
PMD 203	Paramedicine IV‡	10
PMD 204	Paramedicine V‡	10
PMD 205	Paramedicine VI‡	9
PMD 206	Paramedicine VII‡	6

The program coordinator may waive PMD 101 for students who meet the course requirements.

TOTAL CERTIFICATE REQUIREMENTS 49-55 CREDITS

HEALTH SCIENCES

ALLIED HEALTH - ASSOCIATE OF GENERAL STUDIES (MAJOR CODE - AHS)

The Allied Health Associate of General Studies degree prepares students for further study, certification, and employment in a variety of health careers (e.g., nursing, medical assistant, medical technician, emergency medical technician, and others). In addition, students will be prepared to pursue further education and training in a variety of non-clinical support services, public health, and administrative careers.

Note: Students who choose a nursing concentration must complete courses during or prior to the semester listed in the program outline. BIO 201 (requires a prerequisite course), 202, and 205 must have been completed within the last seven (7) years of admission to the Cochise College nursing program with a grade of B or better. NUR 203 must have been completed within the last five (5) years of admission to the Cochise College nursing program with a grade of B or better.

Learning Outcomes:

Students who successfully complete this program will be able to do the following:

- Utilize integrated knowledge to articulate the levels of organization within the components of the eleven organ systems.
- Apply biological and pharmacological terminology as it relates to the medical field.
- Assess patients and administer CPR and/or first aid in healthcare and community settings.
- Initiate safe, ethical allied healthcare practices as a member of the healthcare team.

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 4 credits

BIO 201	Human Anatomy and Physiology I*‡°	4

Art 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits

PSY 101	Introduction to Psychology*°	3
PSY 240	Developmental Psychology°~	3

Foreign Language or Communications 3 credits

Foreign Language (100 or higher) or Communications (101 or higher).

General Education Electives 7 credits

General education electives must be chosen from the general education list. In addition to the BIO 202 requirement, three credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current list of intensive writing courses.

BIO 202	Human Anatomy and Physiology II*‡°	4

CORE CURRICULUM 17 CREDITS

BIO 156	Introductory Biology for Allied Health‡°	4
	OR	
BIO 160	Introduction to Human Anatomy and Physiology°‡	4
BIO 205	Microbiology*‡°	4
FON 201	Applied Nutrition°	3
HLT 101	Medical Terminology°	2
HLT 111	CPR and First Aid‡	1
NUR 203	Pharmacology Essentials for the Health Professional°‡	3

ELECTIVES AS NEEDED TO COMPLETE 60 CREDITS

Elective courses may be selected from any Cochise College course at the 100 level or higher.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

ADVANCED BEHAVIORAL HEALTH SCIENCES - CERTIFICATE (MAJOR CODE - (BHSA)

The Advanced Behavioral Health Science Certificate program is designed to provide students with a foundational study of human behavior and prepare them to assist in the care of individuals and families dealing with mental illness. Students also gain the necessary skills to respond to pediatric behavioral health patients using trauma-informed care.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Distinguish among the roles, functions, and responsibilities of various mental health professions.
- Assess the comprehensive bio-psycho-social needs of diverse client populations in behavioral health and social service settings.
- Implement methods to resolve current symptoms and prevent future effects of burnout, traumatic stress, and compassion fatigue.
- Manage individual cases, as part of a multidisciplinary team, in a fashion that best serves the patient and simultaneously protects the practitioner.
- Develop, implement, and document treatment plans in collaboration with a multidisciplinary team.
- Evaluate and practice evidence-based behavioral health interventions using assessment and outcome measures.
- Demonstrate ethical interpersonal and communication skills important in establishing and maintaining relationships.

CORE CURRICULUM 20 CREDITS

BHS 150	Introduction to Behavioral Health and Social Services‡	4
BHS 151	Ethical, Legal and Professional Issues in Behavioral Health and Social Services	3
BHS 152	Applied Therapeutic Communication Skills	3
BHS 153	Case Management and Clinical Documentation	3
BHS 154	Pediatric and Infant Behavioral Health Considerations	3
BHS 155	Trauma-Informed behavioral Health Care	3
HLT 111	CPR and First Aid‡	1

TOTAL CERTIFICATE REQUIREMENTS 20 CREDITS

BASIC BEHAVIORAL HEALTH SCIENCES - CERTIFICATE (MAJOR CODE - BHS)

The Basic Behavioral Health Sciences Certificate program is designed to provide students with a foundational study of

human behavior and prepare them to assist, as part of a clinical team, in the care of individuals and families dealing with mental illness, comorbid medical conditions, and challenging behaviors. The program includes courses designed to provide students with the skills necessary to deliver essential behavioral health and social services.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Distinguish among the roles, functions, and responsibilities, of various mental health professions.
- Assess the comprehensive bio-psycho-social needs of diverse client populations in behavioral health and social service settings.
- Implement methods to resolve current symptoms and prevent future effects of burnout, traumatic stress, and compassion fatigue.
- Manage individual cases, as part of a multidisciplinary team, in a fashion that best serves the patient and simultaneously protects the practitioner.
- Develop, implement, and document treatment plans in collaboration with a multidisciplinary team.
- Evaluate and practice evidence-based behavioral health interventions using assessment and outcome measures.
- Demonstrate ethical interpersonal and communication skills important in establishing and maintaining relationships.

CORE CURRICULUM 14 CREDITS

BHS 150	Introduction to Behavioral Health and Social Services‡	4
BHS 151	Ethical, Legal and Professional Issues in Behavioral Health and Social Services	3
BHS 152	Applied Therapeutic Communication Skills	3
BHS 153	Case Management and Clinical Documentation	3
HLT 111	CPR and First Aid‡	1

TOTAL CERTIFICATE REQUIREMENTS 14 CREDITS

EKG Technician - Certificate (Major Code - EKGT)

This program will prepare the student to administer EKG examinations and report results to the treatment team. The program includes basic anatomy and physiology instruction, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate foundational knowledge of health assessment, differential diagnosis, clinical pathways, medical documentation, ethical decision-making, and medical policies and procedures.
- Perform 12-lead torso placement EKGs.
- Interpret EKG results and notify the provider appropriately.
- Qualify to take the National Healthcare Association Certification Exam, which leads to national certification.

CORE CURRICULUM 4 CREDITS

HLT 111	CPR and First Aid‡	1
HLT 124	EKG Technician‡	3

Program Prerequisites: 1. Student must be 18 years of age. 2. Recommend a high school diploma or equivalency.

TOTAL CERTIFICATE REQUIREMENTS 4 CREDITS

Exercise Science, Health and Physical Education, Recreation and Wellness - Associate of Arts (Major Code - HPES)

The Exercise Science, Health and Physical Education, Recreation and Wellness Associate of Arts degree is intended for students interested in fitness, recreation, or sports, and it is designed for transfer into university degree programs in physical education teaching and/or athletic coaching. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate an understanding of and analyze the physical, structural, and functional features of tissues, and of the integumentary, skeletal, muscular, and nervous systems.
- Demonstrate an understanding of and analyze the physical, structural, and functional features of the endocrine, cardiovascular, respiratory, lymphatic, urinary, digestive, and reproductive systems.
- Explain the benefits of, and participate in, activities related to fitness, recreation, or sports.
- Develop an individualized program of diet and exercise.
- Demonstrate an understanding of, analyze, and articulate practical and theoretical applications of current practices necessary for wellness and optimum health.

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35-37 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

BIO 156	Introductory Biology for Allied Health‡°	4
	OR	
BIO 181	General Biology I (for majors)*‡°	4
	Laboratory sciences	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
General Education Electives 4-6 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

LANGUAGE REQUIREMENT 0-16 CREDITS

Non-English language second- or fourth-semester proficiency. University non-English language requirements vary. Check with an advisor.

CORE CURRICULUM 8 CREDITS

BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4

BIO 201 requires BIO 156, BIO 181, or passing score on the biology placement exam.

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

Home Health Aide - Certificate (Major Code - HHAC)

Home health aides assist clients who are unable to care for themselves or perform daily tasks such as cooking, cleaning, dressing, and bathing. They may also perform basic medical services such as checking vital signs. They may also provide long-term care or intermittent care. They may specialize in geriatric care or pediatric home health care.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the basic knowledge of the home healthcare system and be able to identify the types of healthcare systems and roles of care team members.
- Demonstrate understanding of legal and ethical behaviors in the home healthcare system and what and when to report.
- Demonstrate knowledge of differences in personal care depending on the type of physical or developmental disability.
- Demonstrate procedures to ensure safety of self and client.
- Identify what situation is an emergency and what to do in each situation.
- Demonstrate the skills needed for food preparation including balancing nutrition and handling food safely.
- Explain the Direct Care Workers' role in maintaining a safe home environment.
- Identify possible home environmental hazards.
- Demonstrate the necessary skills to provide quality care in the home health environment.

CORE CURRICULUM 6 CREDITS

HLT 151	Home Health Aid I (Fundamentals)‡	3
HLT 152	Home Health Aide II (Aging, Physical and Developmental Disabilities)‡	3

TOTAL CERTIFICATE REQUIREMENTS 6 CREDITS

Medical Assistant - Certificate (Major Code - MEDA)

The Medical Assistant Certificate provides training for entry-level employment in a medical practice setting, with emphasis on the routine administrative and clinical tasks required in the day-to-day operation of offices and clinics of health professionals. It introduces students to telephone techniques and other front office functions such as filing and coding insurance claims, scheduling patients, and keeping electronic medical records. It also introduces them to back office skills that include taking vital signs, assisting with electrocardiograms and other special procedures, using medical terminology, and administering medication. The certificate's externship course offers practical experience in a medical office setting. Prior to certificate completion, students take the Medical Assistant certification examination to become certified as Registered Medical Assistants.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the skills necessary to perform a wide range of duties for employment in a modern medical facility.
- Demonstrate a nationally-recognized measure of competency for national certification through the National Healthcareer Association (NHA).
- Perform administrative duties, including telephones, correspondence, insurance forms, medical records, billing, bookkeeping, and office supplies; and greeting, admitting, and scheduling patients.
- Perform clinical duties including taking vital signs and medical histories, explaining treatments, preparing patients for examination, and assisting physicians with lab procedures, EKGs, and medications.

CORE CURRICULUM 27 CREDITS

BIO 160	Introduction to Human Anatomy and Physiology°‡	4
HLT 101	Medical Terminology°	2
HLT 111	CPR and First Aid‡	1
HLT 139	Medical Assistant I‡	8
HLT 140	Medical Assistant II‡	12

See course descriptions for prerequisites and other requirements. HLT 111 must be taken at Cochise College or at an accredited college or university.

TOTAL CERTIFICATE REQUIREMENTS 27 CREDITS

MEDICAL BILLING AND CODING - CERTIFICATE (MAJOR CODE - MBC)

The Medical Billing and Coding Certificate program provides training for entry-level employment in a medical practice setting with an emphasis on the routine administrative and billing/coding tasks required in the day-to-day operation of health care offices and clinics of healthcare professionals and facilities. Students will be prepared to sit for a national exam for billing and coding certification upon satisfactory completion of the program.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Perform basic administrative tasks in a typical healthcare office setting.
- Distinguish between legal and ethical behavior and demonstrate competency and compliance with federal and state laws, and current regulations and best practices for coding and billing in a medical practice.
- Model professional communication with staff, third-party payers, and patients in a culturally sensitive manner and in diverse workplace environments.
- Use appropriate nomenclature, insurance vocabulary, medical terminology, anatomy and physiology concepts and applications for coding using International Classification of Diseases (ICD), Current Procedural Terminology (CPT), and Healthcare Common Procedure Coding System (HCPCS), for diagnoses, services, and supplies.
- Assess applications of clinical data content and structure, and apply appropriate standards for both physical and electronic health technologies and resources.
- Evaluate internal and external revenue and reimbursement policies, methodologies, and systems for patient account tracking and reconciliation, and implementation of effective collection strategies.
- Achieve a nationally recognized measure of competency in billing and coding in preparation for taking the Certified Medical Billing and Coding Specialist (CBCS) exam.

CORE CURRICULUM 27 CREDITS

BIO 160	Introduction to Human Anatomy and Physiology°‡	4
HLT 101	Medical Terminology°	2
HLT 111	CPR and First Aid‡	1
HLT 160	Medical Billing and Coding I ‡	7
HLT 161	Medical Billing and Coding II ‡	13

See course descriptions for prerequisites and other requirements.

TOTAL CERTIFICATE REQUIREMENTS 27 CREDITS

NURSING - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - NUR)

Accredited by both the Accreditation Commission for Education in Nursing (ACEN) and the Arizona State Board of Nursing (AZBN), the Nursing Associate of Applied Science program provides a comprehensive exploration of physical and psychosocial health issues throughout the lifespan. Key topics include stress responses, growth and development variations, and nursing interventions, with an emphasis on effective communication and the nursing process.
Admission requires completion of prerequisites, and coursework follows a specific sequence. Active participation in clinical rotations in various locations across Cochise County and beyond, is mandatory for exposure to diverse healthcare settings. Clinical experiences focus on developing skills in assessment analysis, client specific care, discharge planning, community nursing, and leadership.
Upon completion, graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) for nursing licensure, though success in the program does not guarantee licensure by the Arizona State Board of Nursing.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Evaluate client biophysical and psychosocial influences to make accurate clinical judgments about a diverse range of client needs and responses to acute, chronic or life-threatening health conditions and treatments across the lifespan in various healthcare settings.
- Generate, implement and evaluate customized comprehensive, multi-disciplinary, patient-centered care suitable for treating acute, chronic and life-threatening conditions across the lifespan continuum per policies, procedures, and industry regulations that govern a variety of healthcare settings.
- Implement, delegate and oversee safe, correct, effective delivery, documentation, and evaluation of prescribed pharmacological, parenteral, and other appropriate therapies and procedures across the lifespan in various healthcare settings.
- Utilize critical thinking skills, evidence-based practice, teamwork, and informatics to regularly evaluate the effectiveness of nursing care, risk management, safety measures on patient outcomes and modify appropriately as needed across the lifespan in various healthcare settings.
- Exhibit personal accountability, ethical standards, cost-effective care and preventative safety measures to promote health and well-being of clients and their support person(s) across the lifespan in various healthcare settings.

YEAR 1 GENERAL EDUCATION REQUIREMENTS

FALL AND SPRING SEMESTERS 27 CREDITS

BIO 201	Human Anatomy and Physiology I*‡°	4
BIO 202	Human Anatomy and Physiology II*‡°	4
BIO 205	Microbiology*‡°	4
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
NUR 203	Pharmacology Essentials for the Health Professional°‡	3
PSY 101	Introduction to Psychology*°	3
PSY 240	Developmental Psychology°~	3

Notes:
BIO 201, BIO 202, and BIO 205 with a grade of B or better, current within 7 years
MAT 142 or MAT 142L with a grade of B or better
NUR 203 with a grade of B or better, current within 5 years
PSY 101 and PSY 240 with a grade of C or better

YEAR 2:

FALL SEMESTER 14 CREDITS

NUR 121A	Medication Math I°‡	2
NUR 122	Nursing I Fundamentals of Nursing‡	12

SPRING SEMESTER 12 CREDITS

NUR 123	Nursing II-A‡	6
NUR 124	Nursing II-B‡	6

LPN TO RN ADVANCED PATHWAY PLACEMENT STUDENTS ONLY:

PREREQUISITES

- Active Arizona License in Practical Nursing (LPN) and proof of one year work experience as an LPN
- HESI: LPN to ADN Entrance Examination of 900 or higher.

PSY 101	Introduction to Psychology*°	3

SUMMER SEMESTER 6 CREDITS (LPN TO RN PATHWAY)

NUR 121A	Medication Math I°‡	2
NUR 130	LPN to Professional Nurse I‡°	4

YEAR 3:

FALL SEMESTER 14 CREDITS

NUR 121B	Medication Math II°‡	2
NUR 232	Nursing III‡	12

SPRING SEMESTER 12 CREDITS

NUR 233	Nursing IV‡	12

TOTAL DEGREE REQUIREMENTS 79-83 CREDITS

Students admitted into the Nursing AAS program who have a current AZ LPN license, have one year of work experience as an LPN, and have scored a 900 or higher on the HESI LPN to ADN entrance examination may be admitted into the advanced LPN to RN pathway. Students admitted into this pathway will receive credit for NUR 122, NUR 123 and NUR 124. These students will be required to take NUR 130 in the summer prior to taking NUR 232.

Nursing Assistant - Certificate (Major Code - CNA)

The Nursing Assistant Certificate, which requires one semester to complete, is approved by the Arizona State Board of Nursing to prepare students for nursing assistant certification. Emphasis is on communication, patient safety, anatomy and physiology, specific patient-care skills, and patient rights. Includes the nursing process and the legal and professional responsibilities of the nursing assistant. Also covers the basic physical, psychosocial, and cultural needs of all patients, with special emphasis on the geriatric population. Students taking this program for state certification must be 16 prior to program completion, provide documentation of U.S. citizenship or qualifying alien status, undergo fingerprinting, pass a background check and drug screen, and have received absolute discharge from the sentence for any felony conviction no less than 3 years prior to submitting their application for state certification. The Arizona State Board of Nursing prohibits the use of medical marijuana.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the knowledge and skills required for basic-level nursing assistant certification by the Arizona State Board of Nursing.
- Demonstrate skills in communication, patient safety, the nursing process, and specific patient care.
- Demonstrate skills in cardiopulmonary resuscitation (CPR) and basic first aid.
- Demonstrate an understanding of patient rights and legal and professional responsibilities.
- Apply the knowledge and skills required to address basic physical, psychosocial, and cultural needs of patients, especially those in the geriatric population.

CORE CURRICULUM 6 CREDITS

HLT 109	Nursing Assistant‡	5
HLT 111	CPR and First Aid‡	1

HLT 111: Possession of a current American Heart Association CPR and First Aid certification for healthcare providers satisfies this course requirement.

TOTAL CERTIFICATE REQUIREMENTS 6 CREDITS

Phlebotomy Technician Training (Major Code - PTTC)

Students who complete this certificate successfully will be able to perform safe and accurate venipuncture and capillary puncture and record results in healthcare records. Upon

successful completion of this certificate, students are eligible to take the National Health Care Career Association (NHA) Phlebotomy Technician Certification Examination and obtain national certification.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Perform safe and accurate venipuncture and capillary puncture.
- Perform Clinical Laboratory Improvement Amendments (CLIA) Waived tests.
- Perform urinalysis and obtain throat and nasal specimens.
- Accurately record results in healthcare records.
- Qualify to take the National Health Care Career Association (NHA) Phlebotomy Technician Certification Examination.

CORE CURRICULUM 6 CREDITS

HLT 111	CPR and First Aid‡	1
HLT 125	Phlebotomy Technician‡	5

TOTAL CERTIFICATE REQUIREMENTS 6 CREDITS

Practical Nursing - Certificate (Major Code - PN)

The Practical Nursing Certificate prepares students to become Licensed Practical Nurses by enabling them to provide nursing care to clients of all ages across all cultures. Emphasis is on theory applied through laboratory and clinical experiences. Upon successful completion students are eligible to take the National Council Licensure Examination (NCLEX-PN) for licensing by the Arizona State Board of Nursing as practical nurses.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the knowledge and skills required for practical nursing certification by the Arizona State Board of Nursing.
- Demonstrate skills in patient safety, medication administration, the nursing process, and specific patient care.
- Demonstrate skills in cardiopulmonary resuscitation (CPR) and basic first aid.
- Recognize human differences and demonstrate cultural competence as managers of client care.
- Apply professional values and behaviors as acculturated members of the nursing profession.

CORE CURRICULUM 32 CREDITS

BIO 160	Introduction to Human Anatomy and Physiology°‡	4
HLT 101	Medical Terminology°	2
HLT 111	CPR and First Aid‡	1
NUR 112	Introduction to Pharmacology‡	3
NUR 113	Practical Nursing I‡	8
NUR 116	Practical Nursing II/III	12
NUR 121A	Medication Math I°‡	2

Students must complete courses during or prior to the semester listed in the program outline. All BIO and NUR courses must be completed with a grade of B or better.
BIO 160: BIO 201 and BIO 202 may be substituted. BIO 201 and BIO 202 require a prerequisite course. Science courses must have been completed within the last seven (7) years of admission to the Cochise College nursing program with a grade of B or better.
NUR 112: NUR 203 may be substituted. NUR 203 must have been completed within the last five (5) years of admission to the Cochise College nursing program with a grade of B or better.
HLT 101 Medical Terminology
HLT 111: Possession of a current American Heart Association CPR (BLS) and First Aid certification for healthcare providers satisfies this course requirement if college credit was obtained.

TOTAL CERTIFICATE REQUIREMENTS 32 CREDITS

Industry and Career Technical Education

Automotive

Automotive Fundamentals - Certificate (Major Code - AUTF)

The Automotive Fundamentals certificate prepares students to enter the workforce with basic skills. This certificate is designed to provide students with core skills for employment in the automotive technology industry. It also prepares them to take selective Automotive Service Excellence (ASE) certification tests necessary for that employment.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate ability to select and use the proper hand tools for a variety of specific automotive repair tasks.
- Demonstrate general proficiency in the use of diagnostic equipment to analyze engine controls and other automotive electrical subsystems.
- Demonstrate general proficiency in the theory, diagnosis, and repair of internal combustion engines.
- Apply appropriate safety procedures for working with and around automotive shop equipment.

CORE CURICULUM 12 CREDITS

AUT 101	Introduction to Automotive Technology‡	3
AUT 102	Automotive Electrical Fundamentals‡	3
AUT 103	Internal Combustion Engines‡	3
AUT 104	Automotive Brake Systems‡	3

TOTAL CERTIFICATE REQUIREMENTS 12 CREDITS

AUTOMOTIVE TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - ATC)

The Automotive Technology Associate of Applied Science degree provides students with a working knowledge of the skills required for employment as an automotive technician. It benefits both students seeking marketable skills and experienced automotive technicians looking to upgrade their proficiency and obtain industry certification. Students who successfully complete the program will be prepared to take the Automotive Service Excellence (ASE) Automobile and Light Truck Certification tests.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply appropriate safety procedures for working with and around shop equipment.
- Select and use the proper hand tools and equipment for a variety of specific automotive repair tasks.
- Use diagnostic equipment to analyze engine controls and other subsystems on light-duty automobiles and trucks.
- Use diagnostic charts, schematics, and meters to analyze faults in light-duty automobiles and trucks.
- Demonstrate a general proficiency in areas of the Automotive Service Excellence (ASE) Master Certification Standard; such as Automobile and Light Truck Certification tests and/or Automobile Parts Specialist Certification test.

GENERAL EDUCATION REQUIREMENT 15-16 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
	OR	
COM 102	Essentials of Communication*°	3
	OR	
CIS 179	Applied Technical Writing°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 3 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 45 CREDITS

AUT 101	Introduction to Automotive Technology‡	3
AUT 102	Automotive Electrical Fundamentals‡	3
AUT 103	Internal Combustion Engines‡	3
AUT 104	Automotive Brake Systems‡	3
AUT 105	Automotive Suspension and Steering Systems‡	3
AUT 106	Automotive Manual Drive Systems‡	3
AUT 112	Light Vehicle Diesel Engine Repair‡	3
AUT 116	Light Vehicle Diesel Engine Intake and Exhaust Systems‡	3
AUT 130	Light Duty Hybrid and Electric Vehicles‡	3
AUT 201	Automotive Electrical Systems and Equipment‡	3
AUT 204	Automatic Transmission/Transaxle Diagnostics and Rebuilding‡	3
AUT 205	Automobile Heating, Ventilation, and Air Conditioning‡	3
AUT 206	Engine Performance‡	3
AUT 220	Light Vehicle Diesel Engine Fuel Systems and Computerized Engine Controls‡	3
WLD 105	Oxyacetylene Welding‡	3
	OR	
WLD 128	Gas Metal Arc Welding‡	3

TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

AUTOMOTIVE TECHNOLOGY - CERTIFICATE (MAJOR CODE - ATC)

The Automotive Technology Certificate is designed to provide students with a solid core of skills for employment in the automotive technology industry. It also prepares them to take the Automotive Service Excellence (ASE) certification tests necessary for that employment.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Select and use the appropriate hand tools for a variety of specific automotive repair tasks.
- Analyze engine controls and other subsystems using diagnostic equipment.
- Evaluate faults using diagnostic charts, schematics, and meters.

CORE CURRICULUM 24 CREDITS

AUT 101	Introduction to Automotive Technology‡	3
AUT 102	Automotive Electrical Fundamentals‡	3
AUT 103	Internal Combustion Engines‡	3
AUT 104	Automotive Brake Systems‡	3
AUT 105	Automotive Suspension and Steering Systems‡	3
AUT 106	Automotive Manual Drive Systems‡	3
AUT 201	Automotive Electrical Systems and Equipment‡	3
AUT 205	Automobile Heating, Ventilation, and Air Conditioning‡	3

TOTAL CERTIFICATE REQUIREMENTS 24 CREDITS

LIGHT VEHICLE DIESEL - CERTIFICATE (MAJOR CODE - ATCD)

This program is a study of the theory of light vehicle diesel engines and their various systems, and of the diagnosis and repair of problems common to them. Students diagnose and repair these engines and systems in preparation for the Automotive Service Excellence (ASE) certification test on light vehicle diesel engines.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply appropriate safety procedures for working with and around shop equipment.
- Diagnose and repair general engine controls and computerized engine controls.
- Diagnose the mechanical condition of a light vehicle diesel engine, including the disassembling and measurement of a diesel engine.
- Diagnose and repair fuel management systems on a light vehicle diesel engine, including air and fuel induction systems.
- Diagnose and repair exhaust and emission systems on a light vehicle diesel engine.
- Diagnose and repair electronic communication systems on a light vehicle diesel engine.

CORE CURRICULUM 15 CREDITS

AUT 101	Introduction to Automotive Technology‡	3
AUT 102	Automotive Electrical Fundamentals‡	3
AUT 112	Light Vehicle Diesel Engine Repair‡	3
AUT 116	Light Vehicle Diesel Engine Intake and Exhaust Systems‡	3
AUT 220	Light Vehicle Diesel Engine Fuel Systems and Computerized Engine Controls‡	3

TOTAL CERTIFICATE REQUIREMENTS 15 CREDITS

Culinary

CULINARY ARTS - CERTIFICATE (MAJOR CODE - (CULA)

The Culinary Arts Certificate is designed to equip students with the skills needed to fulfill the professional expectations of the food service industry, including teamwork, communication, vocabulary, and tools and equipment. This program focuses on intermediate and advanced cooking techniques, including classical food preparation, international flavors, and commercial baking and dessert preparation. Courses also cover inventory control, cost analysis, dining room operations, and customer relation skills.

Learning Outcomes:
Students who successfully complete this program will be able to do the following:

- Apply professional principles of sanitation, safety, and food handling practices, and be able to practice them in food service operations.
- Model standards of behavior, grooming, and dress that reflect the mature work attitude expected of industry professionals, and practice personal hygiene habits that protect the health of the customer.
- Apply professional skills in knife and tool handling, and proper use of baking and pastry equipment.
- Create a variety of food products by applying professional skills in cooking techniques, standard measurements, and ingredient functions.
- Calculate mathematical equations related to foodservice operations.
- Utilize integrated skills to manage inventory control measures and dining room operations, including professional communication skills and guest service etiquette.

CORE CURRICULUM 22 CREDITS

CUL 115	Food Service Sanitation‡	2
CUL 116	Essential Culinary Skills I‡	2
CUL 117	Essential Culinary Skills II‡	3
CUL 130	Principles of Baking‡	3
CUL 132	Intermediate Baking and Pastry Techniques‡	3
CUL 150	Intermediate Culinary Skills‡	3
CUL 151	Inventory Control and Dining Room Management	3
CUL 152	Advanced Culinary Skills‡	3

TOTAL CERTIFICATE REQUIREMENTS 22 CREDITS

Culinary Baking and Pastry - Certificate (Major Code - CULB)

The Culinary Baking and Pastry Certificate is designed to equip students with core classic pastry techniques for entry-level positions in diverse food service operations, including bakeries and pastry shops. The program includes food service sanitation, professional baking kitchen equipment usage, and preparation of professional pastries, bread, desserts, and confections.

Learning Outcomes:
Students who successfully complete this program will be able to do the following:

- Apply and practice basic principles of sanitation, safety, and food handling practices in a bakery/food service operation.
- Model standards of behavior, grooming, and dress that reflect the mature attitude expected of industry professionals and reinforce personal hygiene habits that protect the health of the customer.
- Develop skills in knife, tool, equipment handling, and proper use and care for equipment normally found in the bakeshop or baking area.
- Create a variety of baked products by applying the fundamentals of baking science, proper measurement techniques, and bake shop math.
- Produce complex pastries, confections, and dessert products using advanced decorating techniques.

CORE CURRICULUM 17 CREDITS

CUL 115	Food Service Sanitation‡	2
CUL 130	Principles of Baking‡	3
CUL 131	Cake Decorating Principles‡	3
CUL 132	Intermediate Baking and Pastry Techniques‡	3
CUL 230	Professional Pastry Techniques‡	3
CUL 231	Professional Chocolates and Confections‡	3

TOTAL CERTIFICATE REQUIREMENTS 17 CREDITS

Culinary Fundamentals - Certificate (Major Code - CULF)

The Culinary Fundamentals Certificate is designed to equip students with the basic skills needed for entry-level positions in foodservice operations. The program includes food service sanitation, professional kitchen equipment usage, standard kitchen measurements, knife cuts, and professional cooking techniques.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply and practice basic principles of sanitation, safety, and food handling practices in food service operations.
- Model standards of behavior, grooming, and dress that reflect the mature attitude expected of industry professionals and reinforce personal hygiene habits that protect the health of the customer.
- Develop skills in knife, tool, and equipment handling and apply principles of food preparation to produce a variety of food products.
- Develop skills in cooking techniques, including standard measurements, to produce a variety of food products.
- Perform mathematical computations related to food service operations.

CORE CURRICULUM 7 CREDITS

CUL 115	Food Service Sanitation‡	2
CUL 116	Essential Culinary Skills I‡	2
CUL 117	Essential Culinary Skills II‡	3

TOTAL CERTIFICATE REQUIREMENTS 7 CREDITS

Culinary Skills - Certificate (Major Code - CULS)

The Culinary Skills Certificate is designed to train students for entry level positions in diverse food service operations and bakeshops. The program provides training in food service sanitation, standard kitchen and bakeshop measurements, knife cuts, and professional cooking and baking techniques including breakfast and cold foods, stocks, sauces, and proper sautéing of meat, fish and poultry.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply basic principles of sanitation, safety, and food handling practices, and practice them in food service operations.
- Model standards of behavior, grooming, and dress that reflect the mature attitude expected of industry professionals and reinforce personal hygiene habits that protect the health of the customer.
- Develop skills in knife, tool, and equipment handling and apply principles of food preparation to a variety of food products.
- Develop skills in cooking techniques, including standard measurements, to produce a variety of food products.
- Utilize baking and pastry equipment and ingredient functions.
- Apply the fundamentals of proper measurement techniques, bakeshop math, and baking science to the preparation of a variety of products.
- Perform mathematical computations related to food service operations.

CORE CURRICULUM 16 CREDITS

CUL 115	Food Service Sanitation‡	2
CUL 116	Essential Culinary Skills I‡	2
CUL 117	Essential Culinary Skills II‡	3
CUL 120	Breakfast and Cold Foods‡	3
CUL 121	Sauces‡	3
CUL 130	Principles of Baking‡	3

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

Computer-Aided Drafting - Certificate (Major Code - CAD)

The Computer-Aided Drafting Certificate teaches computer-aided design (CAD) skills using AutoCAD software. Students generate 2D and 3D technical plans and sketches used by engineers, architects, and other professionals.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Use the AutoCAD® software program to create drawings from scratch and to modify, manipulate, copy, delete, save, and plot drawings.
- Create and manipulate 3D AutoCAD® drawings and convert 2D drawings to 3D drawings.
- Use the full range of AutoCAD® commands and options, use the keyboard, toolbar, and menu interfaces, and employ shortcuts and time-saving strategies to operate effectively as a CAD technician.
- Demonstrate oral and written communication, computation, and problem-solving skills appropriate to the drafting industry.
- Demonstrate basic knowledge of drafting techniques and blueprint reading.
- Demonstrate knowledge of basic materials and processes used in the current technology workplace.

CORE CURRICULUM 26 CREDITS

BCT 127	Blueprint Reading and Estimating‡	3
CIS 116	Computer Essentials°	3
CIS 179	Applied Technical Writing°	3
DFT 150	Fundamentals of AutoCAD	3
DFT 201	Topics in Drafting	3
DFT 250	Advanced AutoCAD	4
DFT 270	AutoCAD 3D	4
MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3

TOTAL CERTIFICATE REQUIREMENTS 26 CREDITS

General Computer-Aided Drafting - Certificate (Major Code - GCAD)

The General Computer-Aided Drafting Certificate teaches entry-level computer-aided design (CAD) skills using AutoCAD software.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Use the AutoCAD® software program to create drawings from scratch and to modify, manipulate, copy, delete, save, and plot drawings.
- Convert 2D drawings to 3D drawings.
- Use the full range of AutoCAD® commands and options, use the keyboard, toolbar, and menu interfaces, and employ shortcuts and time-saving strategies to operate effectively as a CAD technician.
- Demonstrate basic knowledge of drafting techniques and blueprint reading.
- Demonstrate knowledge of basic materials and processes used in the current technology workplace.

CORE CURRICULUM 16 CREDITS		
BCT 127	Blueprint Reading and Estimating‡	3
CIS 116	Computer Essentials°	3
DFT 150	Fundamentals of AutoCAD	3
DFT 201	Topics in Drafting	3
DFT 250	Advanced AutoCAD	4

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

HVAC - Certificate (Major Code - HVAC)

The HVAC Certificate in heating, ventilation, and air conditioning prepares students for direct employment in the refrigeration industry by teaching the skills required to service, troubleshoot, and maintain residential and commercial HVAC systems.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Identify the equipment and controls used in the heating and air conditioning field.
- Troubleshoot and solve problems associated with heating and air conditioning equipment.
- Identify and solve problems dealing with the refrigerants used in air conditioning equipment.
- Demonstrate the knowledge and skills required to take the test for the Environmental Protection Agency (EPA) certification under the Federal Clean Air Act.
- Troubleshoot and solve problems associated with gas heat and heat pump equipment.

CORE CURRICULUM 16 CREDITS		
BCT 122	HVAC I‡	4
BCT 222	HVAC II‡	4
BCT 223	HVAC III‡	4
BCT 225	HVAC IV‡	4

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

Residential Construction Technology - Associate of Applied Science (Major Code - RCT)

The Residential Construction Associate of Applied Science degree helps students develop social consciousness by providing them with an experiential-learning opportunity which involves the construction of homes. Students interpret blueprint drawings and participate in all facets of their construction project while practicing worksite safety. They also learn about climate control in residential construction.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Identify all necessary stages of a residential construction build.
- Demonstrate the ability to lay a concrete foundation for a residential dwelling.
- Demonstrate the ability to apply wall coverings for a residential dwelling.
- Demonstrate the ability to apply finishing to the exterior of a residential dwelling.
- Demonstrate the ability to construct a functional roof on a residential dwelling.
- Demonstrate the ability to apply floor coverings in a residential dwelling.
- Demonstrate the ability to hang doors and cabinets.
- Identify and apply industry-standard safety strategies and techniques.
- Interpret blueprint drawings.
- Demonstrate mathematical and HVAC skills related to residential construction.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 42 CREDITS

BCT 102	Carpentry Fundamentals‡	4
BCT 109	Construction Safety‡	3
BCT 113	Concrete	3
BCT 114	Wall Coverings	3
BCT 115	Exterior Finishing	3
BCT 116	Roofing	3
BCT 117	Floor Covering	4
BCT 118	Doors, Cabinets, and Millwork	4
BCT 122	HVAC I‡	4
BCT 127	Blueprint Reading and Estimating‡	3
BCT 201	Carpentry Framing and Finishing‡	4
BCT 222	HVAC II‡	4

TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

Residential Construction Technology - Certificate (Major Code - RCC)

The Residential Construction Technology Certificate helps students develop social consciousness by providing them with an experiential-learning opportunity which involves the construction of homes. Students interpret blueprint drawings and participate in all facets of their construction project while practicing worksite safety.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Identify all necessary stages of a residential construction build.
- Demonstrate the ability to lay a concrete foundation for a residential dwelling.
- Demonstrate the ability to apply wall coverings for a residential dwelling.
- Demonstrate the ability to apply finishing to the exterior of a residential dwelling.
- Demonstrate the ability to construct a functional roof on a residential dwelling.
- Demonstrate the ability to apply floor coverings in a residential dwelling.
- Demonstrate the ability to hang doors and cabinets.
- Identify and apply industry-standard safety strategies and techniques.
- Interpret blueprint drawings.
- Demonstrate mathematical skills related to residential construction.

CORE CURRICULUM 37 CREDITS

BCT 102	Carpentry Fundamentals‡	4
BCT 109	Construction Safety‡	3
BCT 113	Concrete	3
BCT 114	Wall Coverings	3
BCT 115	Exterior Finishing	3
BCT 116	Roofing	3
BCT 117	Floor Covering	4
BCT 118	Doors, Cabinets, and Millwork	4
BCT 127	Blueprint Reading and Estimating‡	3
BCT 201	Carpentry Framing and Finishing‡	4
MAT 132	Applied Mathematics°‡	3

TOTAL CERTIFICATE REQUIREMENTS 37 CREDITS

Welding

AEROSPACE WELDING TECHNOLOGY - CERTIFICATE (MAJOR CODE - AEWT)

The Aerospace Welding Technology Certificate prepares students for entry-level welding jobs in industries such as aviation, aerospace, motorsports, and exotic material fabrication. It provides the knowledge and skills required for certification under American Welding Society (AWS) or Military Standard (MIL-STD) welding codes.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the ability to perform entry-level welding skills required in industries, such as aviation, aerospace, motorsports, and exotic material fabrication.
- Demonstrate the ability to interpret blueprints and welding symbols.
- Demonstrate safe work habits when operating welding equipment.
- Complete basic welding operations using appropriate gas tungsten arc welding processes on various metals and in various situations.

CORE CURRICULUM 18 CREDITS

DFT 150	Fundamentals of AutoCAD	3
WLD 105	Oxyacetylene Welding‡	3
WLD 201	Welding Code Interpretation of D17.1	1
WLD 203	Print Interpretation	4
WLD 209	Gas Tungsten Arc Welding‡	3
WLD 219	Advanced GTAW - Hard Metals‡	2
WLD 220	Advanced GTAW - Exotic Metals‡	2

TOTAL CERTIFICATE REQUIREMENTS 18 CREDITS

GENERAL WELDING TECHNOLOGY - CERTIFICATE (MAJOR CODE - GWLD)

The General Welding Technology Certificate prepares students to enter the workforce with diverse welding skills. Following the American Welding Society D1.1 codebook, students test to that standard and upon passing visual and radiographic inspection, they are eligible to attain certification.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Utilize safe work habits when operating welding equipment.
- Articulate appropriate welding terminology to communicate effectively with co-workers, supervisors, customers, inspectors, engineers, and vendors.
- Determine the appropriate basic welding operations to use on various metals and in various situations with an emphasis on the gas metal arc welding (GMAW) process.
- Perform GMAW welds to American Welding Society (AWS) standards to achieve industry certification.
- Apply integrated knowledge of print interpretation and welding symbols in order to fabricate components.
- Establish foundational industry-relevant soft skills.

CORE CURRICULUM 19 CREDITS

WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3
WLD 128	Gas Metal Arc Welding‡	3
WLD 200	Welding Code Interpretation of D1.1	1
WLD 203	Print Interpretation	4
WLD 209	Gas Tungsten Arc Welding‡	3
WLD 227	Advanced Shield Metal Arc Welding ‡	2
	OR	
WLD 228	Advanced Gas Metal Arc Welding‡	2
	OR	
WLD 229	Advanced Flux-Cored Arc Welding‡	2

TOTAL CERTIFICATE REQUIREMENTS 19 CREDITS

WELDING D1.1 FCAW/GMAW - CERTIFICATE (MAJOR CODE - WFGM)

The Welding D1.1 Flux Cored Arc Welding/Gas Tungsten Arc Welding (FCAW/GMAW) Certificate prepares students for entry-level positions in the structural welding industry. It provides the knowledge and skills required for certification under the American Welding Society (AWS) D1.1 code.

Learning Outcomes
Students who successfully complete this program will be will be able to do the following:

- Perform entry-level welding skills required in the structural industry.
- Model safe work habits when operating welding equipment.
- Examine welds for discontinuities and defects using current visual inspection practices.
- Complete basic welding operations using the appropriate shielded metal arc and flux-cored arc welding process based on the American Welding Society (AWS) D1.1 codebook.
- Initiate repairs to weld defects.
- Establish foundational industry-relevant soft skills.

CORE CURRICULUM 15 CREDITS

WLD 105	Oxyacetylene Welding‡	3
WLD 128	Gas Metal Arc Welding‡	3
WLD 200	Welding Code Interpretation of D1.1	1
WLD 203	Print Interpretation	4
WLD 228	Advanced Gas Metal Arc Welding‡	2
WLD 229	Advanced Flux-Cored Arc Welding‡	2

TOTAL CERTIFICATE REQUIREMENTS 15 CREDITS

WELDING D.1. SMAW - CERTIFICATE (MAJOR CODE - WSM)

The Welding D1.1 Shielded Metal Arc Welding (SMAW) certificate prepares students for entry-level welding jobs in the structural industry. It provides the knowledge and skills required for certification under the American Welding Society (AWS) D1.1 code.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Perform entry-level welding skills required in the structural industry.
- Demonstrate safe work habits when operating welding equipment.
- Examine welds for discontinuities and defects using current visual inspection practices.
- Complete basic welding operations using the appropriate shielded metal arc welding process based on the American Welding Society (AWS) D1.1 codebook.
- Evaluate and repair defects in the weld.
- Establish foundational industry-relevant soft skills.

CORE CURRICULUM 16 CREDITS

DFT 150	Fundamentals of AutoCAD	3
WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3
WLD 200	Welding Code Interpretation of D1.1	1
WLD 203	Print Interpretation	4
WLD 227	Advanced Shield Metal Arc Welding ‡	2

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

WELDING FUNDAMENTALS - CERTIFICATE (MAJOR CODE - WLDF)

The Welding Fundamentals certificate prepares students to enter the workforce with basic welding skills. The certificate teaches the essentials of industry basic welding methodologies.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate appropriate safe work habits.
- Use proper terminology associated with welding to communicate effectively.
- Successfully perform basic welding operations.

CORE CURRICULUM 12 CREDITS

WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3

WLD 128	Gas Metal Arc Welding‡	3
WLD 200	Welding Code Interpretation of D1.1	1
WLD 227	Advanced Shield Metal Arc Welding ‡	2
	OR	
WLD 228	Advanced Gas Metal Arc Welding‡	2
	OR	
WLD 229	Advanced Flux-Cored Arc Welding‡	2

TOTAL CERTIFICATE REQUIREMENTS 12 CREDITS

WELDING MOTORSPORTS - CERTIFICATE (MAJOR CODE - WMS)

The Welding Motorsports Certificate prepares students for entry-level careers in the motorsports industry. It provides the knowledge and skills required for certification under the American Welding Society (AWS) code.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Perform entry-level welding skills required in tube-related industries.
- Model appropriate safety procedures.
- Examine welds for discontinuities and defects using current visual inspection practices.
- Complete basic welding operations using appropriate gas tungsten arc welding processes on various materials based on the American Welding Society (AWS) D17.1 codebook.
- Determine corrective practices to repair defects in the weld.
- Establish foundational industry-related soft skills.

CORE CURRICULUM 21 CREDITS

AUT 101	Introduction to Automotive Technology‡	3
DFT 150	Fundamentals of AutoCAD	3
WLD 105	Oxyacetylene Welding‡	3
WLD 201	Welding Code Interpretation of D17.1	1
WLD 203	Print Interpretation	4
WLD 209	Gas Tungsten Arc Welding‡	3
WLD 218	Advanced GTAW - Soft Metals‡	2
WLD 219	Advanced GTAW - Hard Metals‡	2

TOTAL CERTIFICATE REQUIREMENTS 21 CREDITS

WELDING PIPE AND FITTING - CERTIFICATE (MAJOR CODE - WPF)

The Welding Pipe and Fitting Certificate prepares students for entry-level welding jobs in the pipe industry. It provides the knowledge and skills required for certification under the American Petroleum Institute (API) and the American Society of Mechanical Engineers (ASME) standards/codes.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Perform entry-level welding skills required in pipe industries.
- Model appropriate safety procedures.
- Examine welds for discontinuities and defects using current visual inspection practices.
- Complete basic welding operations using the appropriate shielded metal arc welding process based on the American Petroleum Institute (API) 1104 standard and American Society of Mechanical Engineers (ASME) IX codebook.
- Determine corrective practices to repair defects in the weld.
- Establish foundational industry-relevant soft skills.

CORE CURRICULUM 22 CREDITS

DFT 150	Fundamentals of AutoCAD	3
WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3
WLD 108	Introduction to Pipe Welding‡	3
WLD 203	Print Interpretation	4
WLD 211A	Pipe Welding I‡	3
WLD 211B	Pipe Welding II‡	3

TOTAL CERTIFICATE REQUIREMENTS 22 CREDITS

WELDING TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - WLD)

The Welding Technology Associate of Applied Science degree is designed to prepare students to enter the workforce in almost any facet of the diverse field of welding technology. It addresses the needs of beginners as well as those of experienced welders looking to upgrade their skills and certifications.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Perform entry-level welding skills required in the pipe, fabrication, and structural industries.
- Model appropriate safety procedures.
- Examine welds for discontinuities and defects using current visual inspection practices.
- Complete basic welding operations using appropriate shielded metal arc welding (SMAW), gas arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW) based on the American Petroleum Institute (API) 1104 standard, the American Society of Mechanical Engineers (ASME) IX codebook, and the American Welding Society (AWS) D1.1 code.
- Determine corrective practices to repair defects in the welds.
- Interpret prints and welding symbols in the welding industry.
- Establish foundational industry-relevant soft skills.

GENERAL EDUCATION REQUIREMENTS 15-16 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
	OR	
COM 102	Essentials of Communication*°	3
	OR	
CIS 179	Applied Technical Writing°	3
Mathematics 3 credits		
MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	
Liberal Arts 3 credits		
Technology Literacy 3 credits		
CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

*ENG 102 is transferable to Arizona four-year institutions as a general education requirement.

**COM 102 is not transferable to Arizona four-year institutions as a general education composition requirement.

*** CIS 179 is not transferable to Arizona four-year institutions as a general education requirement.

CORE CURRICULUM 44 CREDITS

BUS 160	Essential Workplace Success Skills°	3
DFT 150	Fundamentals of AutoCAD	3
WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3
WLD 108	Introduction to Pipe Welding‡	3
WLD 128	Gas Metal Arc Welding‡	3
WLD 200	Welding Code Interpretation of D1.1	1
WLD 201	Welding Code Interpretation of D17.1	1
WLD 203	Print Interpretation	4
WLD 209	Gas Tungsten Arc Welding‡	3
WLD 211A	Pipe Welding I‡	3
WLD 211B	Pipe Welding II‡	3
WLD 215	Welding Design and Fabrication‡	3
WLD 219	Advanced GTAW - Hard Metals‡	2
WLD 227	Advanced Shield Metal Arc Welding ‡	2
WLD 228	Advanced Gas Metal Arc Welding‡	2
WLD 229	Advanced Flux-Cored Arc Welding‡	2

TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

MILITARY PROGRAMS

INTELLIGENCE OPERATIONS STUDIES - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - IOST)

Students should contact an advisor at the Fort Huachuca Center regarding admission into the Intelligence Operations Studies program.
The Intelligence Operations Studies Associate of Applied Science degree addresses the career and educational goals of students currently in or preparing to be in the intelligence field. It is designed specifically for military intelligence specialists and for students who are interested in intelligence operations studies.
Military credit toward this degree may apply, based on skill level, training, and/or coursework from military schools attended. See an academic advisor at the Fort Huachuca Center for details.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate knowledge of applicable laws, codes, and statutes as they relate to the intelligence community, control of sensitive information, and operations planning.
- Analyze and explain the history, tactics, structure, and technology used by spies, and discern the methods used by the intelligence community to protect national security
- Explain the structure and function of the US Intelligence Community.
- Research and differentiate among the threats that face the U.S. Intelligence Communities.

Note: Depending upon area of concentration, additional **Learning Outcomes** may apply.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3
Mathematics 3-4 credits		
MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	
Liberal Arts 6 credits		
Technology Literacy 3 credits		
CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 21 CREDITS

Any 21 credits from the Cochise College Intelligence Operations Studies (IOS)/Military Intelligence Operations (MIO) course offerings. See schedule for a list of available courses.

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60 CREDITS

Note: A minimum of nine credits, from the 60 total credits in this degree, must be completed with 200-level courses.

MILITARY INTELLIGENCE SYSTEMS TECHNICIAN ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - MIST)

The Military Intelligence Systems Technician Associate of Applied Science degree is designed for Military Intelligence (MI) Systems Maintainer/Integrator technicians currently in the military who are seeking to improve their credentials and career prospects in the field. It focuses on the integration, maintenance, and security of military intelligence systems.
Military credit toward this degree may apply, based on skill level, training, and/or coursework from military schools attended. See an academic advisor for details.
THE MILITARY INTELLIGENCE SYSTEMS TECHNICIAN ASSOCIATE OF APPLIED SCIENCE DEGREE IS ADMINISTERED THROUGH THE MOS CREDENTIALING PROGRAM ON FORT HUACHUCA AND DOES NOT FOLLOW STANDARD SEMESTER SCHEDULING.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Configure and manage necessary hardware, software, and networks across multiple computing environments including Windows and Linux.
- Use appropriate tools to perform systems maintenance, inspection, assembly, disassembly, planning and documentation tasks.
- Proactively apply industry-standard preventive security measures to potential and identified intelligence vulnerabilities in both analog and virtual channels.
- Identify, isolate, and effectively eliminate faults found in military intelligence electronic and computing systems.
- Seamlessly integrate servers, networks, and workstations into new and/or existing military intelligence architecture while maintaining connectivity security

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits		
ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 27-40 CREDITS

MST 101	Introduction to Electronic Systems	3-4
MST 102	RF Communications Fundamentals	3-4
MST 103	Network Communication Fundamentals	3-4
MST 104	Managing Virtual Machine Infrastructure	1-3
MST 105	Microsoft Windows Operating Systems	3-4
MST 106	Linux Servers and Workstations	4-7
MST 201	Information Security	6-8
MST 202	Integration and Troubleshooting of DPN	4-6

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

UNMANNED AERIAL VEHICLE FLIGHT OPERATOR - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - UAVO)

The Unmanned Aerial Vehicle Flight Operator Associate of Applied Science degree is designed for unmanned aerial vehicle (UAV) flight operators currently in the military who are seeking to improve their credentials and career prospects in the field. It focuses on aviation systems and the flight operation of UAVs.

Military credit toward this degree may apply, based on skill level, training, and/or coursework from military schools attended. See an academic advisor for details.

THE UNMANNED AERIAL VEHICLE FLIGHT OPERATOR ASSOCIATE OF APPLIED SCIENCE DEGREE IS ADMINISTERED THROUGH THE MOS CREDENTIALING PROGRAM ON FORT HUACHUCA AND DOES NOT FOLLOW STANDARD SEMESTER SCHEDULING.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Identify and safely/effectively use UAV features and components including: equipment, instruments, systems, communications, weaponry, aerodynamics, special features, etc.
- Use appropriate ground and air system features to effectively deploy, track, control, and retrieve a UAV in modern operational environments while adequately accounting for geographic, atmospheric, and missions considerations.
- Use appropriate ground and air system features to effectively deploy, track, control, and retrieve a UAV in modern operational environments while adequately accounting for geographic, atmospheric, and missions considerations.
- Safely operate a UAV and record flight information within broader aviation industry norms, standards, rules, and regulations.
- Use a UAV to perform accurate and discreet aerial reconnaissance, surveillance, and target acquisition in Support of a variety of military operations.
- Accurately interpret electro-optical and infrared video obtained by a UAV.
- Provide rapid and accurate feedback on UAV target identification and activities.
- Effectively coordinate an aircrew to perform a variety of UAV missions.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 26-44 CREDITS

UVO 101	Introduction to Military UAV Operations	5-8
UVO 102	UAV Airfield and Ground Control Fundamentals	4-8
UVO 103	UAV Airspace and Aviation School Fundamentals	5-9
UVO 201	UAV Pilot Flight Operations	5-9
UVO 202	UAV RSTA Missions	5-9

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60-63 CREDITS

UNMANNED AIRCRAFT SYSTEMS TECHNICIAN - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - UAVT)

The Unmanned Aircraft Systems Technician Associate of Applied Science degree is designed for unmanned aircraft

systems (UAS) technicians currently in the military who are seeking to improve their credentials and career prospects in the field. It focuses on mechanical and electronic aircraft systems.
Military credit toward this degree may apply, based on skill level, training, and/or coursework from military schools attended. See an academic advisor for details.
THE UNMANNED AIRCRAFT SYSTEMS TECHNICIAN ASSOCIATE OF APPLIED SCIENCE DEGREE IS RUN THROUGH THE MOS CREDENTIALING PROGRAM ON FORT HUACHUCA AND DOES NOT FOLLOW STANDARD SEMESTER SCHEDULING.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Determine appropriate specialty tools and perform maintenance inspections, assembly, disassembly, and fault isolation of the assigned Unmanned Aircraft Systems (UAS), Universal Ground Control Station (UGCS), and Ground Support Equipment (GSE).
- Utilize integrated skills to emplace, displace, maintain, troubleshoot, and repair assigned Unmanned Aircraft Systems (UAS).
- Utilize integrated skills to maintain, troubleshoot, and repair the Universal Ground Control Station (UGCS).
- Utilize integrated skills to maintain, troubleshoot, and repair launch and recovery equipment, and Ground Support Equipment (GSE).
- Utilize integrated skills to maintain, troubleshoot, and repair the associated surveillance and mission payload systems.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits
Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 24-40 CREDITS

AVT 121	Introduction to Unmanned Aircraft Systems Maintenance	4-6
AVT 122	Unmanned Aircraft Systems Electronics	1-3
AVT 124	Surveillance and Payload Systems Maintenance	1-3
AVT 221	Unmanned Aircraft Systems Maintenance	9-14
AVT 222	Universal Ground Control Station Maintenance	9-14

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Recommended Electives

AVT 123	Launch and Recovery Systems Maintenance	1-3
AVT 223	Ground Support Equipment Maintenance	4-6

TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

SCIENCE, TECHNOLOGY, ENGINEERING & MATH

AGEC-S - CERTIFICATE (MAJOR CODE - AGCS)

The Arizona General Education Curriculum - Science (AGEC-S) Certificate meets the general education requirements for math and science majors in the Associate of Science (AS) degrees.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate competency in communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy.

GENERAL EDUCATION REQUIREMENTS 35-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡	5
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

BIO 181	General Biology I (for majors)*‡°	4
	AND	
BIO 182	General Biology II*‡	4
	OR	
CHM 151	General Chemistry I*‡°	4
	AND	
CHM 152	General Chemistry II*‡°	4
	OR	
PHY 230	Physics with Calculus I*‡°	4
	AND	
PHY 231	Physics with Calculus II*‡	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional Mathematics and/or Laboratory Sciences 6-8 credits

Based on chosen major and after consulting with an advisor, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory science courses. See http://aztransmac2.asu.edu/cgi-bin/WebObjects/agec for a complete list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. The cultural and historical or global awareness requirements are satisfied by completing the arts, humanities, and social and behavioral science portion of the AGEC.

TOTAL CERTIFICATE REQUIREMENTS 35-39 CREDITS

Agriculture and Animal Science

ANIMAL SCIENCE - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - AGRA)

The Animal Science Associate of Applied Science degree is designed to prepare students for a career in the agricultural profession or for transfer to a university Bachelor of Applied Science degree program. It focuses on the science of livestock production and management.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Identify and conceptualize all aspects of animal science including the economic, environmental, and global impact on animal production programs.
- Implement sound range management practices and describe the importance of animal nutrition, genetics, and reproductive physiology to ensure sustainable animal production.
- Develop appropriate animal feeding systems for agricultural and companion animals.
- Communicate in a professional manner using written and verbal language to apply language, math and technology for animal science.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

COM 102	Essentials of Communication*°	3
PSY 101	Introduction to Psychology*°	3

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 39 CREDITS

AGR 102	Introduction to Agriculture°	3
AGR 105	Range Management°	3
AGR 109	Introduction to Agriculture Laboratory	1
AGR 208	Animal Science‡°°	3
AGR 214	Soil Science‡	4
AGR 230	Feeds and Feeding°	3
AGR 235	Introduction to Entomology	4
AGR 237	Equine Science and Management‡	4
	OR	
AGR 201	Artificial Insemination of Domestic Livestock	4
AGR 243	Livestock Production and Management°	3
AGR 255	Agriculture and the Environment°	3
BIO 181	General Biology I (for majors)*‡°	4
CHM 130	Fundamental Chemistry*°‡	4

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60-61 CREDITS

ANIMAL SCIENCE - CERTIFICATE (MAJOR CODE - ASC)

The Animal Science Certificate will examine key aspects of livestock production in Southeast Arizona. Courses will cover livestock production and management, range management, diseases and insect pests of livestock and their control.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Identify and conceptualize aspects of animal science including economic, environmental, and global impact on animal production programs.
- Implement sound range management practices and describe the importance of animal nutrition, genetics, and reproductive physiology to ensure sustainable animal production.
- Demonstrate knowledge of insect pests of animals and their control measures including the components of a successful integrated pest management system.

CORE CURRICULUM 16 CREDITS

AGR 105	Range Management°	3
AGR 208	Animal Science‡°°	3
AGR 230	Feeds and Feeding°	3
AGR 235	Introduction to Entomology	4
AGR 237	Equine Science and Management‡	4
	OR	
AGR 243	Livestock Production and Management°	3

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

Crop Science - Associate of Applied Science (Major Code - AGRC)

The Crop Science Associate of Applied Science degree exposes students to the operations of various organizations comprising agriculture in Cochise County. Students learn about crop production through the study, in both theory and practice, of biology and chemistry, crop science, soil science, entomology, range management, natural resources management, and sustainability

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate an understanding of plant species and varieties.
- Explain what factors dictate crop yield.
- Demonstrate an understanding of plant breeding and various methods used in the agronomy industry.
- Identify and apply diagnostic clues used to determine causal agents of pest problems.
- Identify different classes and orders of insects according to their characteristics.
- Explain the impact that insects may have on businesses, the economy, and the environment.
- Explain the uses of different herbicides and fertilizers.
- Demonstrate an understanding of integrated pest management.
- Demonstrate an understanding of crop seasonality.
- Identify different business models used by crop consultants when entering the business world.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 44 CREDITS

AGR 102	Introduction to Agriculture°	3
AGR 105	Range Management°	3
AGR 109	Introduction to Agriculture Laboratory	1
AGR 135	Introduction to Crop Science°	3
AGR 214	Soil Science‡	4
AGR 225	Principles of Agribusiness°	3
AGR 235	Introduction to Entomology	4
AGR 255	Agriculture and the Environment°	3
AGR 264	Crop Consulting	4
BIO 105	Environmental Biology‡°	4
BIO 181	General Biology I (for majors)*‡°	4
BIO 226	Ecology‡	4
CHM 130	Fundamental Chemistry*°‡	4

TOTAL DEGREE REQUIREMENTS 62-63 CREDITS

Crop Science - Certificate (Major Code - CRSC)

The Crop Science Certificate will examine key aspects of crop production in Southeast Arizona including the agronomic practices of crop production, soils, entomology and irrigation management.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate knowledge of plant growth principles and functions, including reproduction and environmental influences for improving plant growth.
- Describe methods for determining soil fertility, plant nutrient deficiencies, water availability and the application of irrigation techniques.
- Demonstrate knowledge of insect pests of crops and their control measures including the components of a successful integrated pest management system.

CORE CURRICULUM 17 CREDITS

AGR 135	Introduction to Crop Science°	3
AGR 203	Integrated Pest Management°	3
AGR 204	Principles of Irrigation°	3
AGR 214	Soil Science‡	4
AGR 235	Introduction to Entomology	4

TOTAL CERTIFICATE REQUIREMENTS 17 CREDITS

HORTICULTURE SCIENCE - CERTIFICATE (MAJOR CODE - HCSC)

The Horticulture Science Certificate will examine key aspects of nursery, greenhouse and landscape horticulture in Southeast Arizona. Focusing on landscape plants in the arid southwest, the certificate includes courses in basic crop and soil sciences, insects and diseases of ornamental and vegetable plants.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate knowledge of plant growth principles, processes, and functions, including reproduction and environmental influences for improving plant growth.
- Summarize the sustainability principles, practices, and methods for producing greenhouse and nursery crops including comprehension of insect management, plant diseases and weeds related to plant health.
- Identify and recommend plants for various landscape uses.
- Apply proper propagation techniques for native and introduced plants commonly used in arid southwest landscapes.
- Describe methods for determining soil fertility, plant nutrient deficiencies, and soil fertility improvement processes.

CORE CURRICULUM 17 CREDITS

AGR 135	Introduction to Crop Science°	3
AGR 205	Landscape Plants for the Southwest	3
AGR 214	Soil Science‡	4
AGR 218	Plant Propagation‡	3
AGR 235	Introduction to Entomology	4

TOTAL CERTIFICATE REQUIREMENTS 17 CREDITS

BIOLOGY - ASSOCIATE OF SCIENCE (MAJOR CODE - BIO)

The Biology Associate of Science degree prepares students for transfer to a university program in biological sciences or health professions. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate biological laboratory techniques.
- Differentiate among the domains, kingdoms, and phyla of living things.
- Understand and apply principles of genetics.
- Demonstrate an understanding of cellular biology.
- Explain biological evolution.
- Understand ecological principles.
- Utilize integrated knowledge to apply the principles of scientific method to conduct experiments and analyze data

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡ or higher (3-5 credits)	5

Laboratory Sciences 8 credits

CHM 151	General Chemistry I*‡°	4
	AND	
CHM 152	General Chemistry II*‡°	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional Mathematics and/or Laboratory Sciences 8 credits

MAT 231	Calculus II*°‡	4
PHY 111	General Physics I*‡°	4

Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 20-24 CREDITS

BIO 181	General Biology I (for majors)*‡°	4
BIO 182	General Biology II*‡	4
CHM 235	General Organic Chemistry I*‡	4
CHM 236	General Organic Chemistry II*‡	4

SELECT AN AREA OF CONCENTRATION BELOW

BIOLOGICAL SCIENCES CONCENTRATION

BIO 105	Environmental Biology‡°	4
PHY 112	General Physics II*‡°	4

HUMAN BIOLOGY CONCENTRATION

BIO 201	Human Anatomy and Physiology I*‡°	4

BIO 202	Human Anatomy and Physiology II*‡°	4

ECOLOGY AND EVOLUTIONARY BIOLOGY CONCENTRATION

BIO 105	Environmental Biology‡°	4
PHY 112	General Physics II*‡°	4

MICROBIOLOGY CONCENTRATION

BIO 205	Microbiology*‡°	4

ELECTIVES AS NEEDED TO COMPLETE 60 CREDITS

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.
NOTE: For Biology Majors, BIO 105 only transfers to the University of Arizona and Northern Arizona University.

TOTAL DEGREE REQUIREMENTS 60-63 CREDITS

CHEMISTRY - ASSOCIATE OF SCIENCE (MAJOR CODE - CHM)

The Chemistry Associate of Science degree prepares students for transfer to a university program in chemistry, biochemistry, chemical engineering, or various health professions. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Using a fundamental understanding of scientific inquiry, analyze and solve real world problems applying chemistry theory and principles.
- Collect and analyze real-time data from hands-on laboratory experiences using appropriate technology and equipment.
- Demonstrate laboratory safety and risk management skills.

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡	5
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

PHY 230	Physics with Calculus I*‡°	4
	AND	
PHY 231	Physics with Calculus II*‡	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits

Additional Mathematics and/or Laboratory Sciences 6-8 credits

CHM 151	General Chemistry I*‡°	4
CHM 152	General Chemistry II*‡°	4

Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 12 CREDITS

CHM 235	General Organic Chemistry I*‡	4
CHM 236	General Organic Chemistry II*‡	4
MAT 231	Calculus II*°‡	4

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60-62CREDITS

COMPUTER SCIENCE - ASSOCIATE OF SCIENCE (MAJOR CODE - CSC)

The Computer Science Associate of Science degree prepares students for transfer to a university program in computer science. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor and in consultation with a CIS faculty member.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate mathematical proficiency at the Calculus III level.
- Create solutions to typical information systems problems.
- Correctly design modular programs.
- Correctly design assembler language programs.
- Apply Java language structures.
- Test and debug Java programs.
- Design and implement combinational logic circuits with SSI elements (AND, OR, NOT, NAND, NOR, XOR and XNOR gates).
- Design and implement combinational logic circuits with MSI elements (multiplexors, decoders, adders, comparators, multipliers, tri-state buffers), and programmable logic devices (PLDs).

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡	5
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

PHY 230	Physics with Calculus I*‡°	4
	AND	
PHY 231	Physics with Calculus II*‡	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional Mathematics 8 credits

MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4

Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 25 CREDITS

CIS 120	Introduction to Information Systems*°	3
CIS 206	Assembler with Architecture‡°	4
CIS 208	Java Programming‡	4
CIS 220J	Data Structures-Java*‡	4
CIS 221	Digital Logic°‡	3
CHM 151	General Chemistry I*‡°	4
MAT 227	Discrete Mathematics*	3

DEPARTMENT APPROVED ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 64 CREDITS

ENGINEERING - ASSOCIATE OF SCIENCE (MAJOR CODE - EGR)

The Engineering Associate of Science degree prepares students for transfer to a university program in a wide variety of engineering majors. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the ability to apply mathematics and science knowledge and skills in an engineering context.
- Design a system, components, or process to meet given specifications and constraints, including economic, environmental, social, political, ethical, health and safety, manufacturing, and sustainability issues.
- Demonstrate an understanding of professional and ethical responsibility.
- Exhibit the ability to function on multidisciplinary teams.
- Demonstrate a knowledge of the techniques, skills, and modern engineering tools necessary for engineering practice.

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 38 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 5 credits

MAT 220	Calculus I*°‡	5

Laboratory Sciences 8 credits

CHM 151	General Chemistry I*‡°	4
	AND	
CHM 152	General Chemistry II*‡°	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional Mathematics and/or Laboratory Sciences 6-8 credits

MAT 241	Calculus III*°‡	4
MAT 262	Differential Equations*	3

Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 22 CREDITS

COM 102	Essentials of Communication*°	3
EGR 102	Principles of Engineering‡	3
EGR 122	Programming for Engineering and Science‡	4
MAT 231	Calculus II*°‡	4
PHY 230	Physics with Calculus I*‡°	4
PHY 231	Physics with Calculus II*‡	4

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 64 CREDITS

GENERAL REQUIREMENTS - ASSOCIATE OF SCIENCE (MAJOR CODE - GENG)

The General Requirements Associate of Science degree is designed for students pursuing no specific area of emphasis who are interested in transferring to a four-year institution.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate competency in communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy.
- Demonstrate knowledge in a variety of areas of study.

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 35-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	

ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡ or higher (3-5 credits)	5

Laboratory Sciences 8 credits

BIO 181	General Biology I (for majors)*‡°	4
	AND	
BIO 182	General Biology II*‡	4
	OR	
CHM 151	General Chemistry I*‡°	4
	AND	
CHM 152	General Chemistry II*‡°	4
	OR	
PHY 230	Physics with Calculus I*‡°	4
	AND	
PHY 231	Physics with Calculus II*‡	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional Mathematics and/or Laboratory Sciences 6-8 credits

Based on chosen major and after consulting with an advisor, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory sciences courses. See http://aztransmac2.asu.edu/cgi-bin/WebObjects/agec for a complete list.
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

MATHEMATICS - ASSOCIATE OF SCIENCE (MAJOR CODE - MAT)

The Mathematics Associate of Science degree prepares students for transfer to a university program in mathematics, computer science, engineering, or natural sciences. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate an understanding of mathematical algorithms, definitions, and theorems in solving problems.
- Create, use, and analyze graphical representations of mathematical ideas.
- Write mathematical arguments using appropriate language, logic, and symbols.

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 35-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡ or higher (3-5 credits)	5

Laboratory Sciences 8 credits

PHY 230	Physics with Calculus I*‡°	4
	AND	
PHY 231	Physics with Calculus II*‡	4

Arts - AGEC-S 3 credits
Humanities - AGEC-S 3 credits
Social and Behavioral Sciences - AGEC-S 6 credits
Additional Mathematics and/or Laboratory Sciences and/or Engineering and/or Computer Science - AGEC-S 6-8 credits

Based on chosen major and after consulting with an advisor, select PHY 111 and/or additional laboratory science course(s). See http://aztransmac2.asu.edu/cgi-bin/WebObjects/agec for a complete list.
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 21 CREDITS

CIS 130	Programming Logic°‡	3
CIS 204	C Programming°‡	4
	OR	
CIS 208	Java Programming‡	4
MAT 227	Discrete Mathematics*	3
MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4

MAT 252	Introduction to Linear Algebra°	3
	OR	
MAT 262	Differential Equations*	3

CIS 204, CIS 208: After consulting with an advisor in the computer science department, select CIS 204 or CIS 208.
MAT 252, MAT 262: After consulting with an advisor in the mathematics department, select MAT 252 or MAT 262. Students must take either MAT 262 or MAT 252 or both. If they choose not to take one of those two they will need to choose between one of the general education options.

ELECTIVES (AS NEEDED TO COMPLETE 60-64 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60-64 CREDITS

PHYSICS - ASSOCIATE OF SCIENCE (MAJOR CODE - PHY)

Physics is concerned with the nature, structure and interactions of matter and radiation. The AS degree program in physics provides students a solid foundation in physical science and mathematics, which is also appropriate for further study in physics, other sciences, or engineering programs.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Demonstrate significant knowledge of the theories that form the bases of classical mechanics and electromagnetism.
- Design, conduct, document, analyze and critically interpret the results of experiments to investigate physical phenomena
- Utilize integrated knowledge of mathematical or computational skills to investigate physical phenomena.
- Communicate results of experiment analysis in both written and oral forms.

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 220	Calculus I*°‡	5
	or higher (3-5 credits)	

Laboratory Sciences 8 credits

CHM 151	General Chemistry I*‡°	4
	AND	
CHM 152	General Chemistry II*‡°	4

Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Additional Mathematics and/or Laboratory Sciences 6-8 credits

MAT 231	Calculus II*°‡	4
MAT 241	Calculus III*°‡	4

Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 12-14 CREDITS

PHY 230	Physics with Calculus I*‡°	4
PHY 231	Physics with Calculus II*‡	4

SELECT ONE AREA OF CONCENTRATION BELOW:

Physics

MAT 252	Introduction to Linear Algebra°	3
MAT 262	Differential Equations*	3

Physical Science

GEO 101	Physical Geography°‡	4

Astronomy

AST 180	Introduction to Astronomy°‡	4

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

Elective courses must be transferable to the university or universities to which the student plans to transfer. See www.aztransfer.com.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

WORKFORCE TRAINING

COMMERCIAL DRIVER LICENSE - CERTIFICATE (MAJOR CODE - CDL)

The Commercial Driver License (CDL) program is designed to prepare the student to become an entry-level commercial truck driver. It provides the basic foundation of Arizona state CDL law, safe operating practices, vehicle control, and general driving.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Demonstrate competency in basic driving maneuvers, including backing skills.
- Demonstrate the necessary level of driving proficiency in road conditions to obtain a Class A CDL.
- Identify safe operating practices when performing a pre-trip inspection and citing safety hazards while driving.
- Interpret and apply US Department of Transportation (DOT) regulations necessary to obtain a Class A CDL permit and license.

CORE CURRICULUM 8 CREDITS

CDL 101	Introduction to Arizona CDL‡	2
CDL 102	Safe Operating Practices	2
CDL 103	Vehicle Control	2
CDL 104	General Driving and Testing	2

Program Prerequisites: 1) Must have a valid, state-issued, driver license. 2) Must have a recent negative drug screen. 3) Must have a physical exam (specific to professional driving). Any vision, blood pressure, breathing, sleep apnea, or other medical issues must meet the physician's standard and be waived by the physician prior to training. 4) Must have a background check (background check must ensure that the applicant is employable). 5) Must have an Arizona Motor Vehicle Division Check. 6) Must be 18 years of age.

Other Educational Opportunities

Adult Education

Cochise College Adult Education helps adult learners acquire the skills and knowledge necessary to enter the workforce or post-secondary education. Our focus areas are academics, technology, and communication in job and college contexts. Classes provide instruction for:

- Foundational skill building (reading, writing, math)
- High school equivalency test preparation (GED® Test prep)
- English for Speakers of Other Languages.

Classes are held at Cochise College locations in Sierra Vista, Douglas, Benson, and Willcox. For more information visit www.cochise.edu/adulteducation/.

Dual Enrollment

High school students taking certain academic and/or career and technical education classes in high school can earn college credit. These courses count for credit at both the high school and at Cochise College. A list of courses that meet dual enrollment guidelines is available from high school counselors or the Cochise College dual enrollment coordinator. Information is available at https://www.cochise.edu/k12/dual-enrollment/.

English as a Second Language

The mission of English as a Second Language (ESL) courses at Cochise College is to provide students with high-quality language instruction and cultural skills necessary for success in their academic, professional, civic, and personal lives. In ESL courses, students develop speaking, listening, reading, grammar, and writing skills that enable them to transition to remedial and regular academic programs at the college. ESL Levels I, II, and III consist of skill-building courses which prepare students for the transition into developmental coursework. ESL I courses are prerequisite to ESL II courses, ESL II courses are prerequisites to ESL III courses, and ESL III courses are prerequisite to ESL IV courses. ESL Level IV consists of additional ESL support courses along with developmental courses in English (ENG) and reading (RDG), or college-level courses in ENG and RDG, appropriate to the individual student. Students in Level IV may also enroll in any course which pertains to their degree plan and for which they meet the established prerequisite.

Level III students may choose to participate in a test-out during Week 13 of the semester. The test-out will determine whether they are ready to transition to college level courses, or whether they need to remain in ESL courses and register for ESL Level IV in the subsequent semester. Transitioning to college level courses is not an option if the student chooses not to participate in the test-out and registration in Level IV classes will be required.

Upon completion of ESL and developmental coursework, students are prepared to advance into the academic courses of their choice.

Suspended (Inactive) Programs

Aviation Dispatch - Associate of General Studies (Major Code - AVD)

SUSPENDED PROGRAM: THE AVIATION DISPATCH ASSOCIATE OF GENERAL STUDIES DEGREE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Aviation Dispatch Associate of General Studies degree provides students with the knowledge and skills required to take the Federal Aviation Administration written and practical examinations, which are necessary for a career as an aircraft dispatcher.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the theoretical knowledge and practical skills to successfully pass the Federal Aviation Administration (FAA) Aircraft Dispatcher Practical Test.
- Analyze and interpret weather and aircraft performance charts, and load reports for aircraft operations.
- Demonstrate resource management skills involved in resolving interpersonal issues and in coordinating and optimizing the interface among dispatchers and machines.
- Demonstrate the ability to resolve conflict among team members, including pilots and maintenance personnel.
- Demonstrate problem-solving skills and aeronautical decision making as they support pilots in making go and no-go decisions related to flight operations.

- Demonstrate the FAA-required knowledge and skills used in the flight planning process.

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 132	Applied Mathematics°‡	3
	OR	
MAT 132L	Applied Mathematics with Support Lab‡	3
	or higher (3-5 credits)	

Laboratory Sciences 4 credits
Arts 3 credits
Humanities 3 credits
Social and Behavioral Sciences 6 credits
Foreign Language (100 or higher) or Communications (101 or higher) 3-4 credits
General Education Electives 6-7 credits

General education electives must be chosen from the general education list.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.

CORE CURRICULUM 25 CREDITS

PFT 101	Private Pilot Ground School°‡	5
PFT 105	Crew Resource Management - Flight	2
PFT 122	Aviation Weather°	3
PFT 204	Instrument Rating Ground School°‡	5
PFT 206	Aircraft Systems°	3
PFT 222	Aircraft Dispatcher‡	7

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)
TOTAL DEGREE REQUIREMENTS 64 CREDITS

Acceptance into the professional pilot program requires an interview with the director of aviation plus completion of admission requirements and departmental acceptance. Admission to Cochise College does not guarantee acceptance into the pilot program.

CARPENTRY TECHNOLOGY - CERTIFICATE (MAJOR CODE - CTC)

SUSPENDED PROGRAM: THE CARPENTRY TECHNOLOGY CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Carpentry Technology Certificate teaches basic carpentry, framing and finishing, form making, technical mathematics, and blueprint reading skills, all of which prepare students for National Center for Construction Education and Research (NCCER) certification and for eventual employment in the construction trades.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the ability to apply industry-recognized competency in various carpentry skills.
- Demonstrate the ability to follow a blueprint to estimate and build from foundation to finish.
- Demonstrate the ability to understand and incorporate sustainable (green) practices in the carpentry field.

CORE CURRICULUM 23 CREDITS

BCT 100	Technical Mathematics I	3
BCT 102	Carpentry Fundamentals‡	4
BCT 103	International Residential Building Code	3
BCT 108	Basics in Construction	2
BCT 127	Blueprint Reading and Estimating‡	3
BCT 201	Carpentry Framing and Finishing‡	4
BCT 202	Carpentry Forms‡	4

TOTAL CERTIFICATE REQUIREMENTS 23 CREDITS

Culinary Arts - Associate of Applied Science (Major Code - CUL)

SUSPENDED PROGRAM: THE CULINARY ARTS ASSOCIATE OF APPLIED SCIENCE DEGREE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Culinary Arts Associate of Applied Science degree provides training in the culinary arts for the purpose of direct employment in the field of professional cooking as an assistant to the chef or to the food and beverage director.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Demonstrate the ability to apply sanitation and safety procedures in the use of culinary tools and equipment.
- Demonstrate an understanding of purchasing, receiving, storage, and issuing controls, while applying the basic mathematical formulas for food and labor costs.
- Assemble and serve an international banquet.
- Plan and create a menu that incorporates theme, concept, nutrition, balance of flavor, proper preparation, cooking techniques, terminology, proper serving, and explanation of completed dishes.
- Demonstrate the cooking and leadership skills of a chef de cuisine by employing restaurant-style cookery, to include use of garde manger, saucier, and baking techniques.
- Transfer to a Bachelor of Arts program in the hospitality industry.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics Sciences 3-4 credits

BUS 104	Business Math°	3
	OR	
MAT 132	Applied Mathematics°‡ or higher (3-4 credits)	3

Liberal Arts 6 credits
Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 40-43 CREDITS

CUL 105	Nutrition in Food Service	3
CUL 107	Restaurant Sanitation‡	3
CUL 204	Food Service Purchasing and Control	3
CUL 215	Cooking Essentials‡	3
CUL 217	Saucier‡	3
CUL 220	Breads and Baking Theory‡	3
CUL 221	Pastry Basics‡	3
CUL 224	Field Experience in Culinary Arts	1-4
CUL 225	Garde Manger I‡	3
CUL 226	Garde Manger II‡	3
CUL 242	Dining Service Management	3
CUL 275	International Cuisine‡	3
CUL 280	Advanced Techniques in Gourmet Food Preparation I‡	3
CUL 281	Advanced Techniques in Gourmet Food Preparation II‡	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)
TOTAL DEGREE REQUIREMENTS 64 CREDITS

Diesel Technology I - Certificate (Major Code - DTEC)

SUSPENDED PROGRAM: THE DIESEL TECHNOLOGY I CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Diesel Technology I certificate prepares students for entry-level positions as a diesel mechanic and/or technician. Opportunities exist in a variety of industries, including mining, heavy equipment dealers, equipment rental dealers, and municipal/county/state fleet services.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply appropriate safety procedures for working with and around diesel mechanics shop equipment.
- Demonstrate an understanding of basic hydraulic principles and control systems.
- Understand and explain basic electrical and electronic systems in diesel engine equipment.
- Evaluate and explain the fundamental operating components of a diesel engine.
- Describe the fundamental operating components of power transfer systems.

CORE CURRICULUM 16 CREDITS

DTC 101	Hydraulic Principles and Systems in Diesel Equipment‡	4
DTC 102	Fundamentals of Diesel Electrical Systems‡	4
DTC 103	Fundamentals of Diesel Engine Technology‡	4
DTC 104	Fundamentals of Power Transfer Systems in Diesel Equipment‡	4

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

EDUCATION - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - ED)

SUSPENDED PROGRAM: THE EDUCATION ASSOCIATE OF APPLIED SCIENCE DEGREE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Education Associate of Applied Science degree gives students an understanding of the fundamental principles and techniques of learner-centric instruction. Emphasis is on the skills needed for training adult-learners in technical education areas.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Apply the principles of learner-centric instruction.
- Develop appropriate teaching methods to meet the needs of the adult educators and to increase critical thinking skills that promote lifelong learning.
- Apply the skills needed to train students in technical education areas.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡ or higher (3-4 credits)	3

Liberal Arts 6 credits

Technology Literacy 3 credits

CIS 116	Computer Essentials°	3
	OR	
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 16 CREDITS

EDU 203	Foundations of Instructional Techniques	3
EDU 204	Learner-Centered Instruction°	3
EDU 205	Theoretical Dynamics of Instruction°	3
EDU 206	Mentoring Practicum°	4
EDU 207	Instructional Design for Adult Education	3

ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
TOTAL DEGREE REQUIREMENTS 60 CREDITS

HVAC REFRIGERATION - CERTIFICATE (MAJOR CODE - REFR)

SUSPENDED PROGRAM: THE HVAC REFRIGERATION CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The HVAC Refrigeration Certificate prepares students for direct employment in the refrigeration industry by teaching the skills required to service, troubleshoot, maintain, and install walk-in refrigerators and freezers, reach-in refrigerators and freezers, and ice machines.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Identify the equipment and controls used in low- and medium-temperature refrigeration equipment.
- Read and evaluate electronic controls diagrams associated with foodservice equipment and ice machines.
- Evaluate and resolve problems associated with low- and medium-temperature equipment, ice machines, and specialty equipment.
- Implement appropriate safety procedures at all times.

CORE CURRICULUM 20 CREDITS

BCT 122	HVAC I‡	4
BCT 222	HVAC II‡	4
BCT 223	HVAC III‡	4
BCT 225	HVAC IV‡	4
BCT 227	HVAC V‡	4

TOTAL CERTIFICATE REQUIREMENTS 20 CREDITS

INNOVATION LAUNCHPOINT - CERTIFICATE (MAJOR CODE - ILP)

SUSPENDED PROGRAM: THE INNOVATION LAUNCHPOINT CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Innovation LaunchPoint (ILP) Certificate is designed to introduce the workforce to the principles of modern industry innovation practices. Every member of the team has the knowledge base to be a part of maturing innovative ideas. This is the critical element for adopting an innovation culture.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Describe the most prominent innovation management theories of the past century.
- Employ problem curation techniques to propose a resolution for a complex problem.
- Diagram the relationship between problems and solutions by beneficiary archetype.
- Apply advanced interviewing techniques as a part of initial market research.
- Construct hypotheses to test value propositions.
- Describe federal government appropriations and contracting processes.
- Identify Defense Acquisition product development process steps.

CORE CURRICULUM 4 CREDITS

ILP 101	Product-Market Fit	1
ILP 102	Innovation Theories	1
ILP 103	Lean Experimentation	1
ILP 104	Defense Acquisition	1

TOTAL DEGREE REQUIREMENT 4 CREDITS

NETWORK TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - NWT)

SUSPENDED PROGRAM: THE NETWORK TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Network Technology Associate of Applied Science degree provides students with the knowledge and skills for immediate employment in the field of computer networking.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Diagnose and remedy many of the common causes of network failure in current network operating systems.
- Interconnect multiple networks and servers using current network operating systems.
- Install additional PC workstations by using current network technologies and by properly configuring network hardware, software, and user accounts.
- Determine with reasonable accuracy whether network user problems arise from the workstation, network cabling, network configuration, or network application; and take steps to correct the problems.
- Demonstrate proficiency with a variety of networking technologies including, but not limited to, network routing, Linux, and Microsoft.

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
	OR	
ENG 101L	Composition with Support Lab°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	3
	OR	
MAT 142L	College Mathematics with Support Lab‡	3
	or higher (3-4 credits)	

Liberal Arts 6 credits

	Liberal arts	3

Technology Literacy 3 credits

CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 44 CREDITS

CIS 128	Linux Operating System°‡	4
CIS 179	Applied Technical Writing°	3
CIS 229	Linux System Administration°‡	4
CIS 236	Microsoft Workstation Operating Systems°‡	4
CIS 245	Microsoft Server and Active Directory‡	4
CIS 260	Service and Maintenance of Personal	4

	Computers‡	
CIS 262	Network Support and Troubleshooting‡°	4
CIS 270	Systems Analysis°‡	4
CYB 101	Introduction to Cybersecurity‡°	3
CYB 102	Networking Foundations‡°	3
CYB 103	Basic Operating Systems‡°	3
CYB 201	Cybersecurity for Networking‡°	4

Note: CYB 201 requires completion of CYB 125.

TOTAL DEGREE REQUIREMENTS 62-63 CREDITS

Residential Construction Fundamentals - Certificate (Major Code - RCTF)

SUSPENDED PROGRAM: THE RESIDENTIAL CONSTRUCTION TECHNOLOGY FUNDAMENTALS CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Residential Construction Fundamentals Certificate prepares students for a successful career in the residential construction industry. Students have the opportunity to learn different facets of the home building process, including proper safety protocol, print reading, plumbing, electrical, and HVAC, among other skills.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Initiate industry-specific trouble-shooting skills.
- Apply entry-level competencies in various home-building disciplines.
- Demonstrate industry-specific safety procedures.
- Demonstrate industry-specific math skills.

CORE CURRICULUM 14-16 CREDITS

Students will be allowed to choose four (4) courses from the following list of courses:

BCT 102	Carpentry Fundamentals‡	4
BCT 104	Electric I‡	4
BCT 109	Construction Safety‡	3
BCT 111	Plumbing I‡	4
BCT 122	HVAC I‡	4
BCT 127	Blueprint Reading and Estimating‡	3
BCT 204	Electric II‡	4
BCT 205	Plumbing II‡	4
BCT 222	HVAC II‡	4

This certificate is not eligible for financial aid.

TOTAL CERTIFICATE REQUIREMENTS 14-16 CREDITS

Supply Chain Management - Certificate (Major Code - SCM)

SUSPENDED PROGRAM: THE SUPPLY CHAIN MANAGEMENT CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Supply Chain Management Certificate prepares students for employment in the broad range of careers involved in moving products and services to market and into the hands of consumers. Course work in inventory control, warehouse management, transportation, security, freight claims, purchasing, logistics management, technologies, and leadership skills provides a well-rounded understanding of supply chain management.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Demonstrate the knowledge and leadership skills required to perform in a management role in the global supply chain industry.
- Synthesize and demonstrate the intricate details of supply chain, inventory control, security, computerized supply chain, and warehouse management.
- Integrate the concepts related to supply chain management with the global business world.
- Apply hands on experience and integrated knowledge of the global supply chain industry gained through supervised cooperative work experience.

CORE CURRICULUM 16 CREDITS

SCM 101	Principles of Supply Chain Management	3
SCM 104	Supply Chain Technology	3
SCM 106	Purchasing and Freight Claims	3
SCM 108	Transportation and Traffic Management	3
SCM 110	Warehouse Management and Inventory Control	3
SCM 224	Field Experience in Supply Chain Management	1

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

Technical Education Facilitator - Certificate (Major Code - TEF)

SUSPENDED PROGRAM: THE TECHNICAL EDUCATION FACILITATOR CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Technical Education Facilitator Certificate teaches students the theory and skills to serve as adult-learner

facilitators emphasizing facilitation over traditional instruction. Emphasis is on increased depth of knowledge, critical thinking skills, and adaptation to an ever-changing environment.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Employ the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) instructional design method when creating live, online, or blended lessons.
- Utilize engaging instructional techniques and strategies appropriate for learner-centered technical education.
- Integrate critical thinking skills into learner-centered technical education lessons.
- Apply theoretical and practical mentoring methodologies to promote positive, technical teamwork.

CORE CURRICULUM 16 CREDITS

EDU 203	Foundations of Instructional Techniques	3
EDU 204	Learner-Centered Instruction	3
EDU 205	Theoretical Dynamics of Instruction	3
EDU 206	Mentoring Practicum	4
EDU 207	Instructional Design for Adult Education	3

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

Unmanned Ground Vehicle Technician - Certificate (Major Code - UGVT)

SUSPENDED PROGRAM: THE UNMANNED GROUND VEHICLE TECHNICIAN CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Unmanned Ground Vehicle Technician Certificate prepares students for an entry-level position in robotics, automation, engineering, programming, and electronics technology. The UGVT Certificate challenges students to build, repair, and troubleshoot robotic components, sensors, controllers, servos, and more to increase the commercial utility of robots. UGVT Certificate students will participate in a gamified curriculum that allows students the freedom to build and focus their expertise and experience into a specialized pathway like Robotics Programming or Applied Robotics Technology. Students of the UGVT Certificate Program may choose to work towards industry certifications n Arduino Technology, Python Programming, and C/C++ Programming to improve their credentials and employability.

Learning Outcomes
Students who successfully complete this program will be able to do the following:

- Create industry solutions using robotics technology.
- Examine and repair robots or peripheral equipment, such as replacement of defective circuit boards, sensors, controllers, encoders, or servomotors.
- Utilize integrated knowledge of microprocessors, programmable controllers, electronics, circuit analysis, mechanics, sensor or feedback systems, hydraulics, or pneumatics to troubleshoot robotic systems.
- Evaluate systems to install, program, or repair programmable controllers, robot controllers, end-of-arm tools, or conveyors.
- Create and maintain service records of robotic equipment or automated production systems.
- Create a UGV portfolio and resume for career readiness.
- Apply principles of safety and ethics to UGV operations.

CORE CURRICULUM 16 CREDITS

UGV 104	Introduction to Unmanned Ground Vehicles	4
UGV 105	Programming for Unmanned Ground Vehicles	4
UGV 204	Maintenance of Unmanned Ground Vehicle Systems	4
UGV 205	Unmanned Ground Vehicle Automation and AI	4

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

VIRTUAL REALITY TECHNOLOGIST CERTIFICATE (MAJOR CODE - VRTC)

SUSPENDED PROGRAM: THE VIRTUAL REALITY TECHNOLOGIST CERTIFICATE IS INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

The Virtual Reality Technologist Certificate program will provide students with the skills to obtain employment as technologists in the virtual reality, augmented reality, and mixed reality fields. Topics include an introduction to virtual reality hardware and software applications and their use in education, training and entertainment.

Learning Outcomes

Students who successfully complete this program will be able to do the following:

- Understand and explain the emerging technologies of extended Reality (XR) including, virtual reality (VR), augmented reality (AR), and mixed reality (MR) in a professional manner.
- Articulate and troubleshoot issues related to extended (XR) virtual reality technology.
- Install and implement virtual reality classroom technologies.
- Act and communicate professionally in one's capacity as a virtual reality technologist.
- Utilize various extended reality (XR) software platforms and workflows to develop immersive products.

CORE CURRICULUM 16 CREDITS

VRT 101	Foundations of Virtual Reality Instruction	4
VRT 102	Virtual Reality Literacy	4
VRT 103	Instructional Design for Virtual Reality Education	4
VRT 294	Virtual Reality Technologist Internship	4

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

Arizona Department of Corrections

These programs have been designed for the inmates of the Arizona Department of Corrections in Douglas.

SUSPENDED PROGRAMS - ALL OF THE ARIZONA DEPARTMENT OF CORRECTIONS PROGRAMS ARE INACTIVE, AND STUDENTS ARE NOT CURRENTLY BEING ADMITTED TO THE PROGRAM.

Advanced Automotive Technology – Certificate
Advanced Building Construction Technology – Certificate
Basic Automotive Technology – Certificate
Basic Building Construction Technology - Certificate
Cabinetmaker – Certificate
Construction Management Basics - Certificate

Courses

Hazardous materials: Certain courses may require students to work with potentially hazardous materials as part of their course work in the laboratory, darkroom, or workshop. Instructors will provide information on the safe handling of all materials to include, upon request, material safety data sheets (MSDS). Questions regarding the use of these materials or any required protective equipment should be directed to the instructor or a member of the specific academic department.

AGR - AGRICULTURE

AGR 101 - Principles of Veterinary Science (3)

A study of the diseases and the health maintenance of domestic animals and livestock. For those interested in animal science or husbandry, or in veterinary science.
3 hours lecture.
Prerequisite(s): None.

AGR 102 - Introduction to Agriculture (3) °

An introduction to agriculture which focuses on livestock production. Also deals with plants, soils, biotechnology, natural resources, and sustainable agriculture as it relates to the global food industry. Includes a survey of agricultural careers and safety practices.
3 hours lecture.
Prerequisite(s): None.

AGR 105 - Range Management (3) °

An introduction to the principles of range management including rangeland types, characteristics, and management; ecological principles; range inventory and monitoring systems; grazing systems and stocking rates; grazing distribution and range plant identification; and management of range vegetation and wildlife. Also deals with livestock production on rangelands and career opportunities in range management.
3 hours lecture.
Prerequisite(s): ENG 096 or higher.

AGR 109 - Introduction to Agriculture Laboratory (1)

Introduction to Agriculture Lab focuses on livestock production, plants, soils, biotechnology, natural resources, and sustainable agriculture as it relates to the global food industry and includes a survey of agricultural careers and safety practices This course augments the AGR 102 course, Introduction to Agriculture.
2 hours laboratory.
Prerequisite(s): Completion of AGR 102 or concurrent enrollment in AGR 102.

AGR 135 - Introduction to Crop Science (3) °

A study of crop science including plant physiology as well as plant species and varieties. Covers horticultural crops, row orchards, cover crops, and weed science. Explores plant breeding and plant requirements such as fertilizers, soil conditions, and harvesting.
3 hours lecture.
Prerequisite(s): None.

AGR 201 - Artificial Insemination of Domestic Livestock (4)

The history, importance and implications of artificial insemination; advantages and limitations of its use in farm animals. Methods of collection, evaluation, storage of semen, and techniques of insemination are covered. Also, estrus evaluation, determination and synchronization techniques are studied. In addition, the domestic livestock female and male reproductive anatomy is discussed.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): AGR 102 and AGR 208.

AGR 203 - Integrated Pest Management (3) °

Integrated Pest Management (IPM) will introduce the student to the fundamental theories, principles and practices of pest control for agriculture, ornamental horticulture and greenhouse pests. Diagnostic skills for insect, disease and weed identification will be presented. Topics will include learning how integrated pest control differs from conventional pest control and how to use IPM decision-making processes when delivering pest control services.
3 hours lecture.
Prerequisite(s): None.

AGR 204 - Principles of Irrigation (3) °

Principles of irrigation introduces the student to the basic concepts, tools and skills to deliver water efficiently and effectively on field, garden and greenhouse scale. Topics will include the role of irrigation water in agriculture, the movement and cycling of water in agriculture systems, and the environmental factors that influence the type, frequency and duration of irrigation.
3 hours lecture.
Prerequisite(s): None.

AGR 205 - Landscape Plants for the Southwest (3)

Landscape Plants for the Southwest focuses on plants appropriate for use in landscaping design and revegetation in the southwestern United States. Topics include the identification of common and scientific names and cultural requirements of insect and disease pests and use of indigenous, introduced, and exotic landscape plants in commercial and residential design.
3 hours lecture.

Prerequisite(s): None.

AGR 208 - Animal Science (3) ‡, °

An introduction to animal science as it relates to nutrition, digestion, breeding, and reproduction. Includes an overview of global agricultural systems and of the fundamental principles of the animal science industries as they relate to dairy, beef, poultry, and swine.
3 hours lecture.
Prerequisite(s): AGR 102.

AGR 214 - Soil Science (4) ‡

A study of the fundamental principles of soil science including the origin, nature, and composition of soils; their chemical, physical, and biological properties in relation to plant growth; and their non-plant uses.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CHM 130, CHM 138, or CHM 151.

AGR 218 - Plant Propagation (3) ‡

Plant Propagation will provide students with an introduction to the principles, techniques and facilities needed for successful plant propagation in the greenhouse and nursery industries. The course will focus on basic biological concepts associated with plant structure, function and reproduction. This course will include hands-on laboratory exercises, which emphasize differences between sexual and asexual propagation of plants.
3 hours lecture.
Prerequisite(s): None.

AGR 220 - Agriculture Practicum (4) °

In this practicum, students apply knowledge from their agriculture coursework in a work setting. They complete 320 supervised hours in their area of interest with a professional from the agricultural industry.
1 hour lecture, 11 hours laboratory.
Prerequisite(s): AGR 102 or AGR 237, sophomore standing, a declared major in agriculture, and approval of the agriculture committee.

AGR 225 - Principles of Agribusiness (3) °

An introduction to the principles of economics and their application to real world agribusiness management. Topics include food production and processing, and marketing systems. Also covers management principles and processes for agricultural business firms in both domestic and international markets, as well as the development of problem-solving skills as they relate to agribusiness management.
3 hours lecture.
Prerequisite(s): MAT 091 or higher.

AGR 230 - Feeds and Feeding (3) °

A study of the digestibility of feeds and their nutritive values, grades, and classes. Also covers the principles of selection, evaluation, traditional ration formulation, computer ration formulation, and feeding of livestock and poultry. Includes laws and labeling as they pertain to feeds, and a review of animal nutrition and ruminant and monogastric digestion.
3 hours lecture.
Prerequisite(s): AGR 208 or AGR 237; and CHM 130, CHM 138, or CHM 151.

AGR 235 - Introduction to Entomology (4)

An introduction to entomology as it pertains to agriculture and natural resources. Topics include insects and their physiology, growth, and life cycles. Emphasis is on the classification of insects and their economic importance to and impact on the environment.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): AGR 102.

AGR 237 - Equine Science and Management (4) ‡

An introduction to the light horse industry. Topics include the evolution and fundamentals of Equus, as well as breeds, classes, and methods of identification. Also covers anatomical systems, the hoof, nutrition, disease, health management, and daily care. Introduces the student to various career opportunities in the equine industry.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ENG 096 or higher.

AGR 243 - Livestock Production and Management (3) °

A study of the operational methods of livestock production utilized in the breeding and managing of beef and dairy cattle, swine, sheep, and goats. Emphasis is on economically important traits, animal selection, marketing and management, and on the economic principles of the livestock industry. Covers the impact of biotechnology on livestock. Additional topics include genetic defects, body conditioning scoring techniques within species, and current domestic and global trends in livestock production. Introduces the student to various career opportunities in livestock production.
3 hours lecture.
Prerequisite(s): AGR 102 and AGR 208.

AGR 255 - Agriculture and the Environment (3) °

A study of the conservation and sustainable management of natural resources which exposes students to various careers in environmental science. Topics include social and ecological issues and how they affect policies at local, state, and national levels. Also covers soil, water, grazing, forestry, and wildlife as well the influence of humans on these resources.
3 hours lecture.
Prerequisite(s): AGR 105.

AGR 264 - Crop Consulting (4)

A study of crop consulting and its importance to the crop growing industry. Topics include crop needs, crop seasonality, and plant varieties. Also covers herbicides and fertilizers, integrated pest management, plant disorders, and irrigation

management. Explores cost forecasting, business model options, and crop growing plans as they relate to the industry.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

AJS - Administration of Justice

AJS 101 - Introduction to Administration of Justice (3) *, °

A study of the philosophy, ethics, constitutional parameters, and organization of the criminal justice system. Also deals with legal terminology. Topics include causes of and responses to crime; the criminal justice system's law enforcement, judicial, and corrections components and their respective jurisdictions; and criminal justice issues.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

AJS 103 - Communications Officer Training (6) ‡

This course is designed to provide first responder communication officers with entry-level training in administrative policies and procedures, interpersonal skills, confidentiality, legal issues, telephone and broadcast function, and departmental and external databases. The successful student will be eligible to apply for the Communication Officer's Certificate and employment as public safety dispatcher.
6 hours lecture.
Prerequisite(s): None.

AJS 109 - Substantive Criminal Law (3) °

A study of the philosophy of legal sanctions and their historical development, from common law to modern American criminal law. Topics include the judicial process, the classification of crimes, the elements of a crime, parties to a crime, inchoate offenses, and criminal defenses.
3 hours lecture.
Prerequisite(s): AJS 101, and RDG 092 or exemption.

AJS 126 - Ethics and Criminal Justice (3) °

Ethics and Criminal Justice is the study of ethical issues, cultural influences, and moral theories as they relate to the justice system. This course will focus on underlying values and ethical challenges faced by law enforcement, attorneys, the judiciary, and correctional staff. Specific ethical scenarios common to the criminal justice system will be addressed, emphasizing critical thinking and value decision making.
3 hours lecture.
Prerequisite(s): AJS 101, ENG 101.

AJS 224 - Field Experience in Administration of Justice (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in administration of justice and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in administration of justice and AJS 101.

AJS 225 - Criminology (3) °

The study of deviance and the role of social context in defining criminal behavior. Covers theories of criminality; the economic, social, and psychological impact of crime; societal responses; and crime trends.
3 hours lecture.
Prerequisite(s): AJS 101, ENG 101 or ENG 101L, and RDG 092 or exemption. Recommended Preparation: PSY 101 or SOC 101.

AJS 230 - The Police Function (3) °

A study of the theories, procedures, and operational methods of public policing. Examines police discretion and ethics. Also acquaints students with the philosophy of community policing as well as current trends in law enforcement, and with career opportunities in the field.
3 hours lecture.
Prerequisite(s): AJS 101, ENG 101 or ENG 101L, and RDG 092 or exemption.

AJS 240 - The Correction Function (3) °

A study of the history and development of correctional theories and institutions. Includes the history of corrections and punishments in the United States. Also explores the purposes of punishment, and staff and inmate rights and issues.
3 hours lecture.
Prerequisite(s): AJS 101, ENG 101 or ENG 101L, and RDG 092 or exemption.

AJS 275 - Criminal Investigations (3) °

A study of the theory of criminal investigation, crime scene procedures, case preparation, interviewing, and basic investigative techniques.
3 hours lecture.
Prerequisite(s): AJS 101, ENG 101 or ENG 101L, and RDG 092 or exemption.

AMT - Aviation Maintenance Technology

AMT 210 - Unmanned Aircraft Systems Fundamentals (6)

An introduction to the fundamentals and maintenance of unmanned aircraft systems (UAS). Includes operational safety, basic flight principles, aviation maintenance fundamentals, common and precision tool usage, and maintenance management systems.
3 hours lecture, 9 hours laboratory.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) or of a DOD UAS contractor.

AMT 212 - Unmanned Aircraft Systems Mechanical Maintenance (14)

A study focusing on the maintenance and repair of unmanned aircraft systems (UAS). Emphasis is on assembly and disassembly, periodic inspection, scheduled maintenance, preparation for flight, and repair. Includes takeoff and landing systems, aircraft operations, ground control stations, ground data terminals, and equipment used to perform operational checks.
8 hours lecture, 18 hours laboratory.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) or of a DOD UAS contractor.

ANT - ANTHROPOLOGY

ANT 101 - Bones, Stones, and Human Evolution (4) °, ‡

Where did we come from? How did we get here? Biological anthropology offers a unique perspective on these topics. In this course, we will explore the interaction between biology and culture through genetics, non-human primates, human evolution, and modern human variation.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): RDG 092 or exemption.

ANT 102 - Exploring Cultural Diversity (3) °

Make the familiar strange, and the strange familiar, by exploring the various ways different cultures approach the world. This course introduces cultural anthropology through case studies from around the world, including social organization, identity, religion, and economics in a globalized world.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

ANT 110 - Buried Cities and Lost Civilizations (3) °, ‡

How do we learn about humans from thousands of years ago or human ancestors from millions of years ago? Howe did early human explore the globe, build the first cities, and start farming? Pursuing these questions is the quest of the archaeologist. Explore archaeology through spectacular civilizations like the Aztec, Egyptians, and Indus. Learn about archaeological practices through groundbreaking discoveries at Stonehenge, Cahokia, and Great Zimbabwe.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

ANT 214 - Magic, Witchcraft, and Healing (3) °, ‡

Vision quests, sorcery, and cults. Shamans, mediums, and prophets. In this introduction to the anthropology of religion, you will explore the origins, elements, and forms of religion; compare religious beliefs, myths, rituals, and symbolism across various regions of the world; and discover the role of religion in different cultures.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

ANT 223 - Aztecs, Incas, and Maya (3)

The Aztec, Inca, and Maya civilizations are the most recognized ancient civilizations in the western hemisphere. You've likely heard of famous sites like Machu Picchu and Teotihuacán. How did these civilizations come to be? What were they like? What happened to them? This course provides an introduction and comparison of the three most famous civilizations in the New World by exploring the technological, architectural, cultural, political, and religious accomplishments of each state. This course covers the precursors of these early states through European invasion and discusses the modern descendants of these ancient cultures.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

ANT 253 - Death and Dying Across Cultures (3) °, ~

Everyone will die someday. What will happen to their body? How will their family and friends cope? This course explores the various responses to death and dying seen around the world and through time. Using a global, comparative approach, discover cross-cultural approaches to death and dying from the earliest human burials to contemporary funeral events.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

ANT 275 - Forensic Anthropology (4) ‡

Discover the role of the forensic anthropologist from the crime scene to the courtroom. This course focuses on how forensic anthropology can aid medical and legal investigations through forensic recovery techniques, identification of decedents through skeletal and dental analysis, and crime scene reconstruction through analysis of trauma patterns. Explore the legal aspects of forensic practice and the biological basis for evidence obtained from skeletal remains. This course is a survey of the applications of forensic anthropology in mass disasters, human rights investigations, and the deciphering of historic cases.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): RDG 092 or exemption.

ANT 286 - Historic Native Peoples of North America (3) ~

You'd be surprised what your high school history teacher didn't tell you! The native peoples of North America are often a footnote in our high school history texts. This class explores the unique cultural diversity of native peoples through ethnographic accounts. Topics include political organization, social organization, economics, material culture, religion, gender, European contact, and current issues. Cultures from ten different geographical areas are explored.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or completion of or concurrent enrollment in ENG 102 or ENG 102H, and RDG 092 or RDG 122 or exemption.

ANT 287 - Ancient North American Civilizations (3) °, ~, ‡

Cities bigger than contemporary Paris or London. Huge feats of engineering. Far-reaching alliances. Discover ancient North America from the initial peopling of the continent through European invasion. This course traces the development of a mosaic of indigenous cultures through archaeology.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

ANT 299 - Individual Studies (1-4)

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor, and the appropriate instructional manager prior to initiation of the study.
Prerequisite(s): Approval of appropriate instructional manager and instructor.

ART - ART

ART 103 - Two-Dimensional Design and Composition (3) *, ‡, °

This course is an introduction to the basic elements of art and principles of composition. Students will explore and identify visual language through two-dimensional investigations. ART 103 emphasizes creative problem solving and design problems through the organization of visual information.
2 hours lecture, 4 hours studio.
Prerequisite(s): None.

ART 106 - Drawing Foundations (3) *, ‡, °

This course is an introduction to the fundamentals of drawing using black and white media. Drawing Foundations emphasizes the development of skills in observation, personal expression, and abstract thinking. Students will be introduced to drawing as a key component in creative problem solving as well as a tool for critical thinking.
2 hours lecture, 4 hours studio.
Prerequisite(s): None.

ART 107 - Survey of World Art: Prehistoric - Gothic (3) *, °

A survey presentation of the art and architecture of Western civilizations through the Gothic era, including prehistoric cultures of the world.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

ART 108 - Survey of World Art: Renaissance to the Twentieth Century (3) *, °

A survey presentation of the art and architecture of Western civilizations from the Renaissance through the 20th century.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

ART 120 - Appreciation of the Visual Arts (3)

A general overview of the visual arts, including philosophies, history, techniques, various media, and elements of design. Fulfills the art education requirement for teacher certification at the University of Arizona.
3 hours lecture.
Prerequisite(s): ENG 096 or higher.

ART 130A - Painting for Personal Development (2) ‡

This course is a painting studio course in water-based media for non-art majors and suitable for beginner to intermediate levels for those interested in art as a career, or for personal growth and self-expression instead of as a degree.
1 hour lecture, 2 laboratory hours.
Prerequisite(s): None.

ART 130B - Ceramics for Personal Development (2) ‡

This course is a ceramics studio class for non-majors suitable for beginner to intermediate levels for those interested in art as a career, or for personal growth and self-expression.
l lecture hour, 2 laboratory hours.
Prerequisite(s): None.

ART 216 - Intermediate Drawing (3) ‡, °

This course further develops drawing fundamentals with an emphasis on color media by utilizing representational drawing with an emphasis on local color, perceptual color, and expressive color. Student will continue to develop skills in observation, personal expression, abstract thinking, and creative problem solving.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 106 or permission of instructor.
Recommended Preparation: Art majors must have ART 103 or permission of instructor.

ART 217 - Advanced Drawing (3)

This course is an advanced investigation of drawing through ideation, material investigation, visual language development, and research. Students will investigate materials as it relates to their subject matter and process through self-directed projects.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 216.

ART 220 - Printmaking I (3) ‡

An introductory course in printmaking as a visual language of expression. Various relief printmaking processes are addressed through the exploration of basic tools, equipment and techniques used in these processes. Emphasis is placed on the proper use of the tools and equipment and the development of skills pertaining to form and content in the creation of individual works of art.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 103, ART 106, or permission of instructor. Recommended Preparation: ART 216 and ART 245.

ART 225 - Printmaking II (3) ‡

An intermediate course in printmaking as a visual language of expression. Various relief printmaking processes are addressed through the exploration of basic tools, equipment and techniques used in these processes. Emphasis is placed on the proper use of the tools and equipment and the continued development of skills pertaining to form and content in the creation of individual works of art.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 220 and either ART 103, ART 106, or permission of instructor. Recommended Preparation: ART 216 and ART 245.

ART 230 - Color and Composition (3) ‡

This course is an intermediate investigation of two-dimensional design with an emphasis on color theory. Students will use a variety of media and techniques to explore complex color relationships and refined compositional theory.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 103.

ART 231 - Three-Dimensional Design and Sculpture (3) *, ‡

An introduction to the basic elements of three-dimensional design: form, volume, space, mass, line, plane, proportion, balance, texture, structure, and site. Focus is on arranging these elements within a three-dimensional framework through techniques such as sculpting, carving, building, and assembling. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): None. Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor.

ART 245 - Figure Drawing (3) ‡

An introduction to figure drawing using live models. Designed to develop perceptual and pictorial skills, with an emphasis on the human figure in its environment. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 106 or permission of instructor.

ART 270 - Ceramics I (3) ‡

An introduction to clay and glaze, and to their contribution to the development of contemporary ceramic art. Covers techniques involved in the processes of hand building and wheel throwing. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): None. Recommended Preparation: Art majors must have ART 103 or ART 106, and ART 231; or permission of instructor.

ART 273 - Ceramics IIA (3) ‡

A continuation of ART 270 which includes intermediate and advanced hand-building techniques and fabrication methods. Students develop projects with formal elements, build skills in surface treatment and firing, and explore topics on the history of clay. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 270. Recommended Preparation: In addition, art majors must have ART 103, ART 106, and ART 231; or permission of instructor.

ART 274 - Ceramics IIB (3) ‡

A continuation of ART 270 which includes intermediate and advanced wheel-throwing techniques and fabrication methods. Students develop projects with formal elements, build skills in surface treatment and firing, and explore topics on the history of clay. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 270. Recommended Preparation: In addition, art majors must have ART 103, ART 106, and ART 231; or permission of instructor.

ART 275A - Ceramics III (3) ‡

A continued study of ceramics with emphasis on developing unique, creative skills in hand building and fabrication or in wheel throwing and trimming. Students work on projects involving formal elements and various firing techniques, and they explore topics on the history of clay. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 273 or ART 274. Recommended Preparation: In addition, art majors must have ART 103, ART 106, and ART 231; or permission of instructor.

ART 276 - Soda and Salt Firing (1) ‡

An introduction to the traditional advanced process of soda and salt firing of ceramics. Topics include kiln loading, the use of refractory materials, and the introduction of sodium. Students will experiment with various techniques and materials, including clay bodies, slips, engobes, oxides, and glazing. They will also explore historical and contemporary approaches to atmospheric sodium firings. For students interested in art for career opportunities or for personal growth and self-expression.
1 hour lecture, 1 hour studio.
Prerequisite(s): ART 270 and concurrent enrollment in ART 231, ART 275A, ART 290, or ART 292. Recommended Preparation: ART 275A.

ART 277 - Wood Firing (1) ‡

An introduction to the traditional and advanced processes of wood fired ceramics. Students will experiment with various techniques and materials, and explore historical and contemporary approaches to atmospheric wood firings. For students interested in art for career opportunities or for personal growth and self-expression.
1 hour lecture, 1 hour studio.

Prerequisite(s): ART 270 and concurrent enrollment in ART 231, ART 275A, ART 290, ART 291 or ART 292. Recommended Preparation: ART 275A.

ART 280 - Painting Foundations (3) ‡

This course is an introduction to the fundamentals of painting methods and processes using acrylic media. Art 280 emphasizes the development of proficiency in the understanding and application of color theory and painting techniques through observation, personal expression, and abstract thinking. Students will be introduced to painting as a key component in developing creative problem solving as well as a tool for critical thinking.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 103 or ART 106 or permission of instructor. Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor.

ART 281 - Intermediate Painting (3) ‡

This course is an intermediate approach to acrylic painting techniques with an emphasis on ideation and the development of conceptional ideas. Student will continue to strengthen skills in observation, personal expression, abstract thinking and creative problem solving.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 280 or permission of instructor. Recommended Preparation: Art majors must have ART 103 and ART 106, or permission of instructor.

ART 282 - Advanced Painting (3)

This course is an advanced investigation of painting through ideation, material investigation, visual language development, and research. Students will investigate materials as it relates to their subject matter and process through self-directed projects.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 281 or permission of the instructor.

ART 285 - Beginning Photography (3) ‡

An introduction to cameras and the darkroom. Covers techniques involved in black-and-white film development and printing as well as principles and elements of design and aesthetics in photography. Students must have access to an adjustable 35mm camera.
2 hours lecture, 4 hours studio.
Prerequisite(s): None.

ART 286 - Intermediate Photography (3) ‡

An intermediate course in photography for those with a foundation in the basics of black-and-white film exposure, development, and printing. Emphasis is on photojournalism, art photography, portraiture, and landscapes, with additional attention to design and aesthetics. Students must have access to an adjustable 35mm camera.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 285 or permission of instructor.

ART 290 - Sculpture I (3) ‡

An introduction to traditional and contemporary sculptural concepts, mediums, and techniques. Students are involved in the process of selecting raw materials and creating a sculpture. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): None. Recommended Preparation: Art majors must have ART 103 or ART 106, and ART 231; or permission of instructor.

ART 291 - Sculpture II (3) ‡

A continuation of ART 290 which covers traditional and contemporary sculpture concepts, mediums, and techniques, with emphasis on basic designs. Students expand their ideas and develop their craftsmanship on sculptural forms. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 290. Recommended Preparation: In addition, art majors must have ART 103, ART 106, and ART 231; or permission of instructor.

ART 292 - Special Topics in Art (0.5-4) ‡, °

This course is a special lecture or studio course involving subject matter in a variety of topics or media and techniques outside the range of regular Art classes. Topics will vary in accordance with student needs and interests, and may highlight diverse concepts and cultures, alternative media, or advanced/niche areas within traditional media.
Prerequisite(s): Permission of instructor.

ART 293 - Sculpture III (3) ‡

A continuation of ART 291 which covers traditional and contemporary sculpture concepts, mediums, and techniques, with an emphasis on intermediate designs. Students continue to expand their ideas and develop their craftsmanship on sculptural forms. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 291. Recommended Preparation: In addition, art majors must have ART 103, ART 106, and ART 231; or permission of instructor.

ART 294 - Sculpture IV (3) ‡

A continuation of ART 293 which covers traditional and contemporary sculpture concepts, mediums, and techniques, with an emphasis on advanced designs, aesthetic forms, and fabrication methods. Students receive individual direction while working on projects involving formal elements and advanced techniques, and they explore the process involved in creating a sculptural form from raw material. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.

Prerequisite(s): ART 293. Recommended Preparation: In addition, art majors must have ART 103, ART 106, and ART 231; or permission of instructor.

ART 295 - Watercolor Painting I (3) ‡, °

An introduction to watercolor painting which explores basic materials and techniques, with an emphasis on color theory and mixing. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): None. Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor.

ART 296 - Watercolor Painting II (3) ‡, °

A continued study of watercolor painting, with emphasis on developing unique, expressive pictorial skills. For those interested in art as a career, or for personal growth and self-expression.
2 hours lecture, 4 hours studio.
Prerequisite(s): ART 295 or permission of instructor.
Recommended Preparation: In addition, art majors must have ART 103 and ART 106, or permission of instructor.

ART 297 - Portfolio Review (1) ‡

A beginning through advanced studio course dealing with the process and purpose of artistic portfolios. This course will cover technical and aesthetic aspects of various artistic portfolios and their development and provide students with the opportunity for a critical/professional analysis and peer review of their portfolios.
0.5 hour lecture, 2 hours studio.
Prerequisite(s): None. Recommended Preparation: Three semesters of art coursework, including 200-level courses in chosen discipline, or permission of instructor.

ASL - American Sign Language

ASL 101 - American Sign Language I (4) °, ‡

This course is an introduction to American Sign Language (ASL) which includes the development of sign vocabulary, fingerspelling, and numbers, all at the beginner skill level. Also presents a brief history of ASL and an overview of Deaf culture.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): None.

ASL 102 - American Sign Language II (4) °, ‡

This course is a continuation of ASL 101 which further develops sign vocabulary, fingerspelling, and numbers, all at the advanced-beginner skill level. Also examines the Deaf community and Deaf culture in a hearing society.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): ASL 101 or permission of instructor.

ASL 201 - American Sign Language III (4) °, ‡

This course is a continuation of ASL 102 which integrates receptive and expressive skills and presents grammar and syntax at the intermediate skill level. Covers idioms and introduces ASL linguistics and cross-cultural communication. Also examines complex issues related to the Deaf community and Deaf culture in a hearing society.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): ASL 102 or permission of instructor.

ASL 202 - American Sign Language IV (4) °, ‡

This course is a continuation of ASL 201 which expands sign vocabulary and sharpens skills in fingerspelling, numbers, grammar, and syntax at the advanced-intermediate skill level. Offers further instruction in ASL linguistics and conversational techniques in a cross-cultural framework, and introduces passage translation. Also examines more complex issues related to the Deaf community and Deaf culture in a hearing society.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): ASL 201 or permission of instructor.

AST - Astronomy

AST 180 - Introduction to Astronomy (4) °, ‡

A survey of astronomy which includes the solar system, exoplanetary systems, stars, and galaxies. Also covers the methods and technology used to explore planetary and stellar processes and the use of telescopes in astronomical observations.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 091 or higher.

AUT - Automotive Technology

AUT 101 - Introduction to Automotive Technology (3) ‡

This course is a study of basic automotive systems, and of the diagnosis and repair of problems common to them. Students acquire skills in the care and maintenance of engine, suspension, brake, electrical, body control, and drivetrain systems.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

AUT 102 - Automotive Electrical Fundamentals (3) ‡

This course is a study of automotive electrical and electronic systems, and of the diagnosis and repair of problems common to them. Students examine Ohm's Law and apply its principles in solving electrical system failures, and they use wiring and current-flow diagrams to diagnose and repair electrical and electronic systems in preparation for the Automotive Service Excellence (ASE) Certification test on electrical and electronic systems.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

AUT 103 - Internal Combustion Engines (3) ‡

A study of the theory of internal combustion engines, and of the diagnosis and repair of problems common to them. Students dismantle and reassemble engines in preparation for

the Automotive Service Excellence (ASE) certification test on engine repair.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 104 - Automotive Brake Systems (3) ‡

A study of the theory of automotive brake systems, and of the diagnosis and repair of problems common to them. Students repair and test various types of brake systems in preparation for the Automotive Service Excellence (ASE) Certification test on brake systems.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 105 - Automotive Suspension and Steering Systems (3) ‡

A study of the theory of automotive suspension and steering systems, and of the diagnosis and repair of problems common to them. Students repair and test various suspension and steering systems in preparation for the Automotive Service Excellence (ASE) certification test on suspension and steering.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 106 - Automotive Manual Drive Systems (3) ‡

A study of the theory of automotive manual drive systems, and of the diagnosis and repair of problems common to them. Students dismantle and reassemble different manual drive systems in preparation for the Automotive Service Excellence (ASE) certification test on manual drivetrain systems.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 108 - Automotive Parts Specialist (3)

A study of the tasks performed by the automotive parts specialist in overseeing inventory responsibilities and managing the flow of incoming and outgoing parts and accessories in an automotive dealership or retail parts store.
3 hours lecture.
Prerequisite(s): None.

AUT 110 - Basic Auto Body Repair (3) ‡

This course will provide a basic study of automotive collision repair procedures. The course is designed to provide students with the basic knowledge necessary to perform minor auto body repair and preparation for painting.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

AUT 111 - Automotive Paint and Refinish (3) ‡

A continuation of Basic Auto Body Repair that focuses on the necessary skills used to paint and refinish an automobile to commercially acceptable standards.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): AUT 110.

AUT 112 - Light Vehicle Diesel Engine Repair (3) ‡

A study of the theory of light vehicle diesel engine structural design and mechanical construction of compression ignition engines. Students will learn the theory of construction by disassembling, measuring, and reassembling light vehicle diesel engines and systems in preparation for the Automotive Service Excellence (ASE) certification test on light vehicle diesel engines.
2 hours lecture, 3 hours laboratory.

Prerequisite(s): AUT 101 and AUT 102.

AUT 116 - Light Vehicle Diesel Engine Intake and Exhaust Systems (3) ‡

This course contains essential content matter for the study of light duty diesel intake and exhaust systems. It covers turbochargers, intercooler systems, and exhaust after treatment.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 130 - Light Duty Hybrid and Electric Vehicles (3) ‡

This course is a study of light duty hybrid and electric vehicles. Students will learn about safety procedures, theory of operation, maintenance, and repair of hybrid and electric vehicles.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 201 - Automotive Electrical Systems and Equipment (3) ‡

A study of the theory of automotive electrical systems and equipment, and of the diagnosis and repair of problems common to them, in preparation for the Automotive Service Excellence (ASE) certification test on electrical systems.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 204 - Automatic Transmission/Transaxle Diagnostics and Rebuilding (3) ‡

A study of the theory of automatic transmissions and transaxles, and of the diagnosis and repair of problems common to them. Students dismantle and rebuild transmissions in preparation for the Automotive Service Excellence (ASE) certification test on automatic transmissions.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 205 - Automobile Heating, Ventilation, and Air Conditioning (3) ‡

A study of heating, ventilation, and air conditioning systems, and of the diagnosis and repair of problems common to them. Students acquire the skills necessary to diagnose, test, and repair these systems in preparation for the Automotive Service Excellence (ASE) Certification test on heating, ventilation, and air conditioning.

2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 101 and AUT 102.

AUT 206 - Engine Performance (3) ‡

A study of the theory of the components involved in engine performance, and of the diagnosis and repair of problems common to them, in preparation for the Automotive Service Excellence (ASE) certification test on engine performance.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): AUT 103.

AUT 220 - Light Vehicle Diesel Engine Fuel Systems and Computerized Engine Controls (3) ‡

This course is a study of the theory of light vehicle diesel engines fuel systems and computerized engine controls, and the diagnosis and repair of problems common to them. Students diagnose and repair these systems in preparation for the Automotive Service Excellence (ASE) certification test on light vehicle diesel engines.
2 hours lecture, 3 hours laboratory.

Prerequisite(s): AUT 101 and AUT 102.

AUT 224 - Field Experience in Automotive Technology (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in automotive technology and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in automotive technology, AUT 101, and AUT 102.

AVT - AVIONICS TECHNOLOGY

AVT 121 - Introduction to Unmanned Aircraft Systems Maintenance (4-6)

This course introduces students to Unmanned Aircraft Systems (UAS) safety color coding, personal safety hazards, hazardous communication, foreign object debris, fire safety, accident reporting, and general Army aviation maintenance publications.
4-6 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

AVT 122 - Unmanned Aircraft Systems Electronics (1-3)

This course is a practical study of electronics associated with Unmanned Aircraft Systems (UAS) and electronics maintenance for the assigned UAS, the universal ground control station, and the UAS ground support equipment.
1-3 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

AVT 123 - Launch and Recovery Systems Maintenance (1-3)

This course is a practical study of the maintenance required for the launch and recovery systems associated with the assigned Unmanned Aircraft Systems (UAS).
1-3 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

AVT 124 - Surveillance and Payload Systems Maintenance (1-3)

This course is a practical study of the maintenance required for the surveillance systems and payload systems associated with the assigned Unmanned Aircraft Systems (UAS).
1-3 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

AVT 211 - Unmanned Aircraft Systems Avionics (7)

A practical study of unmanned aircraft systems (UAS) avionics. Covers the operation, inspection, troubleshooting, and repair of avionics systems. Also covers cabling and hardware in ground control stations, ground data terminals, and aircraft.
4 hours lecture, 9 hours laboratory.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) or of a DOD UAS contractor.

AVT 221 - Unmanned Aircraft Systems Maintenance (9-14)

This course is a practical study of the maintenance and repair for the assigned Unmanned Aircraft Systems (UAS). It emphasizes UAS assembly and disassembly, periodic inspection, schedule maintenance, preparation for flight, and equipment used to perform operational checks and repairs.
9-14 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

AVT 222 - Universal Ground Control Station Maintenance (9-14)

This course is a practical study of the maintenance and repair for the assigned Universal Ground Control Station (UGCS). It emphasizes UGCS assembly and disassembly, periodic inspection, scheduled maintenance, preparation for operations, and equipment used to perform operational checks and repairs.
9-14 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

AVT 223 - Ground Support Equipment Maintenance (4-6)

This course is a practical study of the maintenance and repair for the assigned Ground Support Equipment (GSE). Emphasis is on GSE assembly and disassembly, periodic inspection, scheduled maintenance, preparation for operations, and equipment used to perform operational checks and repairs.
4-6 hours lecture.

Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD).

BCT - Building Construction Technology

BCT 100 - Technical Mathematics I (3)

A review of basic arithmetic and an introduction to the fundamentals of algebra and geometry. Focus is on solving practical problems commonly encountered in construction and engineering environments, and in professions such as machine shop and welding, heating and ventilation, plumbing, electrical maintenance, and carpentry.
3 hours lecture.
Prerequisite(s): None.

BCT 102 - Carpentry Fundamentals (4) ‡

An introduction to fundamental carpentry techniques. Students learn and apply these techniques to develop basic skills comparable to those acquired in a one-year carpentry apprenticeship. Focus is on shop safety, hand and power tools, floor systems, wall, ceiling, and roof framing, building materials, fasteners and adhesives, plans and elevations, concrete work, windows and doors, and basic stair layout.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

BCT 103 - International Residential Building Code (3)

An introduction to the current International Residential Code for one- and two-family dwellings. Topics include local home building and lot development, code interpretation and enforcement, and building components. For planners, designers, drafters, tradespeople, contractors, inspectors, and anyone else associated with the construction industry.
3 hours lecture.
Prerequisite(s): None.

BCT 104 - Electric I (4) ‡

An introduction to fundamental electrical theory and techniques. Students learn and apply these techniques to develop basic skills comparable to those acquired in a one-year electrical apprenticeship. Focus is on electrical safety, circuits and theory, and on the National Electrical Code, device boxes, conduit, raceways and fittings, conductors and cables, electrical drawings, residential services, and test equipment.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

BCT 105 - Electrical Theory (3)

An introduction to the fundamentals of electricity. Topics include Ohm's law, series and parallel circuits, the power factor, and harmonics as well as electrical meters, motors, generators, and transformers.
3 hours lecture.
Prerequisite(s): None.

BCT 106 - National Electrical Code I (3)

A study of the National Electrical Code, Articles 90 through 424, which covers general wiring requirements. Designed for those already working in the electrical field--electricians, inspectors, and maintenance workers--and those seeking employment in the construction trades.
3 hours lecture.
Prerequisite(s): None.

BCT 107 - Residential Maintenance (3)

A residential maintenance course covering safety and the proper use of common hand and power tools for routine electrical, plumbing, and carpentry repairs and maintenance.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): None.

BCT 108 - Basics in Construction (2)

Students will receive a working knowledge of shop safety and the use of basic hand and power tools. They will learn the soft skills necessary to be successful in the construction industry. Students successfully completing this course will receive the Core Curriculum Certificate, which is required before any other certification in the National Center for Construction Education and Research (NCCER) curriculum.
2 hours lecture.
Prerequisite(s): None.

BCT 109 - Construction Safety (3) ‡

An introduction to the Occupational Safety and Health Administration's workplace and jobsite safety policies and procedures. Includes a study of safety practices, preventive measures, construction hazards, personal protective devices and equipment, and hazardous materials handling.
3 hours lecture.
Prerequisite(s): None.

BCT 110 - Cabinetmaking (3) ‡

A course in basic cabinetmaking which enables students to develop competency in the construction and installation of cabinets and countertops.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

BCT 111 - Plumbing I (4) ‡

An introduction to fundamental plumbing techniques. Students learn and apply these techniques to develop basic skills comparable to those acquired in a one-year plumbing apprenticeship. Focus is on plumbing safety, tools, math skills, and drawings; plastic, copper, and carbon steel pipes and fittings; tubing, fixtures, and faucets; drain, waste, and vent systems; and water distribution systems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

BCT 112 - Introduction to the Utility Industry (3)

An introduction to the utility industry and careers such as electric utility line technician, gas industry technician, telecommunications technician, and utility supervisor. Topics include utility infrastructures, land and gas surveying techniques, power delivery, basic safety principles, systems troubleshooting, and regulatory issues.
3 hours lecture.
Prerequisite(s): None.

BCT 113 - Concrete (3)

A study of the basic concepts and materials used in concrete construction and finishing. Covers code and footer applications, stem walls, flat work, and the use of various reinforcement materials.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 102 and BCT 109, or permission of instructor.

BCT 114 - Wall Coverings (3)

An overview of wall covering materials and terminology. Teaches the application of wall materials and the use of fasteners. Covers building codes as they relate to wall covering products and fire- and sound-rated walls.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 102 and BCT 109, or permission of instructor.

BCT 115 - Exterior Finishing (3)

A study of the basic concepts and processes used in exterior finishing and in the installation of windows. Topics include thermal and moisture protection, exterior finish materials, exterior siding materials, and installation procedures.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 102 and BCT 109, or permission of instructor.

BCT 116 - Roofing (3)

A study of roof covering materials and their application in residential construction. Covers shingles, tile, roll roofing, membrane materials, roof vents, and roof flashing.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 102 and BCT 109, or permission of instructor.

BCT 117 - Floor Covering (4)

A study of floor materials and their application, including wood laminate, resilient floor tile, self-adhering floor tile, sheet vinyl, ceramic floor tile, and carpet.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): BCT 102 and BCT 109, or permission of instructor.

BCT 118 - Doors, Cabinets, and Millwork (4)

A study of the basic concepts used in the installation of interior and exterior doors and trim and of their locks and hardware. Also covers the installation of factory-built cabinets and prefabricated countertops.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): BCT 102 and BCT 109, or permission of instructor.

BCT 119 - Construction Basics Lab (1)

Through the use of a hands-on construction lab, students will learn the proper names and uses of hand and power tools, as well as the proper safety protocols for these construction tools.
2 hours laboratory.
Prerequisite(s): None.

BCT 122 - HVAC I (4) ‡

An introductory course in the refrigeration process, which covers refrigerants, tools, equipment, brazing, and refrigerant management. Emphasis is on the temperature, pressure, and heat-transfer capabilities of refrigerants.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

BCT 127 - Blueprint Reading and Estimating (3) ‡

An introduction to basic blueprint drawing, reading, and interpretation. Includes the abbreviations, symbols, and conventions specific to the trade disciplines used by architects and engineers. Students learn to interpret this information and apply it to construction activities. They also learn to estimate labor, equipment, and material costs from construction plans and shop drawings.
3 hours lecture.
Prerequisite(s): None.

BCT 130 - Introduction to Green Building (3)

An introduction to the fundamentals of green or sustainable building practices. Topics include energy use and efficiency, renewable energy technologies, water conservation, and basic building sciences. Also examined are the history of the green building industry, building retrofitting, rating and certification systems, sustainable materials, and careers within the industry.
3 hours lecture.
Prerequisite(s): None.

BCT 201 - Carpentry Framing and Finishing (4) ‡

A study of carpentry framing and finishing techniques. Students learn and apply these techniques to develop advanced skills comparable to those acquired in a two-year carpentry apprenticeship. Focus is on roofing, thermal and moisture protection, exterior finishing, steel framing, drywall installation and finishing, doors and door hardware, suspended ceilings, trim work, and cabinet installation and fabrication.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 102 or permission of instructor.

BCT 202 - Carpentry Forms (4) ‡

A study of advanced carpentry techniques as they relate to concrete-form framing, placement, pouring, and finishing. Students develop skills operating circular and reciprocating saws, drills, impact wrenches, hand power planers, pneumatic nail guns, and various hand tools of the trade; and they develop proficiency comparable to that of a third-year carpentry apprentice.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 102 or permission of instructor.

BCT 204 - Electric II (4) ‡

An introduction to advanced electrical theory and techniques. Students learn and apply these techniques to develop advanced skills comparable to those acquired in a two-year electrical apprenticeship. Focus is on alternating current, motors, electric lighting, conduit bending, pull and junction boxes, conductor installations, terminations and splices, grounding and bonding, circuit breakers and fuses, and control systems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 104.

BCT 205 - Plumbing II (4) ‡

This course is an introduction to the proper design and installation of drain, waste, and vent systems; water supply systems; and fixtures, faucets, and appliances.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): BCT 111.

BCT 210 - Cabinetmaking II (3) ‡

This course provides students with a better understanding of, and increased skills in, the design, style, and construction of cabinets and countertops.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 110.

BCT 211 - Cabinetmaking III (3) ‡

This course prepares students for employment in the areas of finish carpentry, cabinetmaking, cabinet installation, and countertop manufacturing and installation.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): BCT 110 and BCT 210, or permission of instructor.

BCT 220 - Grounding and Bonding (3)

A study of wiring methods and of the theories of grounding and bonding as defined in Article 250 of the National Electrical Code. Covers the difference between grounding and bonding. Also covers how the provisions of this article apply to various devices and equipment to include swimming pools.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: BCT 104, BCT 105, BCT 106, and BCT 204.

BCT 222 - HVAC II (4) ‡

A continuation in the study of the fundamentals of refrigeration, which covers electrical components and the functions of motors, controls, and other electrical loads in refrigeration systems. Also covers schematics, power distribution, and troubleshooting.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): BCT 122.

BCT 223 - HVAC III (4) ‡

A study of the various types of air conditioning systems. Covers superheating, subcooling, pressures, and temperatures. Emphasis is on troubleshooting and repairs along with refrigerant management. Students are given the U.S. Environmental Protection Agency (EPA) Universal Certification test required for HVAC technicians who service all types of equipment.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): BCT 222.

BCT 224 - Field Experience in Building Construction Technology (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in building construction technology and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in building construction technology; and BCT 102, BCT 108, BCT 109, or BCT 112.

BCT 225 - HVAC IV (4) ‡

An advanced course in heating, ventilating, and air conditioning, which covers the operation and repair of heat pumps and other modern heating equipment. Also introduces students to customer service skills.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): BCT 223.

BCT 227 - HVAC V (4) ‡

The HVAC V course prepares students for direct employment in the refrigeration industry by teaching the skills required to service, troubleshoot, maintain and install walk-in refrigerators and freezers, reach-in refrigerators and freezers, and ice machines.
3 hours lecture, 2 hours laboratory

Prerequisite(s): BCT 122, BCT 222, BCT 223, and BCT 225.

BHS - Basic Behavioral Health Sciences

BHS 150 - Introduction to Behavioral Health and Social Services (4) ‡

This course offers a survey of the behavioral health and social services professions, including scope of practice and training requirements and exploration of employment opportunities in

the field, and self-assessment/academic planning for a career in mental health. An overview of mental health disorders and first responder skills in a mental health crisis situation is taught during the course.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): Completion of, or concurrent enrollment in HLT 111. Must have a high school diploma or GED. Must have Arizona Department of Public Safety finger print clearance.

BHS 151 - Ethical, Legal and Professional Issues in Behavioral Health and Social Services (3)

This course teaches relevant ethical, legal, and professional issues inherent in the behavioral health and social services field, including expectations of and limitations on providers. Key areas in inquiry include boundaries and dual relationships, mandated reporting, confidentiality, scope of practice beneficence and non-maleficence, rights and responsibilities, professional relationships, and credentialing/regulating agencies.
3 hours lecture.
Prerequisite(s): BHS 150 and HLT 111 or concurrent enrollment.

BHS 152 - Applied Therapeutic Communication Skills (3)

This course teaches the theory and practice of communication skills to establish and maintain effective helping relationships and enhance the therapeutic alliance. Emphasis on verbal communication, nonverbal communication, paraverbal communication, rapport building, empathetic and active listening skills, resolving interpersonal conflicts, appropriate feedback, and developing and maintaining professional relationships.
3 hours lecture.
Prerequisite(s): BHS 150, BHS 151, and HLT 111. Co-requisite: BHS 153.

BHS 153 - Case Management and Clinical Documentation (3)

This course provides an overview and application of the principles, practices, and functions of case management in human services; case management service delivery and coordination of clients with psychological, developmental, psychiatric, and comorbid medical conditions; and documentation techniques necessary to maintain clinical records in a variety of behavioral healthcare settings.
3 hours lecture.
Prerequisite(s): BHS 150, BHS 151, HLT 111. Co-requisite: BHS 152.

BHS 154 - Pediatric and Infant Behavioral Health Considerations (3)

Pediatric and Infant Behavioral Health Considerations is designed to provide students with an overview of the current state of pediatric behavioral health services, best practices in pediatric behavioral health and the prevalent diagnoses, and risk and resilience factors for pediatric clients with common therapeutic interventions for each.
3 hours lecture
Prerequisite(s): Must be 18 years of age and have a high school diploma or equivalent.

BHS 155 - Trauma-Informed behavioral Health Care (3)

This course will prepare students to appropriately recognize and work with trauma-related symptoms and issues. Students will learn concepts of trauma-informed care and apply new skills in daily interactions, group, and individual counseling.
3 hours lecture.
Prerequisite(s): Must be 18 years of age and have a high school diploma or equivalent.

BHS 156 - Advanced Interviewing Techniques (5) ‡

This course is an advanced therapeutic communications course, with an emphasis on active listening, observation, and critical thinking when working with the mentally ill.
1 hour lecture, 4 hours clinical.
Prerequisite(s): BHS 150, BHS 151, BHS 152, BHS 153, and HLT 111.

BIO - Biological Sciences

BIO 100 - General Biology (for non-majors) (4) °, ‡

A laboratory science course for non-majors that surveys the concepts of introductory biology. Topics include scientific inquiry, cell biology, metabolism, cell division, genetics, evolution, ecology, and a survey of life on Earth.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): RDG 092 or exemption.

BIO 105 - Environmental Biology (4) ‡, °

An introductory course in environmental biology with emphasis on the major themes of ecology and the environment. Deals with evolution and with issues concerning human ecology and sustainability including biodiversity, water, climate change, resource use, pollution, and the local environment.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): RDG 092 or exemption. Recommended Preparation: ENG 101 or ENG 101L, and MAT 081.

BIO 156 - Introductory Biology for Allied Health (4) ‡, °

An introductory course for allied health majors which concentrates on human biology. Covers the fundamental concepts of chemistry and biology including cell biology, metabolism, microbiology, genetics, evolution, and histology.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): RDG 092 or exemption. Recommended Preparation: MAT 081 or higher.

BIO 160 - Introduction to Human Anatomy and Physiology (4) °, ‡

This course is an examination of the structure and dynamics of the human body based on the chemical, physical, cellular,

and tissue levels of organization. Topics Include the major structures and functions of the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. This course is for students in programs that require a one-semester anatomy and physiology course, or for students fulfilling a one-semester laboratory science requirement.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): RDG 092 or exemption. Recommended Preparation: ENG 101 or ENG 101L, and MAT 081.

BIO 181 - General Biology I (for majors) (4) *, ‡, °

This course is a study of the structure and function of living things at the molecular, cellular, and organismic levels of organization. Topics include cell structure, metabolism, reproduction, genetics, and evolution.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): RDG 092 or exemption. Recommended Preparation: CHM 130, CHM 138, or one year of high school chemistry; ENG 096; and some knowledge of college algebra and/or trigonometry.

BIO 182 - General Biology II (4) *, ‡

This course is a continuation of general biology for majors. Topics include the evolution, biodiversity, and ecology of multicellular organisms.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BIO 181. Recommended Preparation: Knowledge of general chemistry.

BIO 192 - Special Topics and Applications in Biology (2)

This course is designed to supplement general study in the various fields of biology. Entails research in specific topics determined by student needs and interests.
2 hours lecture.
Prerequisite(s): Must be at least 18 years old to enroll.

BIO 201 - Human Anatomy and Physiology I (4) *, ‡, °

This course is an integrated study of the physical, structural, and functional features of tissues, and of the integumentary, skeletal, muscular, and nervous systems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BIO 156, BIO 181, or passing score on the biology placement exam. Recommended Preparation: CHM 138.

BIO 202 - Human Anatomy and Physiology II (4) *, ‡, °

This course is an integrated study of the physical, structural, and functional features of the endocrine, cardiovascular, respiratory, lymphatic, urinary, digestive, and reproductive systems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BIO 201.

BIO 205 - Microbiology (4) *, ‡, °

This course is a study of the structure and characteristics of the major groups of microorganisms and their importance to humans. Emphasis is on best methods for the control and treatment of microbial infection and disease.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): BIO 156, BIO 181, or passing score on the biology placement exam. Recommended Preparation: ENG 101 or ENG 101L, and MAT 081 or higher.

BIO 226 - Ecology (4) ‡

An introduction to ecological concepts and methods in biology including: ecological niche, species diversity, population biology, ecosystems, life history strategies, environmental factors, environmental cycles, animal behavior and evolution, and their functions in the environment.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 081, ENG 101 or ENG 101L, and either BIO 100, BIO 105, BIO 160, BIO 181, or BIO 201.

BUS - Business Administration

BUS 104 - Business Math (3) °

This course examines the fundamentals of business mathematics and the use of the number language to communicate in the business world.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: Knowledge of basic mathematics.

BUS 106 - Administrative Assistant Skills I (4)

An introduction to keyboarding skills as they apply to letters, memos, and reports, with an expected outcome of 35 words per minute for five minutes. Emphasis is on formatting and editing.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CIS 116. Recommended Preparation: Keyboarding skills of 30 WPM.

BUS 109 - Survey of Business (3) °

An examination of the fundamental characteristics and functions of modern business, with emphasis on career opportunities.
3 hours lecture.
Prerequisite(s): None.

BUS 123 - Human Resource Management (3) °

A study of human resource management policies and techniques pertaining to the recruitment, selection, development, compensation, evaluation, retention, and promotion of personnel within an organization.
3 hours lecture.
Prerequisite(s): None.

BUS 127 - Leadership and Supervision (3) °

An in-depth study of the supervision and leadership functions of management, with an emphasis on case studies.
3 hours lecture.

Prerequisite(s): None.

BUS 143 - Principles of Management (3) °

A study of managerial principles emphasizing effective business decisions for planning, organizing, leading, and motivating, and for controlling variables in today's changing global business environment. Also covers issues of ethics, social responsibility, diversity, and ethnicity.
3 hours lecture.
Prerequisite(s): None.

BUS 145 - Principles of Marketing (3) °

A study of marketing principles involved in the distribution, from producer to consumer, of goods and services. Topics include wholesaling, retailing, direct selling, risk taking, and warehousing.
3 hours lecture.
Prerequisite(s): None.

BUS 146 - Introduction to Accounting (3) °

An introduction to the basic accounting cycle for service and merchandising firms: analyzing business transactions, journalizing and posting entries, developing financial statements, administering end-of-accounting-period activities, controlling cash, and preparing payroll.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: BUS 104 or MAT 091.

BUS 160 - Essential Workplace Success Skills (3) °

Designed to teach the skills needed for successful employment. Topics include job seeking and communication skills, professional dress and self-esteem, and decision-making and stress-coping strategies.
3 hours lecture.
Prerequisite(s): None.

BUS 165 - Sales (3)

This course is an introduction to the principles of selling, including personal selling, careers in sales, relationships and networking, communications, ethics, social selling and the selling process. An emphasis is placed on professional selling and personal branding.
3 hours lecture.
Prerequisite(s): None.

BUS 167 - Business Communications (3) °

A study of internal and external business communications such as letters, memos, proposals, and reports. Emphasis is on writing fundamentals--usage, syntax, and organization--and on listening and speaking skills. Also deals with the technology used to conduct research and create documents.
3 hours lecture.
Prerequisite(s): CIS 116 or CIS 120, and placement in ENG 101 or ENG 101L.

BUS 172 - Quantitative Methods in Business (3) °

An introduction to the application of quantitative methods and modeling that support optimal business decision making.
3 hours lecture.
Prerequisite(s): MAT 151 or MAT 151L, or permission of instructor. Recommended Preparation: Knowledge of Excel spreadsheets or completion of CIS 181.

BUS 183 - Starting a Business (3) °

An investigation and evaluation of business opportunities with emphasis on acquiring skills and knowledge to establish a business. Covers practical problems in marketing, management, organization, and financial analysis and control.
3 hours lecture.
Prerequisite(s): None.

BUS 201 - Financial Accounting (3) *, °

An introductory course in gathering, recording, and using the financial data of a business. Focus is on the accounting cycle, debits and credits, classification of accounts, recording of transactions, and preparation of financial statements for single proprietorships, partnerships and corporations.
3 hours lecture.
Prerequisite(s): MAT 091 or placement in MAT 151 or MAT 151L, or higher, or concurrent enrollment.

BUS 202 - Managerial Accounting (3) *, °

An introductory course in accounting concepts, methods, and techniques used by managers to support financial and operational decision making within an organization.
3 hours lecture.
Prerequisite(s): BUS 201, CIS 181 and completion of or concurrent enrollment in CIS 281.

BUS 206 - Administrative Assistant Skills II (4)

A continuation of keyboarding skills used in preparing business letters, printed forms, manuscripts, and tables, with an expected outcome of 40 words per minute for five minutes. Emphasis is on increased proficiency.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): BUS 106 or permission of instructor.

BUS 207 - Office Administration (3)

An analysis of the functions of office departments which is designed for prospective office supervisors, training directors, administrative assistants, and executive secretaries. Topics include office organization, administration, and management; human relations; and information management systems.
3 hours lecture.
Prerequisite(s): BUS 167 and CIS 116, or permission of instructor.

BUS 209 - Business Speech Communications (3)

A study of the principles of business speech communications including topic selection, research, organization, audience, and delivery. Also covers listening skills, verbal and nonverbal language, one-on-one communication, and effective

interview techniques. Students prepare persuasive speeches for small and large groups.
3 hours lecture.
Prerequisite(s): None.

BUS 210 - Automated Office Procedures (3)

A study of computer applications, information processing, project development, and workflow procedures and standards. Also covers a variety of data entry applications for spreadsheets and databases, and for accounting, banking, and point-of-sale entries.
3 hours lecture.
Prerequisite(s): CIS 116 and CIS 181, or permission of instructor.

BUS 211 - Automated Office Practice (3)

A study of best practices for the modern office as they relate to business communications, information systems, meetings, and travel plans. Also covers administrative duties and responsibilities as well as resumes and interviews.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): BUS 210 or BUS 216.

BUS 213 - Word Processing (3)

An application of word processing skills using current systems and equipment, with emphasis on editing and formatting techniques.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): CIS 116. Recommended Preparation: Keyboarding skills of 25 WPM.

BUS 216 - Administrative Assistant Skills III (4)

A further development of computer skills including word processing, spreadsheets, presentations, and the integration of applications. Students develop an electronic employment portfolio.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CIS 116 and CIS 181, or permission of instructor.

BUS 217 - Administrative Assistant Skills IV (4)

An integration of word processing, spreadsheet, database, and presentation applications. Students in this capstone course complete an electronic employment portfolio.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): BUS 216 or permission of instructor.

BUS 218 - Digital Marketing (3) °

This course prepares students to market a business online. Students will learn how to create and implement a digital marketing strategy for a business or organization. Through a series of hands-on projects, students will create an online ad, optimize web page content for search engines (SEO), and track and analyze online ad performance.
3 hours lecture.
Prerequisite(s): BUS 145 or concurrent enrollment.

BUS 219 - Business Statistics (3) *, °

Business applications of descriptive and inferential statistics, measurement of relationships, and statistical process management.
3 hours lecture.
Prerequisite(s): MAT 142 or MAT 142L; or MAT 151 or MAT 151L. Recommended Preparation: Knowledge of Excel spreadsheets or completion of CIS 181.

BUS 221 - Analytic Methods in Business (4) °

Building upon concepts learned in BUS 219, students in this course learn to use analytic tools to help solve practical business problems. Students will learn how to determine whether there are statistically significant differences between groups, using t-tests, Chi Square and Analysis of Variance techniques. Students will learn to apply Regression models (including simple regression, multiple regression, and dummy variable techniques) to better understand business problems. This course is focused on the hands-on use of data and technology to address a realistic business problem for a company of the student's choice. A lab component provides students with hands-on experience gathering and manipulating data, and generating results in Excel.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): BUS 219 Business Statistics.

BUS 222 - Business Leadership (3) °

This course is a study and application of the fundamental leadership and special topics on how to be an effective leader in the Business World, yielding qualitative results as a leader and achieving mission success and improving the organization by influencing human behavior by providing a clear purpose, guidance, and motivation while maintaining a professional bearing and caring for those being led.
3 hours lecture.
Prerequisite(s): None.

BUS 224 - Field Experience in Business Administration (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in business and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in business; and BUS 109, BUS 160, or BUS 167.

BUS 227 - Field Experience in Legal Procedures (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in law or public administration and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in any related field; and BUS 109, BUS 160, or BUS 167.

BUS 228 - Financial Planning (3) °

An introduction to the principles and techniques of personal financial planning, including preparation of personal financial statements; budgeting; goal setting; investing; determining insurance needs; and tax, retirement, and estate planning. A strong emphasis is placed on the process of drawing up a personal financial plan.
3 hours lecture.
Prerequisite(s): BUS 104, BUS 146, or BUS 201.

BUS 233 - The Legal Environment of Business (3) °

This course is an examination of the legal framework that governs the rules of conduct affecting policy making among businesses. Topics include laws, torts, government regulations, business ethics, and corporate responsibility in today's business environment.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor.

BUS 245 - Seminar: Trends and Practices in Business (3) °

A capstone business management course applying problem-solving and decision-making techniques to practical business situations. Students produce a major project or presentation using current business theories and practices.
3 hours lecture.
Prerequisite(s): BUS 146; BUS 160; BUS 167 or concurrent enrollment; ECN 201 or ECN 202; ENG 101 or ENG 101L; and BUS 104; MAT 091 or higher. Recommended Preparation: Sophomore standing.

BUS 251 - Federal Income Taxation (3) °

This course examines the federal income tax rules with an emphasis on computing the tax liability of individuals.
3 hours lecture.
Prerequisite(s): None.

BUS 252 - Business Entity Taxation (3) °

This course is an analysis of the income taxation of business entities and a review of the tax treatment of contributions, income, deductions, and distributions.
3 hours lecture.
Prerequisite(s): BUS 251 or concurrent enrollment.

BUS 253 - Tax Practice and Procedure (3) °

This course examines the rules applicable to tax professionals in resolving tax controversies and administrative matters and analyzes tax penalty and other procedural provisions.
3 hours lecture.
Prerequisite(s): BUS 251 or concurrent enrollment.

BUS 254 - Tax and Accounting Software (4) °

This course teaches students how to prepare tax returns and financial statements using tax and accounting software.
4 hours lecture.
Prerequisite(s): BUS 146 and BUS 251 or concurrent enrollment.

BUS 283 - Small Business Management (3) °

An analysis of the problems associated with successfully organizing and managing a small business. Emphasis is on research, budgeting, financial analysis, control procedures, and marketing in the establishment and operation of any small business.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): BUS 183.

BUS 285 - Electronic Commerce (3) °

This course will teach how businesses use internet tools to create and sustain competitive advantage in their industries. Particular focus is placed on e-commerce, emerging technologies and advertising platforms.
3 hours lecture.
Prerequisite(s): None.

CDL - Commercial Driver License Training

CDL 101 - Introduction to Arizona CDL (2) ‡

This entry level CDL course is designed to introduce the student to different aspects of general knowledge for the trucking industry. Upon passing the Arizona Department of Transportation written exam, the student will receive an Instruction Permit for training.
2 hours lecture.
Prerequisite(s): Must have a valid, state-issued, driver license. Must have a recent negative drug screen. Must have a physical exam (specific to professional driving). Any vision, blood pressure, breathing, sleep apnea, or other medical issues must meet physician's standards and be waived by the physician prior to training. Must have a background check (background check must ensure that the applicant is employable). Must have an Arizona Motor Vehicle Division check. Must be 18 years of age.

CDL 102 - Safe Operating Practices (2)

This course is designed to familiarize the student with the basic backing and driving skills needed to pass the Skills Test and Road Test for the AZ CDL license.
4 hours laboratory.
Prerequisite(s): Successful completion of CDL 101 or possession of a valid Arizona State DOT CDLP. Must have a valid, state-issued, driver license. Must have a recent negative drug screen. Must have a physical exam (specific to professional driving). Any vision, blood pressure, breathing, sleep apnea, or other medical issues must meet physician's standards and be waived by the physician prior to training. Must have a background check (background check must ensure that the applicant is employable). Must have an Arizona Motor Vehicle Division check. Must be 18 years of age.

CDL 103 - Vehicle Control (2)

This course is designed to further the students' driving skills along with the review and practice of skills previously learned.
4 hours laboratory.
Prerequisite(s): Successful completion of CDL 101 or possession of a valid Arizona State DOT CDLLP. Must have a valid, state-issued, driver license. Must have a recent negative drug screen. Must have a physical exam (specific to professional driving). Any vision, blood pressure, breathing, sleep apnea, or other medical issues must meet physician's standards and be waived by the physician prior to training. Must have a background check (background check must ensure that the applicant is employable). Must have an Arizona Motor Vehicle Division check. Must be 18 years of age.

CDL 104 - General Driving and Testing (2)

This is the final course in the CDL certificate program. It is designed to provide final preparation for the student to pass the Arizona Commercial Driver License (CDL) exam.

4 hours laboratory.
Prerequisite(s): Successful completion of CDL 101 or possession of a valid Arizona State DOT CDLLP. Must have a valid, state-issued, driver license. Must have a recent negative drug screen. Must have a physical exam (specific to professional driving). Any vision, blood pressure, breathing, sleep apnea, or other medical issues must meet physician's standards and be waived by the physician prior to training. Must have a background check (background check must ensure that the applicant is employable). Must have an Arizona Motor Vehicle Division check. Must be 18 years of age.

CED - Cooperative Education

CED 224 - Field Experience in Cooperative Education (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in an area of study at Cochise College. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): Any declared major at Cochise College.

CHM - Chemistry

CHM 130 - Fundamental Chemistry (4) *, °, ‡

This course introduces students with no prior chemistry instruction to the fundamentals of general inorganic chemistry, and prepares them for General Chemistry I.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 081 or higher, and RDG 092 or exemption.

CHM 138 - Chemistry for Allied Health (4) °, ‡

An introduction to the fundamentals of general inorganic, organic, and biological chemistry focusing on the principles important to the understanding of human biological functions and their related medical aspect. Especially adapted to the needs of students in health related fields and nursing.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 081 or higher, and RDG 092 or exemption.

CHM 151 - General Chemistry I (4) *, ‡, °

This course is an introduction to the general principles of inorganic chemistry, focusing on quantitative relationships including properties of matter, chemical bonding and structure, nomenclature, chemical equations, stoichiometry, gas laws, thermochemistry, states of matter, and reactions in aqueous solutions.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CHM 130, CHM 138, or one year of high school chemistry; MAT 091 or higher; and RDG 092 or exemption.

CHM 152 - General Chemistry II (4) *, ‡, °

This course is a continuation of General Chemistry I and the general principles of inorganic chemistry, with focus on quantitative relationships including acids and bases, equilibrium, kinetics, electrochemistry, and nuclear chemistry.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CHM 151.

CHM 192 - Special Topics and Applications in Chemistry (0.25-4)

A rotating forum/seminar/course or supplement to an existing chemistry course emphasizing chemistry related topics. The title and credit hours for this course will vary each term depending on the topic.
Prerequisite(s): None. Recommended Preparation: Permission of the instructor is strongly recommended.

CHM 235 - General Organic Chemistry I (4) *, ‡

This course is an introduction to the naming, structure, and properties of organic compounds with an emphasis on alkanes, stereochemistry, alkyl halides, alkenes, and spectroscopy. Focus is on the mechanisms that reveal the relationships between these different classes of organic compounds. Deals with general techniques unique to organic chemistry, separations, chromatography, boiling and melting points, and other physical properties.
3 hours lecture, 3.5 hours laboratory.
Prerequisite(s): CHM 152.

CHM 236 - General Organic Chemistry II (4) *, ‡

This course is a continued study of the naming, structure, and properties of organic compounds with an emphasis on alcohols, ethers, epoxides, aromatics, ketones, aldehydes, amines, carboxylic acids and their derivatives, enols, and

enolate ions. Focus is on mechanisms and syntheses that reveal the relationships between these different classes of organic compounds.
3 hours lecture, 3.5 hours laboratory.
Prerequisite(s): CHM 235.

CHM 299 - Individual Studies (1-4)

Completion of a research problem or an outlined course of study under the direction of a faculty member, with contract for the individual study agreed upon by the student, the instructor, and the appropriate instructional manager prior to the initiation of the study.
Prerequisite(s): Approval of appropriate instructional manager and instructor.

CIS - Computer Information Systems

CIS 116 - Computer Essentials (3) °

A hands-on introduction to the operating system and applications of the personal computer and to the internet. Emphasis is placed on Word, Excel, and PowerPoint, and on the integration of these applications.
3 hours lecture.
Prerequisite(s): None.

CIS 120 - Introduction to Information Systems (3) *, °

An introduction to digital basics, hardware, software, operating systems, local area networks, wide area networks, internet, web, email, digital media, basic programming, and the computer industry. Also includes an in-depth application of the business intelligence perspective, which uses database and spreadsheet software packages to achieve efficient and effective problem solving.
3 hours lecture.
Prerequisite(s): None.

CIS 128 - Linux Operating System (4) °, ‡

This course is an introduction to the Linux operating system which covers its history, internal organization, and directory and file system. Additional topics include installation, vi editor, user commands, and utilities. This course is for students interested in Linux as well as those interested in pursuing the CompTIA Linux+ certification.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 120 or CYB 103.

CIS 130 - Programming Logic (3) °, ‡

A study of software and programming concepts. Topics include programming methodologies, structures, and functions; notations and expressions; data, data types, and data files; file processing; and the software life cycle.
3 hours lecture.
Prerequisite(s): MAT 081 or higher, and RDG 092 or exemption.

CIS 140 - Introduction to Operating Systems (3) °, ‡

Provides students with a knowledge of operating systems and prepares them to take the CompTIA A+ Essentials certification examination. Topics include system components, storage, networking, security, and system management.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): None. Recommended Preparation: CIS 116.

CIS 160 - Introduction to Information Security (3) °, ‡

This course provides students with a knowledge of security concepts and with the skills required to react to security incidents and prepares them to take the CompTIA Security+ certification examination. Course topics include network security; compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography.
3 hours lecture.
Prerequisite(s): None.

CIS 161 - Network Security (4) °, ‡

A detailed study of network security principles and their implementation. Topics include the fundamentals of network security: implementation of firewalls, infrastructure security, and Windows operating system security and its impact on network security. Also covers the various utilities used to manage network security and troubleshoot problems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 140 and CIS 160; or permission of instructor.

CIS 179 - Applied Technical Writing (3) °

An application of technical writing skills used in organizational reports and communications. Focus is on the processes for reporting technical information, with emphasis on writing mechanics and syntax, forms and formatting, and technical style.
3 hours lecture.
Prerequisite(s): CIS 116 or CIS 120, ENG 096 or higher, and RDG 092 or exemption.

CIS 181 - Computer Applications (3) °

This course is an introduction to the uses of spreadsheets and database software. Spreadsheet emphasis is on the use of formulas and functions, the development of charts and graphs, the creation and manipulation of lists, the creation of pivot tables, and the role of the internet in spreadsheets. Database software emphasis is on data entry, on the creation of queries, forms, and reports, and on the design and maintenance of databases.
3 hours lecture.
Prerequisite(s): CIS 116 or CIS 120.

CIS 185 - Internet Essentials (3) °

This course is a survey of the internet that covers browser capabilities and management, real-time and mass communications, and social networks. It also covers email

management, ecommerce, online security, and other internet services; and teaches the basics of HTML.
3 hours lecture.
Prerequisite(s): CIS 120.

CIS 204 - C Programming (4) °, ‡

An introduction to the C programming language. Includes syntax and semantics, data types, operators, looping and decision structures, functions, arrays, pointers, and file handling.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 130 or score of 70 or higher on the waiver exam.

CIS 206 - Assembler with Architecture (4) ‡, °

A detailed study of the assembly programming language for 8086 and 8088 microprocessors in which individual instructions written in symbolic form are converted into machine code. Provides an introduction to the architecture, organization, and structure of major hardware components of a microcomputer to include primary memory, the control unit, and the arithmetic logic unit.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): Either CIS 130 or a score of 70 or higher on the waiver exam.

CIS 208 - Java Programming (4) ‡

An introduction to the Java programming language. Includes a study of the basic concepts associated with object-oriented programming, terminology, notation, and the syntax and semantics of the language.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 130 or a score of 70 or higher on the waiver exam.

CIS 217 - Introduction to Visual C#.NET Programming (4) °, ‡

This course is a study of the fundamentals of computer programming using Visual C#.NET. Emphasis is on the Microsoft Integrated Development Environment (IDE) and the .NET environment, as well as on proper programming strategies with Visual C#.NET.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 130.

CIS 220B - Data Structures-Assembler (4) ‡

A study of data structures and advanced programming concepts. Includes the design, implementation, and application of stacks, queues, lists, trees, and sequential and direct access to files. Students implement the data structures in Assembler.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 206.

CIS 220C - Data Structures-C (4) ‡

A study of data structures and advanced programming concepts. Includes the design, implementation, and application of stacks, queues, lists, trees, and sequential and direct access to files. Students implement the data structures in C.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 204.

CIS 220J - Data Structures-Java (4) *, ‡

A study of data structures and advanced programming concepts. Includes the design, implementation, and application of stacks, queues, lists, trees, and sequential and direct access to files. Students implement the data structures in Java.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 208.

CIS 221 - Digital Logic (3) °, ‡

A study of number systems, conversion methods, binary and complement arithmetic, Boolean and switching algebra, circuit minimizations, read-only memory, programmable logic arrays, flip-flops, synchronous sequential circuits, and register transfer design.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CIS 116 or CIS 120, and CIS 130; or permission of instructor.

CIS 229 - Linux System Administration (4) °, ‡

An introductory course in Linux system administration. Covers starting, stopping, backing up, tuning, and troubleshooting the system; administering users and groups; and scripting. Also deals with file systems, terminals, printers, disks, and electronic mail.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 128.

CIS 236 - Microsoft Workstation Operating Systems (4) °, ‡

Microsoft is the leading supplier of desktop operating systems for home and business use. This course will use the most current and widely accepted version of Microsoft's business desktop operating system. Students will learn proper installation of the operating system, the features of the system, maximum utilization of the user interface, and efficient file handling. They will also learn to create, edit and delete user profiles, create a functional user environment, create and utilize shared network resources, and utilize and administer the workstation as a server in a hands-on environment. They will also utilize troubleshooting skills to overcome simple and complex problems in the Microsoft operating system environments.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 140, CIS 160, and CNT 140.

CIS 244 - World Wide Web Graphics (3)

An overview of the creation and modification of graphics for the World Wide Web. Topics include their formatting and optimization. Students create a variety of graphics and incorporate them into a web site.

3 hours lecture.
Prerequisite(s): CIS 185, and CIS 287 or concurrent enrollment. Recommended Preparation: DMA 110 or prior digital imagery experience.

CIS 245 - Microsoft Server and Active Directory (4) ‡

Fundamentals of Microsoft Server and Active Directory. Topics include server hardware, installation, and configuration; Active Directory replication; Microsoft Group Policy; and system security. Explores the role of the network administrator and offers hands-on application of various approaches to user and server management.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 236.

CIS 250 - Database Management (4) °, ‡

A study of the management of data in business organizations. Combines theory with a hands-on emphasis on the techniques used to develop, implement, and administer databases.
4 hours lecture.
Prerequisite(s): CIS 181.

CIS 259 - Advanced Linux Systems Administration (4) °, ‡

An advanced course in Linux System Administration. Topics include implementing Dynamic Host Control Protocol (DHCP) and Domain Name Service (DNS); managing file systems; securing networks; maintaining and troubleshooting servers.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 229.

CIS 260 - Service and Maintenance of Personal Computers (4) ‡

This course teaches the theory and application of servicing personal computers. Students diagnose and repair common problems. Topics include advanced configuration and hardware problems, workstation setup for configuration, storage and optical drives, random-access memory modules, and motherboard-level diagnosis and repair.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CYB 103.

CIS 262 - Network Support and Troubleshooting (4) ‡, °

A capstone course in network support and troubleshooting. Topics include installation of network operating software, local area network (LAN) diagnostic utilities, installation and configuration of client software and of adaptor cards, physical and data link layer troubleshooting of networks, bridging and routing, and configuration problems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 229, CIS 245, and CIS 260.

CIS 268 - Technical Presentations (3) °

A practical application of the principles of effective communication. Students integrate current technologies to prepare and deliver effective, professional presentations.
3 hours lecture.
Prerequisite(s): CIS 116 or CIS 120.

CIS 270 - Systems Analysis (4) °, ‡

An investigation of the analysis, design, and implementation of computer information systems. Students study the methods used to analyze both existing and proposed systems and projects, and they incorporate various software, techniques, and methodologies.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 120.

CIS 281 - Advanced Computer Applications (3) °

This course is a study of advanced applications of spreadsheet and database software to solve practical problems. Spreadsheet emphasis is on formulas and functions; data analysis, reporting, and importing; spreadsheet applications; and macros. Database emphasis is on relational databases, advanced querying techniques, forms with multiple tables, advanced report forms, macros, and development of database applications.
3 hours lecture.
Prerequisite(s): CIS 181.

CIS 287 - World Wide Web Development (3)

This course is an introduction to the principles of good web page design. Topics include the use of Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) to create multimedia pages, interactive forms, and mobile sites for the web that are compatible with the latest standards. Students create and post a web site on the internet.
3 hours lecture.
Prerequisite(s): CIS 185.

CIS 294 - Field Experience in Computer Information Systems (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in computer information systems and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in computer information systems; and CIS 140, CIS 160, or CIS 181.

CIS 294 - Field Experience in Computer Information Systems (3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in computer information systems and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in computer information systems; and CIS 140, CIS 160, and CIS 181.

CLD - AWS CLOUD

CLD 110 - AWS Cloud Foundations (3) °

Amazon Web Services (AWS) Cloud Foundations provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support. The course is intended for students who seek an overall understanding of cloud computing concepts, independent of specific technical roles. It helps to prepare students for the AWS Certified Cloud Practitioner exam.

3 hours lecture.
Prerequisite(s): None. . Recommended Preparation: CIS 120.

CLD 120 - AWS Cloud Architecting (3)

Amazon Web Services (AWS) fundamentals of building IT infrastructure on and for AWS. Focuses on how to optimize use of the AWS Cloud by understanding AWS services and best practices for the AWS Cloud and how they fit into cloud-based solutions. Covers design patterns for architecting optimal IT solutions on AWS, as well as strategies and services implemented on AWS.

3 hours lecture.
Prerequisite(s): CLD 110.

CNT - Cisco Network Technology

CNT 140 - Introduction to Cisco Networks (3) ‡

An introduction to the architecture, structure, functions, components, and models of the internet and other computer networks. Topics include the principles and structure of internet protocol (IP) addressing and the fundamentals of Ethernet concepts, media, and operations. Students build simple local area networks (LANs), perform basic configurations for routers and switches, and implement IP addressing schemes. This is the first in a series of four courses in the Cisco Networking Technology (CNT) curriculum.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

CNT 150 - Cisco Routing and Switching Essentials (3) ‡

A study of the architecture, components, and operations of routers and switches in a small network. Students configure routers and switches for basic and advanced functionality, and troubleshoot and resolve common problems—in both IPv4 and IPv6 networks—with Routing Information Protocol (RIPv2) and virtual local area networks (VLANs). Includes the configuration of Network Time Protocol (NTP), host routes, and the recovery of lost passwords in an Internetwork Operating System. This is the second in a series of four courses in the Cisco Networking Technology (CNT) curriculum.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CNT 140.

CNT 240 - Scaling Cisco Networks (3) ‡

An investigation into the architecture, components, and operations of routers and switches in a large, complex network. Students configure routers and switches for advanced functionality, and troubleshoot and resolve common problems—in both IPv4 and IPv6 networks—with Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Spanning Tree Protocol (STP), extended Virtual Local Area Network (VLAN), Dynamic Trunking Protocol (DTP), and VLAN Trunking Protocol (VTP). Students develop the knowledge and skills needed to implement the following: Switched Virtual Interface (SVI), Inter-VLAN Routing, Hot Swappable Router Protocol (HSRP), LAN security, Dynamic Host Configuration Protocol (DHCP), and Domain Name System (DNS) operations in a network. They also examine the benefits of switch stacking in a small to medium-sized network. This is the third in a series of four courses in the Cisco Networking Technology (CNT) curriculum.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CNT 150.

CNT 250 - Connecting Cisco Networks (3) ‡

An examination of the Wide Area Network (WAN) technologies and network services required in converged applications in a complex network. Covers the criteria for selecting network devices and WAN technologies to meet network requirements. Students troubleshoot and resolve common problems with network devices and data link protocols; and they implement the following: Network Address Translation (NAT), Virtual Private Network (VPN), Quality of Service (QoS), Point-to-Point Protocol over Ethernet (PPPoE), external Border Gateway Protocol (eBGP), Switch Port Analyzer (SPAN), Extended IPv4 Access Control Lists (ACLs), and IPv6 ACLs. They also examine the uses of network programming, LAN security, the Cloud, and virtualization in medium- to large-sized networks. This is the last in a series of four courses in the Cisco Networking Technology (CNT) curriculum.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CNT 240.

COM - Communications

COM 102 - Essentials of Communication (3) *, °

A study of the communication process as it relates to a variety of communication situations: one-on-one dialogues, small group discussions, and large group presentations. The course covers basics in communication, including listening skills, verbal and nonverbal language analysis, communication styles, gender and cultural comparisons, and bridging strategies.
3 hours lecture.
Prerequisite(s): ENG 096 or higher.

COM 110 - Public Speaking (3) °

A study of public speaking that reviews the fundamentals of speech as they relate to communicating with an audience, with special emphasis on the theories and techniques of persuasion.

Students give speeches and they critique those of others from the perspective of topic selection, organization, and delivery.
3 hours lecture.
Prerequisite(s): COM 102 or permission of instructor.

COM 204 - Elements of Intercultural Communication (3) °, ~

An introduction to communication across cultures. Emphasis is on the theory underlying intercultural communication and on the practical application of communication strategies and skills that lead to improved communication among people of diverse cultural backgrounds in a multicultural society and world.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor.

COM 270 - Interpersonal Communications (3) *, °

A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communication skills and techniques for one-on-one professional communication.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

COM 271 - Communications in Small Groups (3) *

A continuation of COM 270 refining skills and techniques learned and adding analysis and presentation with emphasis on small-group communication processes.
3 hours lecture.
Prerequisite(s): COM 270 or permission of instructor.

CPD - Counseling and Personal Development

CPD 150 - Connections for Success (3) °

This course is an introduction to higher education, with an emphasis on CONNECTING wellness and a growth mindset to academic success, PLANNING for a meaningful career, and DEVELOPING relevant learning strategies, all within the context of ENGAGING classroom, campus, and community opportunities. It covers campus resources, communication skills, time management, and many other useful topics that ensure student success.
3 hours lecture.
Prerequisite(s): None.

CUL - Culinary Arts

CUL 101 - Cake Decorating (3) ‡

Covers all aspects of cake decorating including leveling and torting, and introduces butter cream and fondant cakes, borders, flowers, color flow, and gum paste and fondant work.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

CUL 105 - Nutrition in Food Service (3)

An introduction to the principles of culinary nutrition. Topics include the scientific aspects of nutrition, the impact of lifestyle on food production and consumption, and the practical applications of nutrition in food service.
3 hours lecture.
Prerequisite(s): None.

CUL 107 - Restaurant Sanitation (3) ‡

An examination of techniques for controlling sanitation in food service operations. Includes a kitchen orientation and basic knife handling and safety. Prepares students to take the ServSafe industry certification. (Students wishing to re-certify may pay a fee for the certification test without having to retake the course.)
2 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

CUL 115 - Food Service Sanitation (2) ‡

Food Service Sanitation examines techniques for controlling sanitation in food service operations, including keeping food safe, proper personal hygiene, and safe facilities and equipment. This course prepares students to take the ServSafe industry certification.
2 hours lecture.
Prerequisite(s): None.

CUL 116 - Essential Culinary Skills I (2) ‡

Essential Culinary Skills I is an introduction to professional kitchen equipment usage, standard measurements, knife selection and care, knife cuts, and basic professional cooking principles.
2 hours lecture.
Prerequisite(s): CUL 115 or concurrent enrollment.

CUL 117 - Essential Culinary Skills II (3) ‡

Essential Culinary Skills II, a continuation of Essential Culinary Skills I, includes professional cooking techniques and preparation of various meat, fish, poultry, vegetable, grain, and starch items, including the proper temperature of proteins. This course continues to focus on standard measurements and knife cuts.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115, CUL 116, or concurrent enrollment.
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CUL 120 - Breakfast and Cold Foods (3) ‡

Breakfast and Cold Foods focuses on breakfast items, salads and dressings, sandwiches, canapés, and hors d'oeuvres.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115, CUL 116, CUL 117, or concurrent enrollment.

CUL 121 - Sauces (3) ‡

Sauces focuses on the theory and practice of production of stocks, sauces, and soups, including sautéed meats, fish, and poultry and pan sauce techniques.

2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115, CUL 116, and CUL 117, or concurrent enrollment.

CUL 130 - Principles of Baking (3) ‡

Principles of Baking is an introduction to baking theory, standard bakeshop measurements and math, and the proper use of bakeshop equipment. Topics include cookies, basic doughs, and desserts.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115 or concurrent enrollment.

CUL 131 - Cake Decorating Principles (3) ‡

This course is an introduction to baking theory, standard bakeshop measurements and math, and the proper use of bakeshop equipment. The course includes cookies, basic doughs, and desserts.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115.

CUL 132 - Intermediate Baking and Pastry Techniques (3) ‡

This course introduces more advanced skills in commercial baking and dessert preparation, including rich dough, pastry doughs, custards, and mousses.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115 and CUL 130.

CUL 150 - Intermediate Culinary Skills (3) ‡

This course is a continuation of cooking techniques with an emphasis on classical preparations and international flavors.
2 hours lecture, 2 hours laboratory.

Prerequisite(s): CUL 115, CUL 116, and CUL 117.

CUL 151 - Inventory Control and Dining Room Management (3)

This course teaches students inventory control, including food cost analysis, sales income, and labor costs. It also includes instruction in front-of-house management, such as customer relation skills, table sever duties, and dining room operations.
3 hours lecture.
Prerequisite(s): None.

CUL 152 - Advanced Culinary Skills (3) ‡

This course is a continuation of cooking instruction focusing on advanced techniques, including sous vide, molecular gastronomy, and international cuisines.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 115, CUL 116, CUL 117, and CUL 150.

CUL 171 - Old World Wines: Foundation and Evaluation (2) ‡

This course is an overview of old world wine regions including history and culture, climate and terroir, wine styles and cuisine. It includes sensory evaluation of various wines.
2 hours lecture.
Prerequisite(s): Must be 21 years of age to enroll.

CUL 172 - New World Wines: Foundation and Evaluation (2) ‡

This course is an overview of new world wine regions including history and culture, climate and terroir, wine styles and cuisine. It includes sensory evaluation of various wines.
2 hours lecture.
Prerequisite(s): Must be 21 years of age to enroll.

CUL 173 - Beer: Foundation and Evaluation (2) ‡

This course is an overview of beer regions, including history and culture, climate and terroir, styles and cuisine. It includes sensory evaluation of various beers.
2 hours lecture.
Prerequisite(s): Must be 21 years of age to enroll.

CUL 204 - Food Service Purchasing and Control (3)

A study of the principles in selecting sources, quality, and types of food, and in determining purchase quantities. Also deals with receiving operations and volume assurance including planning, control systems, cost analysis, sales income, and labor costs.
3 hours lecture.
Prerequisite(s): BUS 104 or placement into MAT 091.
Recommended Preparation: CUL 215.

CUL 215 - Cooking Essentials (3) ‡

An introduction to food costs, recipes, pre-preparation, and basic cooking principles. Involves the preparation of stocks and sauces, vegetables, starches, breakfast products, meats, poultry, fish, and shellfish.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 107, concurrent enrollment, or permission of instructor.

CUL 217 - Saucier (3) ‡

Focus is on the cooking principles and techniques used in the preparation of stocks, soups, classic and contemporary sauces and accompaniments, and on the pairing of sauces with a variety of foods.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 107, concurrent enrollment, or permission of instructor.

CUL 220 - Breads and Baking Theory (3) ‡

An introduction to the essentials of baking theory, gluten development, and baking mathematics, with a focus on the use of proper kitchen equipment. Includes instruction in the preparation of yeast doughs and the baking of quick breads, lean and rich dough breads, and artisan breads.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 107, concurrent enrollment, or permission of instructor.

CUL 221 - Pastry Basics (3) ‡

A continuation of CUL 220 that includes advanced baking principles as they relate to pastry cream, meringues, icings,

pie doughs, eclair paste, pie production, cakes, cookies and their characteristics, custards and mousses; frozen desserts; fruit desserts; souffles, doughnuts, and crepes. Additional topics include dessert presentation and baking for special diets.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 220.

CUL 222 - Advanced Confections and Pastries I (3) ‡

Continued instruction in baking skills focusing on sophisticated pastry techniques including advanced laminated dough, specialty gateau and torten (gourmet cakes), and complex sauces and creams.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 221.

CUL 223 - Advanced Confections and Pastries II (3) ‡

Advanced confectionary-showpiece work designed to develop chocolate decorative techniques such as tempering, molding, rolling, curling, shaving, and others, as well as sophisticated methods used in working with pulled, blown, poured, spun, and cast sugar.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 222.

CUL 224 - Field Experience in Culinary Arts (1-4)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in culinary arts and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in culinary arts and CUL 107.

CUL 225 - Garde Manger I (3) ‡

Covers the creation and storage of salads, sandwiches, and appetizers. Includes purchasing practices, food platter layout and presentation, and cooking methods. Also includes salads and dressings, poultry, seafood, meats, show pieces, and canapes and hors d'oeuvres.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 215.

CUL 226 - Garde Manger II (3) ‡

A continuation of CUL 225, the garde manger culinary specialty. Emphasis is on preparing, presenting, and decorating cold food, including aspic and chaud froid, various forcemeats, cheeses, cured and smoked products, and charcuterie. Topics also include garde manger production, purchasing and procurement of specialty products, dinner and theme buffets, ice carvings, and plate presentations.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 225.

CUL 230 - Professional Pastry Techniques (3) ‡

This course provides instruction in baking skills focusing on advanced pastry techniques, including laminated doughs, plated and frozen desserts, and entremets.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 115, CUL 130, and CUL 132.

CUL 231 - Professional Chocolates and Confections (3) ‡

This course teaches students advanced chocolate techniques including tempering chocolate, and the production of truffles, bonbons, and ganache. It also includes an introduction to sugar techniques.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): CUL 115, CUL 130, and CUL 132.

CUL 242 - Dining Service Management (3)

A study of the concepts of dining room operations and the duties of a table server. Includes creative selling, basic etiquette and styles of service, electronic service, teamwork, generic and varietal wines, wine and food pairings, and bar service. Does not include mixology or wine tasting.
3 hours lecture.
Prerequisite(s): None.

CUL 275 - International Cuisine (3) ‡

An introduction to regional ingredients in traditional international cuisine, with focus on planning, preparation, and presentation of foods from around the world. Emphasis is on trends, flavor profiles, plate presentations, and cooking techniques unique to various world regions.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 226 or permission of instructor.

CUL 280 - Advanced Techniques in Gourmet Food Preparation I (3) ‡

The first of two capstone courses in the culinary arts program with emphasis on advanced techniques for the preparation of gourmet food including proper flavorings, spirits, garnishes, and flambé in haute cuisine.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 217 and CUL 275, or permission of instructor.

CUL 281 - Advanced Techniques in Gourmet Food Preparation II (3) ‡

The second of two capstone courses in the culinary arts program with emphasis on advanced techniques for the preparation of gourmet food including proper flavorings, spirits, garnishes, and flambé in haute cuisine.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): CUL 280.

CYB - Cybersecurity

CYB 101 - Introduction to Cybersecurity (3) ‡, °

The course provides students with a knowledge of security concepts and with the skills required to react to security incidents. Topics include network security; compliance and

operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography.
3 hours lecture.
Prerequisite(s): None.

CYB 102 - Networking Foundations (3) ‡, °

This course is an introduction to networking and networking technologies that teaches students about networking protocols and technologies. Students will learn network analysis and utilize tools to observe and understand packets as they transition the network.
3 hours lecture.
Prerequisite(s): None.

CYB 103 - Basic Operating Systems (3) ‡, °

This course provides students with a general knowledge of desktop operating systems in Windows and Linux/Unix operating systems. Topics include operating system configuration, hardware, software, and security and system management.
3 hours lecture.
Prerequisite(s): None.

CYB 110 - Intermediate Operating Systems (4) ‡

This course is designed to give students an in-depth understanding of cyber information systems providing them with skills in configuration management of Microsoft Windows Operating Systems and Linux or Unix Operating Systems. Skills will include secure configuration implementation and automation of system administration tasks. This course will introduce automation concepts using Linux BASH scripting and Windows PowerShell.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 101, CYB 102, and CYB 103.

CYB 125 - Introduction to Scripting for Cybersecurity (4) ‡, °

This course is an introduction to scripting concepts using common scripting languages in support of automation and auditing tasks. Students will learn debugging techniques and find solutions to problems using a common scripting language.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 103 or concurrent enrollment.

CYB 201 - Cybersecurity for Networking (4) ‡, °

This course provides students with the knowledge and toolsets necessary to implement full-scale network security plans. Students will work with established network infrastructure, industry toolsets, and organizational guidance to secure the infrastructure and document findings.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 125.

CYB 210 - Scripting for Cybersecurity (4) ‡, °

This course is an application of industry standard skills to build automated security pipelines leveraging interpreted programming languages. Students will work with real-world scenarios while creating applicable toolsets in languages including Python, PowerShell, and Go in multiple delivery platforms.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 110 and CYB 125.

CYB 220 - Digital Forensics and Incident Response (4) ‡

This course provides students with an understanding of intrusion detection methodologies, tools, and approaches to incident response, examination of computer forensic principles, including operating system concepts, and an exploration of the ethical and legal issues attendant to cyber investigations and forensics. Students will be introduced to the incident response system and understand how digital forensics fits into the process of securing and investigating digital crimes.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 110.

CYB 260 - Introduction to Cloud Technologies (4) ‡

This course provides students an introduction to the concepts of cloud computing and a clear understanding of modern cloud platforms and providers. Students will be exposed to cloud architecture and security configurations. Upon completion, students will be able to securely, through automation, deploy cloud infrastructure in two or more cloud environments.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 201, CYB 210 and CYB 220.

CYB 275 - Applied Cyber Operations (4) ‡, °

This course provides students with the knowledge of and hands-on experience to leverage knowledge of industry security techniques, considerations of domestic and international law, and ethics, to aid in the development of a security penetrating testing plan. Students will fully develop, implement, execute, and report on cybersecurity.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 220.

CYB 290 - Operational Cybersecurity (5) ‡, °

This course in Operational Cybersecurity is a capstone course that requires students to implement their knowledge, skills and abilities in Cybersecurity. This capstone course places cybersecurity students in a simulated corporate environment. Students will secure and defend a virtual environment from simulated adversarial threats.
4 hours lecture, 2 hours lab.
Prerequisite(s): CYB 201, CYB 210 and CYB 220.

DFT - Drafting

DFT 150 - Fundamentals of AutoCAD (3)

An introduction to automated computer-aided design using Autodesk's AutoCAD software. Focus is on developing the knowledge and skills required to create, edit, and manipulate simple drawings using AutoCAD.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None. Recommended Preparation: Computer literacy with a working knowledge of Windows and its functions, and a basic knowledge of drafting.

DFT 201 - Topics in Drafting (3)

An application of automated computer-aided design using Autodesk's AutoCAD software. Topics include architectural, civil, mechanical, and electrical drafting. Covers how different drafting disciplines are used in current fields of technology.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): DFT 150.

DFT 250 - Advanced AutoCAD (4)

An advanced application of automated computer-aided design using Autodesk's AutoCAD software. Covers complex two-dimensional drawings, and three-dimensional drawings and modelings.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DFT 150.

DFT 270 - AutoCAD 3D (4)

An introduction to the concepts and methodologies of 3D modeling and rendering using Autodesk's AutoCAD 3D software. Covers solids, surfaces, space, visualizations, and drawings.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): CIS 116, DFT 150, and DFT 250.

DMA - Digital Media Arts

DMA 110 - Digital Media Arts I (3) °, ‡

This course is an introduction to the theory and application of the Digital Media Arts. Through lectures and the use of appropriate software, students apply theory with fundamental still and moving image techniques to create basic online, print and social media related content.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): None.

DMA 111 - Computer Animation I (3) °, ‡

This course is a study of the beginning and intermediate features of animation software developed through the practical application of basic computer animation skills.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DMA 110 or instructor permission.

DMA 140 - Digital Photography for Personal Growth (2) °, ‡

An introduction to the use and function of the digital camera and the hardware, software, and techniques necessary to electronically store, transfer, manipulate, and print digital photographs. Students will learn basic design concepts as they relate to digital photography as an art form. This includes skill development in basic elements of design: line, shape, value, texture, and color. Students will acquire skills in using a digital camera as a photographic tool for career, work or personal pleasure and self-expression.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): None.

DMA 210 - Digital Media Arts II (3) °, ‡

This course is an intermediate study of the creation, manipulation, and enhancement of digital media arts content. Using appropriate software, students apply intermediate still and moving image techniques to produce online, print, and social media related content.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DMA 110. Recommended Preparation: ART 103 and DMA 266.

DMA 211 - Computer Animation II (3) °, ‡

This course is a study of advanced and multifaceted features of animation software as they are developed through the practical application of advanced computer animation skills.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DMA 111. Recommended Preparation: ART 103, DMA 110, DMA 111, DMA 210, DMA 260 and DMA 262.

DMA 214 - Digital Media Arts Capstone (1) ‡

This course is the capstone course in the Digital Media Arts degree. It is to be taken the last semester before graduation where students will build their professional online presence via social media sites, a professional website, and instruction on how to communicate and interact with outside businesses and creative clients.
1 hour lecture.
Prerequisite(s): DMA 111, DMA 210, DMA 260, DMA 262, and DMA 266.

DMA 260 - Graphic Design I (3) °, ‡

A studio course introducing the process and purpose of graphic design. Studio, research, and problem-solving methodologies; review of basic design principles; and design applications to include identity and information, editorial, promotional, and advertising. This class serves as the foundation for intermediate and advanced graphic design course work and will focus on the use of Macintosh computers and Adobe software including Photoshop and Illustrator.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): ART 103, ART 106, or permission of instructor.

DMA 261 - Graphic Design II (3) ‡, °

An advanced studio course dealing with the process and purpose of graphic design. Studio, research, and problem-solving methodologies; review of basic design principles; and

design applications to include identity and information, editorial, promotional, and advertising. This class serves the intermediate and advanced graphic designer and will focus on the use of Macintosh computers and Adobe software including Photoshop and Illustrator.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DMA 260 and either ART 103, ART 106, or permission of instructor.

DMA 262 - Digital Video Production (3) ‡

This course will introduce the student to the fundamental aspects of video production. It will include a history of digital video, an introduction to the digital video camera, camera lenses and associated computer equipment. Students will also work as members of a production team and receive instruction on composition, portfolio preparation, and possible career options.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): None. Recommended Preparation: Art majors must have ART 103 and DMA 266, or permission of instructor. Additional preparation may include ART 285.

DMA 263 - Digital Video Production II (3) ‡, °

An advanced studio course dealing with the process and production of the digital video. This course will include: advanced digital topics in camera usage, digital formats and scripting, production plan, lighting equipment in/on various locations, post production, editing approaches, developing a visual storyline, and building a portfolio.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DMA 262. Recommended Preparation: ART 103.

DMA 266 - Digital Photography (3) ‡, °

An introduction to digital photography which will emphasize technical and aesthetic issues associated with this medium. This course is designed to acquaint students with the history of still photography, aspects of the digital medium, camera and computer requirements, lighting, lenses, elements of composition, portfolio, and career options in this artistic field.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): None. Recommended Preparation: Art majors must have ART 103 or permission of instructor. Additional preparation may include ART 285.

DMA 267 - Digital Photography II (3) ‡

This course is a continuation of DMA 266 Digital Photography I which will emphasize intermediate technical and aesthetic issues associated with this medium. This course will address intermediate, aspects of digital photography including: digital output, lighting, computer/computer software and digital camera usage, composition, critical analysis, and portfolio development.
2 hours lecture, 4 hours laboratory.
Prerequisite(s): DMA 266. Recommended Preparation: ART 103 and DMA 260.

DTC - Diesel Technology

DTC 101 - Hydraulic Principles and Systems in Diesel Equipment (4) ‡

This course will provide the student with knowledge of basic hydraulic fundamentals used in today's agriculture and construction diesel equipment. ******This course is not currently offered.******
1 hour lecture, 6 hours laboratory.
Prerequisite(s): None.

DTC 102 - Fundamentals of Diesel Electrical Systems (4) ‡

A study of the fundamentals of electricity and electronics as it applies to diesel trucks, diesel agriculture and construction equipment. This course is designed to help meet the requirements of ASE certification. ******This course is not currently offered.******
1 hour lecture, 6 hours laboratory.
Prerequisite(s): None.

DTC 103 - Fundamentals of Diesel Engine Technology (4) ‡

An introduction to the operating principles and repair procedures of diesel engines. Focus will be on basic engines, lubrication, cooling, and fuel systems. Practical training in troubleshooting, diagnosing, and performing repairs on diesel engines. ******This course is not currently offered.******
1 hour lecture, 6 hours laboratory.
Prerequisite(s): None.

DTC 104 - Fundamentals of Power Transfer Systems in Diesel Equipment (4) ‡

An introduction to diesel power train systems used in agriculture and heavy equipment. Fundamentals in diagnosis, adjustment, and repair procedures of diesel equipment manual, power shift, and hydro-static transmission systems. ******This course is not currently offered.******
1 hour lecture, 6 hours laboratory.

Prerequisite(s): DTC 101.

ECE - Early Childhood Education

ECE 150 - Introduction to Early Childhood Care and Education (3) °

This course is an overview of early childhood education and its teachers. Topics include current issues and trends in the profession, instructional methods, classroom ethics, teachers' qualifications, and their roles and responsibilities in the classroom.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 152 - Effective Interactions (3) °

This course is an introductory course in behavior guidance and classroom management techniques. This course focuses

on individual student needs and learning styles, cultural differences, positive learning environments, current behavior guidance strategies, positive classroom management, and self-regulation. Techniques used to observe, document, and communicate to parents are also included in this course.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: Employment in an early childhood education facility.

ECE 155 - Children's Language Development (3) °

This course is an overview of the development of language in early childhood. Topics include sound, structure, meaning, the role of society in language development, and mixed and multiple language acquisition. Also covers hearing and sight impairment and the relationship of spoken to written language. Designed to enable students to facilitate language growth in early childhood education settings.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 156 - Children's Literature and Literacy (3) °

This course is an overview of the process by which children become literate, with emphasis on language and literacy development in early childhood. Samples children's literature and examines language activities that support child literacy across languages and cultures. Studies the role of narration and storytelling as well as the sequential nature of speaking, reading, and writing acquisition. Designed to enable students to facilitate literacy development in early childcare settings.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 158 - Health, Safety, and Nutrition for Young Children (3) °

This course is a consideration of public health issues and safety procedures, and their applications and implications for developing quality child development and early childhood education programs. It provides an overview of nutritional needs and issues of physical fitness and well-being in young children.
3 hours lecture.
Prerequisite(s): None.

ECE 160 - Early Childhood Growth and Development (3) °

This course addresses growth and development from conception to middle childhood with implications for childcare providers and primary school teachers. Includes brain development, the role of genetics and environment, a variety of learning needs and unique personalities, collaboration, and public safety.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 161 - Understanding Families, Community, and Diversity (3) °

This course is an exploration of the resources, skills, and strategies used by early childhood caregivers and teachers to deal with and assist families in the community. Emphasis is on the role of cultural and community diversity in the education of young children.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 165 - Child Observation and Assessment (3)

This course includes an overview of standards, observation and assessment tools and methodologies for typical and atypical young children (birth to age eight). Includes ethics, policies, referral and reporting procedures, and collaboration with families and other professionals.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.

ECE 170 - Curriculum Development and Strategies for Early Childhood Education (3) °

This course is a study of the methods and strategies used to select and present developmentally appropriate curricular activities that enhance optimal growth from infancy to age eight. Accommodation of a variety of learning styles, exceptionalities, and backgrounds will be discussed. Emphasis is on using the Arizona Standards to plan, develop, and evaluate activities in a prepared environment.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 172 - Teaching Strategies for Early Childhood Education (3) °

An overview of the techniques used in early childhood education to accommodate a variety of learning styles, with emphasis on developmentally appropriate activities for young children. Emphasis is on teaching strategies that create an environment where children experience optimum growth.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224.

ECE 173 - Administration of Early Childhood Care and Education Programs (3) °

This course is an in-depth examination of the principles and practices used to soundly administer early childhood programs. Topics include record keeping methods, budgeting strategies, and staffing plans; legal responsibilities and mandates; and the managing of programs that are developmentally, culturally, and geographically appropriate.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224. .

ECE 174 - Behavior Management (3) °

Instructs teachers, prospective teachers, parents, and caregivers of young children in behavior management. Topics include discipline techniques, behavioral expectations, behavior modification, stress management, and ethics and bias. Emphasis is on creating a nurturing environment for young children.
3 hours lecture.
Prerequisite(s): ECE 150 or concurrent enrollment.
Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in EDU 224. .

ECN - Economics

ECN 201 - Principles of Macroeconomics (3) *, °, ~

This course is a broad overview of the national and international economy, with emphasis on supply and demand as it relates to macroeconomic issues such as unemployment, inflation, and economic growth. Topics include national income accounting, fiscal policy, monetary policy, and international trade theory.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

ECN 202 - Principles of Microeconomics (3) *, °, ~

This course is a study of individual market interaction with focus on individual supply and demand. Specific topics include the study of consumer theory, cost and production for the individual firm, pure competition, pure monopoly, and the international finance markets.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

EDU - Education

EDU 025 - Armed Services Vocational Aptitude Battery (ASVAB) Preparation and Improvement Course (2)

A methodology to increase ASVAB scores, with an emphasis on increasing the General Technical (GT) qualifying score. This course provides an overview of testing techniques or skills required to improve general science, arithmetic reasoning, word knowledge, paragraph comprehension, numerical operations, coding speed, auto and shop information, mathematics knowledge, mechanical comprehension, and electronics information, which comprise the ASVAB.
1 hour lecture, 2 hours laboratory.
Prerequisite(s): Placement measurement and recommendation of the Army Education Center Officer/Counselor.

EDU 101 - Fundamentals of Education (3)

A survey of the American education system, including its history and structure. Topics include the developmental stages of children; the role of diversity in education and its effects on schools, teachers, and students; and the legal, ethical, and financial issues facing today's schools. Designed to articulate with high school Education Professions programs.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

EDU 201 - Introduction to Education (3)

This course provides an overview of teaching as a profession in the U.S. educational system. It examines the historical, social and philosophical development and current state of U.S. public education. Issues, policies, and trends in education are explored, including diversity and equity, organizational structure, governance, finance, law and ethics. Students will have the opportunity to assess their interest and suitability for teaching.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L or concurrent enrollment, and RDG 092 or exemption.

EDU 203 - Foundations of Instructional Techniques (3)

A study of learner-centric instructional techniques. Emphasis is on verbal and nonverbal instructional behaviors, and on classroom management strategies. Attention is paid to collaborative problem-solving and active learning techniques, generational attributes, and various learning styles.
3 hours lecture.
Prerequisite(s): None.

EDU 204 - Learner-Centered Instruction (3) °

An in-depth study of how to structure student-centric instruction, with emphasis on critical thinking and lifelong learning.
3 hours lecture.
Prerequisite(s): None.

EDU 205 - Theoretical Dynamics of Instruction (3) °

An analysis of various learning and motivational theories and their application to adult learning.
3 hours lecture.
Prerequisite(s): None.

EDU 206 - Mentoring Practicum (4) °

A practical application of mentoring theory based on the pairing of an experienced instructor with a protégé. Requires a minimum of 45 hours of direct mentoring.
3 hours lecture, 3 hours laboratory.

Prerequisite(s): EDU 203, EDU 204 and EDU 205 or Instructor permission.

EDU 207 - Instructional Design for Adult Education (3)

An introduction to the instructional design technique of Analysis, Design, Development, Implementation, and Evaluation (ADDIE). Topics include learning rubrics, assessment, and delivery considerations.
3 hours lecture.
Prerequisite(s): None.

EDU 218 - Introduction to Structured English Immersion (3) °

This course addresses current educational and legal requirements for serving English Language Learners (ELL). Topics include ELL proficiency standards, assessment, foundations of Structured English Immersion (SEI), and SEI strategies. Focus is on SEI; however, comparison and evaluation of various types of language education models, such as English as a Second Language (ESL) and bilingual instruction, are included. This course meets Arizona Department of Education requirements for three semester hours (45 contact hours) and leads to augmented provisional SEI endorsement, required for Teaching and/or Administrative certification.
3 hours lecture.
Prerequisite(s): Arizona Teaching and/or Administrative certification or departmental approval.

EDU 221 - Foundations of SEI/ELL Methods (3) °

This course examines language acquisition theories. Structured English Immersion (SEI), and English as a Second Language (ESL) strategies for teaching various age and language groups. Additionally, student analyze the assessment process for English language learner (ELL) eligibility, as well as culturally relevant instructional practices for English learners and family engagement. This course satisfies the requirements for the 3 semester hours of courses or forty-five clock hours of professional development in the teaching of the English Language Learner Proficiency Standards adopted by the State Board of Education.
3 hours lecture.
Prerequisite(s): EDU 201 (or approval by dean-if they're already a certified educator).

EDU 222 - Introduction to Special Education (3) °

This course is a study of special education with emphasis on current educational theories and practices. Attention is given to identifying the characteristics of emotionally handicapped, learning disabled, mentally handicapped, and gifted children. Topics include autism spectrum disorder, attention deficit/hyperactivity disorder (ADHD), special education considerations in early childhood and K-12 settings, and accommodations for special education students.
3 hours lecture.
Prerequisite(s): EDU 201 or concurrent enrollment.

EDU 224 - Field Experience in Education (1-3)

This course is a supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in education and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in education, EDU 201 or concurrent enrollment, and valid Arizona Identity Verified Prints (IVP) clearance card. Students may secure an Arizona IVP clearance card by contacting the Arizona Department of Public Safety (Fee required).

EDU 226 - Cultural Diversity in Education (3) °

This course prepares pre-service teachers to examine how race, ethnicity, and cultural identity intersect with student learning and school experiences. It examines the impact power and privilege in schools and emphasizes the implementation of culturally relevant pedagogy. The course trains pre-service teachers in effective teaching practices for diverse student populations.
3 hours lecture.
Prerequisite(s): EDU 201 or concurrent enrollment.
Recommended Preparation: ENG 102 or concurrent enrollment.

EDU 230 - Classroom Management (3) °

This course presents best practices in classroom management with an introduction to important psychosocial theories related to student behavior. The course includes strategies and skills for creating a positive learning environment and fostering student responsibility and engagement. Students will learn how to establish classroom rules and routines, provide clear instructions, develop rapport in a culturally responsive manner, incorporate group work, and accommodate the needs of exceptional learners. At the end of the course, students will design their own classroom management system.
3 hours lecture.
Prerequisite(s): EDU 201.

EGR - ENGINEERING

EGR 102 - Principles of Engineering (3) ‡

An introduction to general engineering principles and to the role of systems, design, and testing in the engineering process. Students investigate the interaction between engineering and various business departments. They also use tools such as Excel and MATLAB for data reduction and presentations, and they apply learned skills while working on group projects.
3 hours lecture.
Prerequisite(s): MAT 151 or MAT 151L, and MAT 182, MAT 187, or concurrent enrollment in MAT 220.

EGR 103 - Electrical Components and Systems (4) ‡

An introduction to the basics of electrical components in a complex system. Students investigate the physical properties

and functions of these components and the role they play within the system. Students also utilize technical documents such as data sheets, schematics, circuit and timing diagrams, and system specifications to identify, localize, and correct malfunctions in the system; and they perform preventive maintenance on the system's components.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

EGR 104 - Introduction to Programmable Logic Controllers (4) ‡

An introduction to the fundamentals of digital logic and to programmable logic controllers (PLCs) in a complex system. Using computer simulations, students explore the role PLCs play within a given system and its subsystems, and they demonstrate PLC functions by writing basic programs and testing them on the actual system. They also apply troubleshooting strategies to identify malfunctioning PLCs and to localize problems caused by PLC hardware.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

EGR 107 - Introduction to RF Communication Systems (4) ‡

An overview of modern communication waveforms. Topics include the radio spectrum; radio propagation; co-channel and adjacent channel interference; power and spectral measurement; data capture, reduction, and presentation; and the safe and correct handling of RF equipment connections.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): EGR 103 and MAT 182.

EGR 122 - Programming for Engineering and Science (4) ‡

An introduction to computer programming with an emphasis on problem-solving applications in the fields of engineering and science. Includes structured programs, data types, operations, repetitions, arrays, functions, data files, address pointers, and character strings.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): MAT 151 or MAT 151L.

EGR 202 - Electrical Circuits (4) ‡

A fundamental study of electrical and electronic circuits, and of the principles for analyzing linear and nonlinear circuits. Topics include circuit elements, Ohm's Law, Kirchhoff's Laws, the superposition theorem, Thevenin's and Norton's theorems, amplifiers, electrical networks with capacitors and/or inductors, and alternating current (AC) power.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 262 and PHY 231.

EGR 210 - Statics (3)

A basic analysis of static mechanical systems for civil, as well as structural, and mechanical engineering students. Topics include vector algebra, equilibrium of particles and rigid bodies, forces, moments, couples, equivalent force systems, analysis of simple structures (trusses, beams, frames, cables, and simple machines), friction, and first and second moments of area (moment of inertia).
3 hours lecture.
Prerequisite(s): MAT 231 and PHY 230.

EGR 213 - Mechanics of Materials (3)

An introduction to the analysis of the mechanical properties of materials for civil as well as structural engineering students. Topics include thin-walled pressure vessels, direct shear stresses, torsion, shearing force and bending moment, and elastic deflection of beams, columns, combined stresses, and members subject to combined loadings.
3 hours lecture.
Prerequisite(s): EGR 210.

EGR 214 - Dynamics (3)

An advanced analysis of dynamic mechanical systems (the study of the motion of body under the action of forces) for civil, as well as structural, and mechanical engineering students. Topics include rectilinear and curvilinear motion; and rectangular, tangential, normal, radial, and transverse components. Also covers acceleration, D'Alembert's principle, plane of a rigid body, and rotation.
3 hours lecture.
Prerequisite(s): EGR 210.

ELT - ELECTRONICS

ELT 100 - Electronics Foundations (3)

An introduction to the principles of electronics. Topics include direct and alternating circuits, passive and active components, Ohm's and Watt's Laws, network theorems, series and parallel resonance, and schematic diagrams. This course is offered only at the Arizona Department of Corrections in Douglas.
3 hours lecture.
Prerequisite(s): None.

ELT 102 - Basic Information Systems Installation (8)

A theoretical and practical study of the installation and repair of information systems, focusing on standard practices and techniques of communications-electronics installation.
4 hours lecture, 12 hours laboratory.
Prerequisite(s): Approval of the Army Training and Doctrine Command.

ELT 105 - Introduction to DC Circuits (3) ‡

The analysis of direct current resistive circuits, with an emphasis on Ohm's Law and Kirchhoff's Laws, the superposition theorem, and Thevenin's and Norton's theorems.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

ELT 106 - Introduction to AC Circuits (4) ‡

An introduction to alternating current passive circuits and the application of basic trigonometry and vectors to circuit solutions.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 105.

ELT 110 - Mathematics for Electronics (3)

A review of basic arithmetic and the study of algebraic principles as they relate to electronic circuitry. Includes fractions, decimals, fundamental algebra, scientific notation, graphing, linear equations, and DC electric circuits.
3 hours lecture.
Prerequisite(s): One year of high school algebra or equivalent.

ELT 125 - Electronic Circuits and Systems (4) ‡

A study of large signal diode and filter analysis, voltage, and current regulation, with an emphasis on the field effect transistor as an amplifier, the Miller Effect, frequency response, and feedback.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 106.

ELT 131 - FCC Regulations (2) °

An in-depth preparation for the Federal Communications Commission examination.
2 hours lecture.
Prerequisite(s): None.

ELT 133 - Digital Circuits and Systems (4) ‡

A study of number systems, Boolean algebra, and combinational and sequential logic circuits and systems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): One year of high school algebra or equivalent.

ELT 135 - Digital and Microprocessor Fundamentals (4) ‡, °

A study of digital concepts, logic elements, control applications, programming, interfacing, basic networking, and networking to data links. Emphasis is on combinational and sequential logic, and on the memory and support circuits of various components of microcomputers.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 106.

ELT 222 - Semiconductors and Transistors (4) ‡

A comprehensive study of semiconductor devices, with an emphasis on the qualitative and quantitative analysis of semiconductor circuits. Includes the small signal analysis of diodes and transistors, DC biasing, load lines, approximate hybrid parameters, and multistate systems.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 106.

ELT 227 - Autonomous Systems and Control Stations (3) ‡, °

A study of autonomous systems and their capabilities, of control stations, and of electrical power and computer sub-systems. Topics include automated takeoff and landing systems, navigation sub-systems, data link sub-systems and data processing equipment, tactical communication sub-systems, and control workstations.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 222.

ELT 245 - Communication Electronics I (4) ‡, °

The application of qualitative and quantitative theoretical concepts to communications circuits. Includes AM and FM receiver systems, voltage and power amplifiers, feedback, oscillators, resonance, filters, coupling, frequency synthesizers, and phaselock techniques.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 125.

ELT 247 - Communication Electronics II (4) ‡, °

A continuation of ELT 245 that includes AM and FM transmitter systems, transmission lines, antennas, and propagation devices. Emphasis is on the use of electronic test equipment in the analysis and adjustment of receivers and transmitters.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 245.

ELT 265 - Microprocessors and Microcomputers (4) ‡

An introduction to the architecture of microprocessors and to the organization, programming, interfacing, and control applications of microcomputers.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ELT 133.

EMT - Emergency Medical Technology

EMT 174 - Emergency Medical Technician (9) ‡

The Emergency Medical Technician Certificate provides a study of anatomy and physiology, signs and symptoms of illness and injury, patient assessment, procedures associated with the provision of emergency medical care, triage, basic life support systems, and basic legal responsibilities. This course equips students with the knowledge and skills required by the National Registry of Emergency Medical Technicians (NREMT) and the Arizona Department of Health Services – Bureau of Emergency Medical Services (ADHS-BEMS) to practice as an Emergency Medical Technician. Students desiring NREMT/ADHS-BEMS certification must complete the state-required number of clinical experience hours with an Emergency Medical Service provider of out-of-hospital emergency care. This course meets the ADHS-BEMS guidelines and is approved by the state of Arizona and the National Registry of EMTs.

Medical Direction: Arizona Certified EMTs are authorized to provide treatment, perform procedures, and utilize skills—as defined by the 2016 National EMS Education Standards — only under the medical control of an approved medical

director or certified base hospital. Students must be 18 years of age upon course enrollment.
8 hours lecture, 3 hours laboratory.
Prerequisite(s): RDG 092 or a score of 245 or higher on the Accuplacer Placement Exam. Students must be 18 years of age upon course enrollment.

ENG - ENGLISH

ENG 095 - Basic Writing (3) °

ENG 095 provides a review of English grammar, mechanics, terminology, and rules as they apply to writing and revising at the sentence and paragraph levels. The course includes techniques for creating introductions, topic sentences, transitional sentences, and conclusions. It also emphasizes vocabulary development.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement and CPD 150 or concurrent enrollment.

ENG 096 - Intermediate Writing (3) °

A study of intermediate writing skills, with emphasis on unity, support, and coherence of ideas. Includes a general review of vocabulary, homophones, grammar, punctuation, usage, and paragraph and essay writing skills. Also covers college-level research skills and analysis of short fiction.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement or ENG 095, and CPD 150 or concurrent enrollment.

ENG 101 - Composition (3) *, °

This composition course is a study of and practice of the process of writing, methods of organization, and expository patterns. Students write a documented paper based on library and other sources.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement or ENG 096.

ENG 101L - Composition with Support Lab (3) °

This composition course is a study of and practice in the process of writing, methods of organization, and expository patterns. Student write a documented paper based on library and other sources. Additionally, this course offers corequisite support, providing students with extended instruction in college-level composition. This course is equivalent to ENG 101 but includes the additional of corequisite support.
3 hours lecture and 2 hours laboratory.

Prerequisite(s): Appropriate placement measurement or ENG 096.

ENG 102 - English Composition (3) *, °

A continuation of ENG 101 with special emphasis on the techniques involved in writing argument, persuasion, and literary analysis.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

ENG 119 - Creative Writing (3) °, ~

An introduction to creative writing which models examples of narrative prose, poetry, and drama. In addition, students' original work is analyzed and critiqued.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 219 - Advanced Creative Writing (3) °, ~

A continuation of creative writing which models examples of narrative prose, poetry, and drama. In addition, students' original work is analyzed and critiqued.
3 hours lecture.
Prerequisite(s): ENG 119 or permission of instructor.

ENG 220 - British Literature I (3) °, ~

A survey of the major British authors from the beginnings to the early 18th century.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 221 - British Literature II (3) °, ~

A survey of the major British authors from the 18th century to the present.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 222 - Introduction to Shakespeare (3) °, ~

An exploration of selected histories, tragedies, and problem plays/comedies by William Shakespeare.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 224 - American Literature I (3) °, ~

This course is a survey of American literature from the pre-colonial period to 1860.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 225 - American Literature II (3) °, ~

This course is a survey of selected works by major American authors from post-Civil War to the present.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 228 - Mythology and Folklore (3) °, ~, ‡

This course is a survey of myths and folktales from classical to present times. It covers the basic concepts of myths and the approaches to understanding them. It also includes the role of folklore in culture.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 230 - Literature of the Southwest (3) ~, °

Introduction to the literature of the American Southwest, spanning historical through contemporary times. Emphasis on

the environmental, historical, and cultural influences on southwestern literary styles, genres, themes, and images.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 231 - Native American Literature (3) °, ~

An introduction to Native American literature which includes oral traditions and stories, autobiographies, fiction, and poetry. Emphasis is on the influences of culture and history on Native themes and symbols.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 255 - Introduction to the English Language (3) °, ~

An introduction to the basic concepts in the study of the English language: structure, interpretation, variation and changes. Overview of several specializations within linguistics with special attention to language acquisition and application to the teaching of English.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, ENG 102, or permission of instructor.

ENG 257 - Literary Magazine Production and Design (3) ‡

While producing the Mirage: Literary and Arts Magazine, students will examine the theories, research, and practices of visual rhetoric to design effective online and print documents, websites, and/or videos for a targeted audience. Using current computer software design applications, students will analyze and produce projects and the newest print and online editions of the Mirage: Literary and Arts Magazine.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L. Cross-Listed as: JRN 224 Field Experience in Communication or Media Technology.

ENG 260 - Irish Literature (3) ~, °

An exploration of selected traditional, modern, and contemporary Irish literary works.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 265 - Major American Writers (3) ~

An exploration of selected works by major American authors from the last century to the present.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 273 - Women and Literature (3) °, ~

This course is a survey of literature by and about women, including the study of issues concerning women in literature and the changing images of women. It includes literary analysis of selected writings.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

ENG 379 - Professional Writing in the Workplace (3) °

This course is an advanced writing course designed to improve workplace writing competence. By providing an opportunity to analyze and reflect upon the role of communication practices in a range of business settings, this course helps prepare students for the different kinds of writing they will encounter in their professional lives. By focusing on the practice and study of selected types of discourse employed in professional business situations and analyzing and responding to a variety of professional situations, students develop their use of rhetorical strategies and communications technologies appropriate to workplaces.
3 hours lecture.

Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science or Nursing (RN to BSN) Bachelor of Science program.

ESL - English as a Second Language

ESL 010 - ESL Grammar I (3) ‡

This course is an introduction to basic English grammar skills for beginning to high-beginning students whose native language is not English. The emphasis in this course is on the syntax and structure of simple sentences.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): Appropriate placement measurement.

ESL 012 - ESL Reading I (3) ‡

This course is an introduction to basic reading skills for beginning to high-beginning students whose native language is not English, with emphasis on vocabulary development, comprehension, and structure.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement.

ESL 014 - ESL Writing I (3) ‡

This course is an introduction to basic English writing skills for beginning to high-beginning students whose native language is not English. The emphasis in this course is on writing paragraphs about simple topics using certain specific tenses.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement.

ESL 016 - ESL Oral Communication I (3) ‡

This course is an introduction to oral communication skills in English for beginning to high-beginning students whose native language is not English. The emphasis in this course is on vocabulary, pronunciation, and basic listening and speaking skills.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement.

ESL 020 - ESL Grammar II (3) ‡

This course is a continuation of basic English grammar skills and strategies for high-beginning to low-intermediate students whose native language is not English. The emphasis in this

course is on the syntax and structure of simple and compound sentences.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): ESL 010 or appropriate placement measurement.

ESL 022 - ESL Reading II (3) ‡

This course is a continuation of basic reading skills and strategies for high-beginning to low-intermediate students whose native language is not English. The emphasis in this course is on vocabulary development, comprehension, and structure.
3 hours lecture.
Prerequisite(s): ESL 012 or appropriate placement measurement.

ESL 024 - ESL Writing II (3) ‡

This course is a continuation of basic English writing skills and strategies for high-beginning to low-intermediate students whose native language is not English. The emphasis in this course is on topic sentences, paragraph development, and organization.
3 hours lecture.
Prerequisite(s): ESL 014 or appropriate placement measurement.

ESL 026 - ESL Oral Communication II (3) ‡

This course is a continuation of oral communication skills in English for high-beginning to low-intermediate students whose native language is not English. The emphasis in this course is on additional vocabulary, pronunciation, listening, and speaking skills.
3 hours lecture.
Prerequisite(s): ESL 016 or appropriate placement measurement.

ESL 030 - ESL Grammar III (3) ‡

This course is a review of English grammar skills and strategies for low-intermediate to intermediate students whose native language is not English. The emphasis in this course is on the syntax and structure of simple, compound, and complex sentences.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): ESL 020 or appropriate placement measurement.

ESL 032 - ESL Reading III (3) ‡

This course is a review of reading skills and strategies for low-intermediate to intermediate students whose native language is not English. The emphasis in this course is on vocabulary development, comprehension, structure, and basic study skills.
3 hours lecture.
Prerequisite(s): ESL 022 or appropriate placement measurement.

ESL 034 - ESL Writing III (3) ‡

This course is a review of English writing skills and strategies for low-intermediate to intermediate students whose native language is not English. The emphasis in this course is on multi-paragraph development leading to short essays with clearly stated theses.
3 hours lecture.
Prerequisite(s): ESL 024 or appropriate placement measurement.

ESL 036 - ESL Oral Communication III (3) ‡

This course is a review of oral communication skills and strategies for low-intermediate to intermediate students whose native language is not English. The emphasis in this course is on more advanced vocabulary, pronunciation, and listening and speaking skills.
3 hours lecture.
Prerequisite(s): ESL 026 or appropriate placement measurement.

ESL 040 - ESL Grammar IV (3) ‡

This course is a review of English grammar skills and strategies for intermediate to high-intermediate students whose native language is not English. The course focuses on increasing mastery of syntax and improving command of simple, compound, and complex sentence structures.
3 hours lecture.
Prerequisite(s): ESL 030 or appropriate placement measurement.

ESL 049 - ESL Transitions (3)

This course is an intermediate to upper-intermediate course for students whose native language is not English. This course emphasizes developing strategies and skills to make students successful in the non-ESL classroom.
3 hours lecture.
Prerequisite(s): ESL 030 or appropriate placement measurement.

FON - Food and Nutrition

FON 201 - Applied Nutrition (3) °

A study of various aspects of nutrition as they relate to health and activity. Covers health promotion, structure and function of the digestive system, nutrition through the lifecycle, and clinical nutrition.
3 hours lecture.
Prerequisite(s): BIO 156, CHM 130, CHM 138, or passing score on the biology placement exam.

FOR - Forensic Science

FOR 105 - Forensic Science: Physical Evidence (4) ‡

An introduction to the basic concepts of physical science and their application to forensic science, including the scientific examination, comparison, and analysis of physical evidence for forensic purposes. Topics include the role of forensic science and evidence analysis as they relate to motion, optics,

pattern evidence, and firearms and ballistics. The course also examines the basic principles of atomic theory, nuclear chemistry, and weapons of mass destruction.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 081 or higher, and RDG 092 or exemption.

FST - Fire Science

FST 100 - Introduction to Firefighting (3)

An introduction to firefighting including safety, fire behavior, equipment, operations, rescue, and communications.
3 hours lecture.
Prerequisite(s): None.

FST 107 - Introduction to Fire and Emergency Services (4) ‡

The first of three courses designed to train students for a career in the fire service. Covers firefighter health and safety, fire service history, professional ethics and customer service, CPR and first aid, and hazardous materials first responder awareness and operations. Prepares students to take the Hazardous Materials First Responder Awareness and Operations Certification test. This test is taken through the Arizona Center for Fire Service Excellence (AzCFSE) and is required for Firefighter I and II Certification.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): RDG 092 or exemption.

FST 108 - Fire Operations I (4) ‡

The second of three courses designed to train students for a career in the fire service. Covers firefighter personal protective equipment, fire service communications, incident response, incident management, fire behavior, building construction, firefighting tools and equipment, portable extinguishers, forcible entry, ladders, and ropes and knots.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): FST 107.

FST 109 - Fire Operations II (4) ‡

The third of three courses designed to train students for a career in the fire service. Covers search and rescue, ventilation, water supply, salvage and overhaul, firefighter rehabilitation, firefighter survival, fire suppression, ground cover fires, and vehicle extrication. Upon completion, students are prepared to take the Firefighter I and II certification exam through the Arizona Center for Fire Service Excellence (AzCFSE).
3 hours lecture, 2 hours laboratory.
Prerequisite(s): FST 108.

FST 113 - Firefighter Fitness I (3)

A practical application of the knowledge and skills acquired in other fire science courses, with emphasis on developing the basic level of fitness required of firefighters. Identifies and introduces critical skills, proper nutrition principles, strength-training and endurance techniques, and job-related agility assessments.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): Concurrent enrollment in FST 108.

FST 114 - Firefighter Fitness II (3)

A continued practical application of the knowledge and skills acquired in other fire science courses, with emphasis on the mental aspects of job performance and on the assessment of agility and personal fitness.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): FST 113.

FST 115 - Fire Service Apparatus Driver/Operator (3) ‡

An introduction to the operation of different types of fire service apparatus. Includes driver/operator responsibilities and operation of emergency vehicles and aerial apparatus; inspection, testing, and maintenance of apparatus; and water supply systems, hydraulic calculations, and fire pump operations.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): Arizona Firefighter I and II Certification or other equivalent certification.

FST 224 - Field Experience in Fire Science Technology (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in fire science technology and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in fire science technology and FST 109.

FST 224 - Field Experience in Fire Science Technology (3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in fire science technology and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in fire science technology and FST 109.

GEO - Geography

GEO 101 - Physical Geography (4) °, ‡

An introduction to the physical elements of the Earth and their effects on human society. Includes the relationship between the Earth and sun; atmospheric processes; and the effects of global heat balance, pressure, temperature, and climate patterns on weather. Also examines urban influences on climate, climate regimes, and climate change. Provides an introduction to the surface of the Earth and to interior Earth processes. Studies geomorphic processes, plate tectonics, earth materials, geologic hazards, water resources, the hydrologic cycle, topographic map reading, and geographic information systems.
3 hours lecture, 3 hours laboratory.

Prerequisite(s): ENG 096 or higher, MAT 081 or concurrent enrollment, and RDG 092 or exemption.

GEO 121 - World Regional Geography (3) °

This course explores major world geographical regions emphasizing human cultural adaptation to the physical habitat.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

GLG - GEOLOGY

GLG 101 - Introduction to Geology I (Physical) (4) *, °, ‡

An introduction to the physical aspects of the Earth's crust. Includes scientific measurements, maps, and the scientific method; the hands-on identification and assessment of rocks and minerals; and basic geology--earth composition, surface processes, subsurface processes, investigative tools, geologic structures, geologic resources, and Earth history.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None. Recommended Preparation: MAT 081 or higher, and RDG 092 or exemption.

GLG 102 - Introduction to Geology II (Historical) (4) °, ‡, *

An introduction to the basic geologic principles underlying historical geology and the evolution of landforms and life forms through geologic time. Deals with the identification and classification of major fossil groups; the identification and interpretation of rocks and of sedimentary textures, environments, and structures; plate tectonics, geologic time, and planetary evolution; and human evolution. Teaches how geologic features such as rock types and fossils are used to interpret and date past events. Emphasizes the evolving geology of North America and the evolution of life on Earth.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None. Recommended Preparation: GLG 101, MAT 081 or higher, and RDG 092 or exemption.

GOO - GOOGLE IT PROFESSIONAL

GOO 101 - Google IT Support Professional (3) °

This course will help students gain the skills required to succeed in an entry-level Information Technology (IT) capacity. Students will learn to perform day-to-day IT support tasks, including computer assembly, wireless networking, installing programs, and customer service. Students will also learn how to provide end-to-end customer support ranging from identifying problems to troubleshooting and debugging, and how to use software systems including Linux, Domain Name Systems, Command-Line Interface, and Binary Code.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): None.

GTC - GENERAL TECHNOLOGY

GTC 105 - Manufacturing Materials and Processes (3)

The study of manufacturing materials, operations, procedures, and processes, with emphasis on their utilization in manufacturing design.
3 hours lecture.
Prerequisite(s): None.

HIS - HISTORY

HIS 110 - History of the United States 1607-1877 (3) *, °, ‡

A study of the development of the American nation from its colonial beginnings through Reconstruction, with emphasis on the events and forces leading to the Revolution, the Constitution, westward expansion, sectionalism, and the Civil War.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

HIS 111 - History of the United States Since 1877 (3) *, °, ‡

A study of the social, economic, and political forces that have shaped the United States from the post-Reconstruction era to the present. Emphasis is on domestic and foreign affairs in the country's last century of development.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

HIS 192 - Special Topics in History (1-3)

Designed for professional development and personal enrichment through the exploration of special topics in history. Topics will vary according to student needs and interests.
Prerequisite(s): None.

HIS 229 - History of Mexico I (3) °, ~

An in-depth study of the political, economic, social, and cultural development of Mexico from pre-Columbian civilizations to the end of the First Mexican Empire. Emphasis is on Mexico’s cultural evolution and on the relationships between its various historical periods.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L and RDG 092 or exemption.

HIS 230 - History of Mexico II (3) °, ~

An in-depth study of the political, economic, social, and cultural development of Mexico from the early Mexican Republic to the present day. Emphasis is on Mexico’s cultural evolution, the relationships between its various historical periods, and its place in today’s world community.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

HIS 243 - Western Civilization I (3) °, ~

A study of major historical trends from the emergence of Western civilization through the scientific revolution of the 17th century, with emphasis on various cultural periods in relationship to one another.

3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

HIS 244 - Western Civilization II (3) °, ~

A study of major historical trends in Western civilization from the Enlightenment to the present, with emphasis on various cultural periods in relationship to one another and their impact on the future.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

HLT - Health Technology

HLT 100 - Health Technology Careers (3)

An exploration of healthcare careers and related job skills. Topics include ethics and professional conduct, safety and infection control practices, communication, and basic anatomy and physiology.
3 hours lecture.
Prerequisite(s): None.

HLT 101 - Medical Terminology (2) °

An introduction to the body systems approach to learning medical language. Students use word parts to build, analyze, define, and spell medical terms. Topics include structural, directional, surgical, and diagnostic terms; disease and disorders; and pronunciations and abbreviations.
2 hours lecture.
Prerequisite(s): RDG 092 or exemption.

HLT 109 - Nursing Assistant (5) ‡

Approved by the Arizona State Board of Nursing to prepare students for nursing assistant certification. Emphasis is on communication, patient safety, anatomy and physiology, specific patient-care skills, and patient rights. Includes the nursing process and the legal and professional responsibilities of the nursing assistant. Also covers the basic physical, psychosocial, and cultural needs of all patients, with special emphasis on the geriatric population.
3 hours lecture, 6 hours laboratory.
Prerequisite(s): Appropriate placement measurement, MAT 081, or higher; placement into RDG 092 or exemption; and current American Heart Association CPR and First Aid certification for healthcare providers or concurrent enrollment in HLT 111. Students taking this course for state certification must be 16 prior to course completion, provide documentation of U.S. citizenship or qualifying alien status, undergo fingerprinting, pass a background check and drug screen, and have received absolute discharge from the sentence for any felony conviction no less than 3 years prior to submitting their application for state certification. The Arizona State Board of Nursing prohibits the use of medical marijuana.

HLT 111 - CPR and First Aid (1) ‡

Training in cardiopulmonary resuscitation and basic first aid for healthcare providers in compliance with American Heart Association requirements. CPR and first aid cards for healthcare providers are awarded upon successful course completion.
1 hour lecture.
Prerequisite(s): None.

HLT 112 - Assisted Living Facility Caregiver (2) ‡

Training in personal, supervisory, and direct care services for current Arizona certified nursing assistants. Topics include medication management, infection control, nutrition and safety, and emergency management; communication, mental health, and social needs; and legal and ethical issues. Upon course completion, students are eligible to take the Arizona Assisted Living Facility Caregiver exam for certification in the state of Arizona.
2 hours lecture, 1 hour laboratory.
Prerequisite(s): Current CPR, first aid, and CNA certifications; minimum 18 years of age and three months of related experience.

HLT 124 - EKG Technician (3) ‡

This course will prepare the learner to administer EKG examinations and report results to the treatment team. This course includes instruction in basic anatomy and physiology, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): Completion of or concurrent enrollment in HLT 111, and student must be 18 years of age. Recommended Preparation: High school diploma or equivalent.

HLT 125 - Phlebotomy Technician (5) ‡

Students who complete this certificate successfully will be able to perform safe and accurate venipuncture and capillary puncture and record results in healthcare records. Upon successful completion of this certificate, students are eligible to take the National Health Care Career Association (NHA) Phlebotomy Technician Certification Examination.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): Completion of, or concurrent enrollment in HLT 111, and student must be 18 years of age. Recommended Preparation: High school diploma or equivalent.

HLT 126 - Phlebotomy for Law Enforcement (1) ‡

This course provides specialized training that enables law enforcement officers (LEOs) to safely and effectively collect blood samples in the field as their job duties indicate. Participants will learn to perform blood draws that are acceptable for legal and forensic purposes and in compliance with law enforcement protocols and the Governor's Office of Highway Safety (GOHS) regulations.

1 hour lecture.
Prerequisite(s): Only those students employed by a law enforcement agency and pre-approved by GOSH will be admitted to the course.

HLT 139 - Medical Assistant I (8) ‡

This course teaches the concepts, skills, and terminology necessary for a medical assistant. Emphasis is on entry-level administrative skills and clinical functions required in a medical office, and on communication skills for patient care assessment. The laboratory portion of the course simulates various situations which teach the specific skills needed in a medical office.
7 hours lecture, 3 hours laboratory.
Prerequisite(s): BIO 160 or concurrent enrollment; HLT 101 or concurrent enrollment; MAT 081 or higher; and RDG 092 or current enrollment, or exemption. Prior to enrollment, students must also meet the following requirements: 1) minimum 18 years of age upon course completion, 2) negative tuberculin (TB) skin test or negative chest x-ray report, 3) current Arizona Department of Public Safety Fingerprint Clearance Card, and 4) acceptance into the medical assistant program.

HLT 140 - Medical Assistant II (12) ‡

This is a continuation of HLT 139. Students will be taught additional concepts, skills, and terminology. This course emphasizes administrative aspects of running a medical practice, such as billing and coding, scheduling appointments, and keeping electronic medical records. The laboratory portion of the course simulates hands-on application in a medical office setting. The clinical 180-hour externship focuses on therapeutic skills and on effective communication with clients, physicians, physician assistants, nurse practitioners, and other health care professionals. Students learn the front and back office skills required to pass the Medical Assistant certification examination.
7 hours lecture, 16 hours laboratory.
Prerequisite(s): BIO 160, HLT 101, HLT 111, and HLT 139.

HLT 151 - Home Health Aid I (Fundamentals) (3) ‡

A one semester fundamental class for the Direct Care Worker (AKA Home Health Aide), which is required for all direct care workers. This course will emphasis knowledge and skills needed to provide assistance or support with daily activities, with emphasis on bathing and grooming, housekeeping, meal preparation and service plans. The food handlers certification and Heartsaver CPR/First Aid certification will be provided as part of the semester instruction.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

HLT 152 - Home Health Aide II (Aging, Physical and Developmental Disabilities) (3) ‡

This course builds on the Fundamentals course (HLT 151) and contains advanced materials for the Home Health Aide (AKA Direct Care Worker) with emphasis on Aging: Alzheimer's Disease and other Dementia's, Physical and Developmental Disabilities.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): HLT 151 (Fundamentals) or current Nursing Assistant Certification or Licensure.

HLT 160 - Medical Billing and Coding I (7) ‡

This course teaches the concepts, skills, and terminology related to entry-level administrative and accounting aspects of a medical practice, including revenue cycle, billing and coding using International Classification of Diseases (ICD), Current Procedural Terminology (CPT), and Healthcare Common Procedure Coding System (HCPCS) and related technology, and modeling professional communication principles. The laboratory portion of the course simulates hands-on applications, including compliance with federal and state laws and healthcare ethics for generating claims and coordinating insurance benefits, processing referrals, scheduling appointments, and registering patients for billable services.
6 hours lecture, 3 hours laboratory.
Prerequisite(s): BIO 160 and HLT 101 or concurrent enrollment. Recommended Preparation: Recommended Preparation: HLT 111.

HLT 161 - Medical Billing and Coding II (13) ‡

This course focuses on abstracting patient health information and services rendered for assigning correct International Classification of Diseases (ICD), Current Procedural Terminology (CPT), and Healthcare Common Procedure Coding System (HCPCS) Level II codes and appropriate modifiers at an advanced level. The lab portion of this course includes coding utilizing a pathophysiology approach, completing claims, accounts receivable, collections, and applying legal and ethical concepts. Students continue to prepare for a national billing and coding certification exam.
5 hours lecture, 10 hours laboratory.
Prerequisite(s): HLT 101, AND completion of or concurrent enrollment in BIO 160 and HLT 160. Recommended Preparation: HLT 111.

HON - HONORS

HON 101 - Introduction to Honors (1) °

This course is an introduction to the honors philosophy, and a study of critical and creative thinking skills, learning techniques, academic ethics, research methods, and presentation practices.
1 hour lecture.
Prerequisite(s): None.

HON 223 - Leadership Development Studies (3)

This course provides emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve their leadership skills. Through study, observation, and practical application, students will

understand leadership theory and develop an awareness of the moral and ethical responsibilities of leadership.
Prerequisite(s): Permission of the instructor.

HON 250 - Honors: Individual Project (1-4)

This course is a contractual project between a student and faculty mentor, focusing on creative scholarship in an academic area of study that is of interest to the student. It is designed as a capstone for completion of the honors program. More detailed information related to project contracts is provided at www.cochise.edu/honors.

Prerequisite(s): Completion of at least 12 honors credits, a cumulative GPA of 3.5 or higher, and permission of the honors chair.

HON 260 - The Human Quest for Utopia (3) ~, °

This course is an interdisciplinary exploration of the history, literature, culture, art, philosophy, technology, sciences, and economies of utopian communities. It is designed as a capstone for completion of the honors program.
3 hours lecture.
Prerequisite(s): Completion of ENG 102 and at least 12 honors credits, a cumulative GPA of 3.5 or higher, and permission of the honors chair. Recommended Preparation: ENG 102H.

HPE - Health and Physical Education

HPE 110A - Body Conditioning (1)

A practical application of principles and concepts conducive to the development and maintenance of overall fitness. Introduces aerobic and anaerobic activities that promote flexibility, cardiovascular endurance, and muscular endurance.
1 hour lecture, 1 hour laboratory.
Prerequisite(s): None.

HPE 110B - Body Conditioning - Extended Duration (2)

A practical application of principles and concepts conducive to the development and maintenance of overall fitness. Introduces extended-duration aerobic and anaerobic activities that promote flexibility, cardiovascular endurance, and muscular endurance.
1 hour lecture, 2 hours laboratory.
Prerequisite(s): None.

HPE 111B - Body Dynamics - Extended Duration (2)

A practical application of principles and concepts conducive to the development and maintenance of overall fitness. Introduces the extended use of a variety of exercise equipment to perform aerobic and anaerobic activities that promote flexibility, cardiovascular endurance, and muscular endurance.
1 hour lecture, 2 hours laboratory.
Prerequisite(s): None.

HPE 112A - Weight Training (1)

An introduction to the skills needed to develop a proper weight training program that promotes cardiovascular endurance.
1 hour lecture, 1 hour laboratory.
Prerequisite(s): None.

HPE 112B - Weight Training - Extended Duration (2)

An introduction to the skills needed to develop a proper extended-duration weight training program that promotes cardiovascular endurance.
1 hour lecture, 2 hours laboratory.
Prerequisite(s): None.

HPE 113A - Athletic Conditioning I (2)

A practical introduction to fitness activities conducive to the development of strength, flexibility, endurance, and cardiovascular health. Designed to enhance the performance of the first-semester student-athlete.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): None.

HPE 113B - Athletic Conditioning II (2)

A continuation of fitness activities conducive to the development of strength, flexibility, endurance, and cardiovascular health in the second-semester student-athlete.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 113A and acceptance on a college sports team.

HPE 113C - Athletic Conditioning III (2)

Advanced fitness activities conducive to the continued development of intermediate strength, flexibility, endurance, and cardiovascular health in the third-semester student-athlete.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 113B.

HPE 113D - Athletic Conditioning IV (2)

Advanced fitness activities conducive to the continued development of advanced strength, flexibility, endurance, and cardiovascular health in the fourth-semester student-athlete.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 113C.

HPE 115 - Personal Fitness I (2) ‡

A study of the fundamentals of physical fitness, with an emphasis on the physical activities and behavioral changes necessary to develop and sustain a high level of fitness.
2 hours lecture.
Prerequisite(s): None.

HPE 116 - Personal Fitness II (1-2) ‡

A study of the fundamentals of physical fitness, with an emphasis on the physical activities and behavioral changes necessary to develop and sustain a high level of fitness.
Prerequisite(s): None.

HPE 117A - Individualized Fitness I (1) ‡

A study of the fundamentals of physical fitness, with an emphasis on the physical activities and behavioral changes necessary to develop and sustain a high level of fitness.
1 hour lecture.
Prerequisite(s): None.

HPE 117B - Individualized Fitness II (2) ‡

A study of the fundamentals of physical fitness, with an emphasis on the physical activities and behavioral changes necessary to develop and sustain a high level of fitness.
2 hours lecture.
Prerequisite(s): None.

HPE 118B - Indoor Court Sports and Physical Fitness (3)

An introduction to indoor court sports including squash, handball, wallyball, and racquetball. Also presents the information and skills necessary for proper weight training and jogging as they relate to indoor court sports.
3 hours lecture.
Prerequisite(s): None.

HPE 135 - Open Water Scuba Diver (3) ‡

This course provides students with the knowledge, training, and skills to understand and safely navigate the underwater environment while scuba diving. It adheres to the guidelines and requirements of the Recreational Scuba Training Council (RSTC) for Open Water Scuba Diver and Advanced Open Water Scuba Diver certifications.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

HPE 142A - Varsity Rodeo I (1)

Designed to provide the rodeo student-athlete with a knowledge of the rules and with the elementary skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): Students must try out for the rodeo team.

HPE 142B - Varsity Rodeo II (1)

Designed to provide the rodeo student-athlete with the basic skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 142A or permission of instructor.

HPE 142C - Varsity Rodeo III (1)

Designed to provide the rodeo student-athlete with the intermediate skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 142B or permission of instructor.

HPE 142D - Varsity Rodeo IV (1)

Designed to provide the rodeo student-athlete with the advanced skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 142C or permission of instructor.

HPE 145 - Beginning Golf (1)

An introduction to the basic skills, rules, and etiquette of golf. Designed to instill an appreciation of and participation in this lifelong leisure activity.
1 hour lecture, 1 hour laboratory.
Prerequisite(s): None.

HPE 170A - Baseball I (1)

Designed to allow the first-semester student-athlete to develop and demonstrate the minimum skills and strategies to compete in baseball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): Students must try out for the team.

HPE 170B - Baseball II (1)

Designed to allow the student-athlete to develop and demonstrate the basic skills and strategies to compete in baseball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 170A and acceptance on the team.

HPE 170C - Baseball III (1)

Designed to allow the more advanced student-athlete to develop and demonstrate the intermediate skills and strategies to compete in baseball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 170B.

HPE 170D - Baseball IV (1)

Designed to allow the fourth-semester student-athlete to develop and demonstrate the advanced skills and strategies to compete in baseball at the intercollegiate level. Also provides the opportunity to demonstrate leadership and sportsmanship on and off the field.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 170C.

HPE 171A - Men's Basketball I (1)

Designed to allow the first-semester student-athlete to develop and demonstrate the minimum skills and strategies to compete in men's basketball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): Students must try out for the team.

HPE 171B - Men's Basketball II (1)

Designed to allow the student-athlete to develop and demonstrate the basic skills and strategies to compete in men's basketball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.

Prerequisite(s): HPE 171A and acceptance on the team.

HPE 171C - Men's Basketball III (1)

Designed to allow the more advanced student-athlete to develop and demonstrate the intermediate skills and strategies to compete in men's basketball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 171B.

HPE 171D - Men's Basketball IV (1)

Designed to allow the fourth-semester student-athlete to develop and demonstrate the advanced skills and strategies to compete in men's basketball at the intercollegiate level. Also provides the opportunity to demonstrate leadership and sportsmanship on and off the court.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 171C.

HPE 172A - Women's Basketball I (1)

Designed to allow the first-semester student-athlete to develop and demonstrate the minimum skills and strategies to compete in women's basketball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): Students must try out for the team.

HPE 172B - Women's Basketball II (1)

Designed to allow the student-athlete to develop and demonstrate the basic skills and strategies to compete in women's basketball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 172A and acceptance on the team.

HPE 172C - Women's Basketball III (1)

Designed to allow the more advanced student-athlete to develop and demonstrate the intermediate skills and strategies to compete in women's basketball at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 172B.

HPE 172D - Women's Basketball IV (1)

Designed to allow the fourth-semester student-athlete to develop and demonstrate the advanced skills and strategies to compete in women's basketball at the intercollegiate level. Also provides the opportunity to demonstrate leadership and sportsmanship on and off the court.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 172C.

HPE 174A - Women's Soccer I (1)

Designed to allow the first-semester student-athlete to develop and demonstrate the minimum skills and strategies to compete in women's soccer at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): Students must try out for the team.

HPE 174B - Women's Soccer II (1)

Designed to allow the student-athlete to develop and demonstrate the basic skills and strategies to compete in women's soccer at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 174A and acceptance on the team.

HPE 174C - Women's Soccer III (1)

Designed to allow the more advanced student-athlete to develop and demonstrate the intermediate skills and strategies to compete in women's soccer at the intercollegiate level.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 174B.

HPE 174D - Women's Soccer IV (1)

Designed to allow the fourth-semester student-athlete to develop and demonstrate the advanced skills and strategies to compete in women's soccer at the intercollegiate level. Also provides the opportunity to demonstrate leadership and sportsmanship on and off the field.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): HPE 174C.

HPE 179 - Lifelong Wellness (3)

An introduction to nutrition, stress management, fitness regimens, and other practices as they relate to wellness and optimum health. Under faculty supervision, students develop an individualized program of diet and exercise.
3 hours lecture.
Prerequisite(s): None.

HPE 193 - Theory of Coaching Baseball (3)

A theoretical and practical study of how to coach baseball at the youth, secondary, and college levels.
3 hours lecture.
Prerequisite(s): None.

HPE 194 - Theory of Coaching Basketball (3)

A theoretical and practical study of how to coach basketball at the youth, secondary, and college levels.
3 hours lecture.
Prerequisite(s): None.

HPE 196 - Theory of Coaching Soccer (3)

A theoretical and practical study of how to coach soccer at the youth, secondary, and college levels.
3 hours lecture.

Prerequisite(s): None.

HUM - HUMANITIES

HUM 101 - Humanities in Contemporary Life (3) °

A study of contemporary thought, literature, art, and music as they occur in the mass media: print, motion pictures, television, and the internet.
3 hours lecture.
Prerequisite(s): ENG 096 or higher.

HUM 110 - Introduction to Film (3) °

A study of film as an art form and medium for the expression of ideas, and an introduction to the principles of film criticism.
3 hours lecture.
Prerequisite(s): None.

HUM 111 - Introduction to Theatre Arts (3) °

Theatre has been a favorite form of recreation and artistic expression for humanity for thousands of years. But, what is theatre? And, what makes it "good?" Join us as we explore how the theatre works, how it has changed through time, and its importance and impact today. Cross-listed as THE 103.
3 hours lecture.
Prerequisite(s): None. Cross-Listed as: THE 103 Introduction to Theatre Arts.

HUM 115 - Cultural Heritage of the Southwest (3) °

A general survey of the cultural heritage of the Southwest. A cultural look at the significant events, historical figures, customs, ways and institutions that have contributed to the unique cultural heritage in the Southwest.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor.

HUM 116 - Middle Eastern Humanities (3) °

A study of the art, religion, literature, music, philosophy, and cultural traditions of the Middle Eastern world.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101,or permission of instructor.

HUM 200 - Film History (3) °, ~

Survey of film history focusing on the development of important themes, movements, and techniques in international narrative films.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and ENG 102.
Recommended Preparation: HUM 110.

HUM 205 - Cultural Studies through the Humanities I (3) °, ~

Art, architecture, and ideas from ancient times through the Renaissance.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

HUM 206 - Cultural Studies through the Humanities II (3) °, ~

Art, architecture, and ideas from the Reformation to the present.
3 hours lecture.
Prerequisite(s): ENG 102 or permission of instructor.

HUM 210 - Foreign Film Classics (3) °

A survey of major foreign films from 1893 through the present, emphasizing film criticism and theory.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor.

ILP - Innovation LaunchPoint

ILP 101 - Product-Market Fit (1)

The Product-Market Fit course helps students understand the modern industry innovation management methods to match customer/beneficiary needs to solutions. Students learn to use aspects of the scientific method to gather evidence for decision making. ******This course is not currently offered.******
1 hour lecture.
Prerequisite(s): None.

ILP 102 - Innovation Theories (1)

The Innovation Theories course helps students identify the applicable aspects of proven innovation management theories. Students are able to contrast multiple problem solving approaches to apply the most effective aspects of these social science disciplines. ******This course is not currently offered.******
1 hour lecture.
Prerequisite(s): None.

ILP 103 - Lean Experimentation (1)

The Lean Experimentation course helps students apply the scientific method to rapid experimentation. Students learn the fundamentals of designing a social science research model to gather evidence for innovation management decisions. ******This course is not currently offered.******
1 hour lecture.
Prerequisite(s): None.

ILP 104 - Defense Acquisition (1)

The Defense Acquisition course helps students recognize the complex elements of the Defense Acquisition System. Students are able to identify the resourcing, requirements, and acquisition management systems for follow-on application. ******This course is not currently offered.******
1 hour lecture.
Prerequisite(s): None.

IOS - Intelligence Operations Studies

IOS 100 - Introduction to Intelligence Operations Studies (3) °

Introduces students to the basic elements of intelligence: collection, analysis, dissemination, counterintelligence, and covert action. Examines the difference between intelligence and information. Details the structure, functions, capabilities, and contributions of the national intelligence community, including Congress, the military, joint and unified commands,

and law enforcement agencies. Students will study the various steps of the intelligence cycle and learn their purposes.
3 hours lecture.
Prerequisite(s): None.

IOS 101 - Counterintelligence Investigations (3)

Introduces students to the principles, objectives, procedures, and reports used to conduct counterintelligence investigations within various investigational contexts. This process includes the planning, communicating, operating, credentialing, and investigating processes associated with counterintelligence investigations.
3 hours lecture.
Prerequisite(s): None.

IOS 102 - Security Programs (3) °

Introduces students to the principles, objectives, and basic procedures used to develop, account for, control, protect, and arrange for the eventual destruction of sensitive information and material. Helps equip students for the investigation of security crimes and the protection of classified information and material in the custody of counterintelligence agents.
3 hours lecture.
Prerequisite(s): None.

IOS 103 - Intelligence Law and Administration of Justice (1)

Introduces students to the legal principles of intelligence law as those principles apply to counterintelligence investigations and operations. Prepares students to use the principles of intelligence law and the administration of justice in the performance of their duties as counterintelligence agents.
1 hour lecture.
Prerequisite(s): None.

IOS 104 - Analytical Process and Product (3) °

Introduces students to the three analytical processes in the intelligence cycle: intelligence preparation of the battlefield, intelligence surveillance and reconnaissance, and targeting. Students learn to leverage analytical products associated with these processes such as PMESII, ASCOPE, Link-Pattern-Nodal analysis, threat characteristics, threat objectives, threat templates, the oil spot, and the situation template.
3 hours lecture.
Prerequisite(s): None.

IOS 105 - Interrogation Operations (3)

Introduces students to the basic skills and knowledge to support the collection, dissemination, and protection of intelligence information during human intelligence operations. Using conventional and unconventional sources, students perform as members of an interrogation team during simulated operations at both tactical and strategic levels.
3 hours lecture.
Prerequisite(s): None.

IOS 106 - Map Reading and Analysis (3)

A study of map reading and analysis including marginal data, identification of terrain features, and calculation of azimuths. Provides students with analytical skills essential to information gathering, collection capabilities, and interpretation of assets.
3 hours lecture.
Prerequisite(s): None.

IOS 108 - Signal Theory (3)

A study of the basic skills to intercept, analyze, and report non-communication signals. Includes the handling of classified material. Focus is on signal and wavelength theory, radar theory, electronic intelligence parameters, and basic collection operations. Students learn about worldwide non-communications threats to include weapons systems operations, message information extraction, opposing forces operations, and situation analysis.
3 hours lecture.
Prerequisite(s): None.

IOS 109 - Signal Analysis and Security (3)

Trains students to operate the All Source Analysis System-Single Source Enclave (ASAS-SSE) software, to display automated situation map updates, and to operate electronic messaging as analysis control element team members.
3 hours lecture.
Prerequisite(s): None.

IOS 110 - Remote Sensing (3)

Trains students to analyze hardcopy and softcopy imagery collected from the electronic magnetic spectrum. Students use intelligence databases as well as automated processing and dissemination systems to provide valid, accurate, and timely intelligence to appropriate agencies.
3 hours lecture.
Prerequisite(s): None.

IOS 111 - Information Security for Intelligence Operations (1)

A brief overview of information security as it applies to intelligence operations in the military (INFOSEC). Topics include safekeeping and storage of classified materials, application of classification markings to appropriate documents, and proper destruction of classified materials.
1 hour lecture.
Prerequisite(s): None.

IOS 112 - Imagery Analysis Techniques (3)

Develops the basic skills to successfully employ and analyze imagery in an operational environment. Introduces students to basic analytical techniques, sensor capabilities and limitations, characteristics of observed operational activity, spectral and stereoscopic imagery, and full motion video.
3 hours lecture.
Prerequisite(s): None.

IOS 113 - Terrorism and Counterterrorism (3) °

An examination of the history of terrorism and the tactics and technologies used by terrorist groups. Examines the nature of the terrorist threat and countermeasures to combat terrorism.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: ENG 101 or ENG 101L.

IOS 114 - Reporting of Intelligence Data (3)

Identification of the essential elements of information, selection of reporting vehicle, and production of concise and timely technical summaries.
3 hours lecture.
Prerequisite(s): None.

IOS 115 - Briefing Skills (1-4)

Training in the skills required to perform the duties and operations necessary to conduct briefings in the intelligence operations field. May be taken four times for a total of four credits.
Prerequisite(s): None.

IOS 116 - Imagery Identification (6)

Students will be trained in the identification from aerial images of threat and operational equipment including naval vessels; fixed, swing, and rotary wing aircraft; engineer and decontamination equipment; truck models and functions; armored personnel carriers (APCs); missiles, rockets, and launch sites; communication and radar sites; artillery and artillery related equipment; and tanks and armored recovery vehicles (ARVs). In addition, students will learn to identify from aerial imagery organizations and activity in relation to the Ground Order of Battle (GOB).
6 hours lecture.
Prerequisite(s): None.

IOS 117 - Symbology (3)

Trains students in the skills necessary to translate incoming message traffic into military symbols.
3 hours lecture.
Prerequisite(s): None.

IOS 118 - Intelligence Preparation of the Battlefield (3) °

Teaches students to identify characteristics of the modern battlefield and to analyze how the operational environment of the battlefield can affect friendly and threat operations. Students define the operational environment, consider the effects of weather and terrain, evaluate threat, and determine potential threat courses of action.
3 hours lecture.
Prerequisite(s): None.

IOS 119 - Introduction to Communications for Intelligence Operations (3)

Study and practice in basic oral communication in English for non-native speakers. Includes the fundamentals of oral communications in interpersonal, small-group, and large-group situations in the field of intelligence operations.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

IOS 120 - Records Management (3)

Introduces students to the procedures, regulations, and forms used to accurately account for and manage an organization's records and funds. Students will learn these skills as custodians in a simulated large agency operating environment.
3 hours lecture.
Prerequisite(s): CIS 116.

IOS 121 - Counterintelligence Investigations II (3)

A course in the collection, evaluation, and use of information to produce justifiable conclusions in support of the counterintelligence mission.
3 hours lecture.
Prerequisite(s): None.

IOS 122 - Intelligence, Surveillance, and Reconnaissance (ISR) (3) °

Teaches students the Intelligence, Surveillance, and Reconnaissance (ISR) process across the scope of military operations from Joint Task Force level to Battalion level. Students learn the functions of the ISR process and its relationship to decision making. Students are taught how to develop an ISR plan, disseminate the information, evaluate the reporting, and update the plan.
3 hours lecture.
Prerequisite(s): None.

IOS 123 - Targeting (3)

Teaches students the targeting process across the scope of intelligence operations. Students are introduced to the decide, detect, deliver, and assess (D3A) methodology of targeting. Students learn the functions associated with the D3A methodology and how these functions interact with the decision-making process.
3 hours lecture.
Prerequisite(s): None.

IOS 124 - Cellular Communication Fundamentals (3)

Trains students in cellular technologies used around the world to deploy enhanced wireless capabilities. Covers the evolution of cellular capabilities to current protocols and standards. Provides a comprehensive overview of the options available in handling voice and data transmitted through wireless technologies. Explores variations among Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA), and Global System for Mobile communications (GSM).
3 hours lecture.
Prerequisite(s): None.

IOS 131 - Personal Identification Methods in Battlefield Forensics (2)

An introduction to the methods used to identify individuals based on evidence collected at an incident scene in a battlefield environment. Emphasis is on the identification, collection, and preservation of biological evidence for criminal investigations and legal procedures. Topics include fingerprints, facial recognition, bloodstain analysis, and biometrics.
1 hour lecture, 3 hours laboratory.
Prerequisite(s): None.

IOS 141 - Battlefield Forensic Investigations I (4)

A study in battlefield forensic investigation procedures and techniques. Emphasis is on incident scene management; and on the identification, collection, and preservation of material evidence related to the manufacture and use of improvised explosive devices (IEDs).
3 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

IOS 142 - Battlefield Forensic Investigations II (4)

An in-depth study of the technical aspects of the collection and preservation of physical evidence from a battlefield environment. Emphasis is on the processes involved in identifying persons assembling improvised explosive devices (IEDs), and on the tactics and techniques used in the employment of those devices.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): IOS 141.

IOS 145 - Analysis of Counterintelligence I (3) °

This course examines the U.S. Counterintelligence (CI) effort including the history, the structure, and the role of CI in relation to the larger intelligence community. The course also includes an overview of CI organizations, laws, and strategies as well as CI case studies.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor/Dean.

IOS 201 - Collection Operations (3)

Trains students in source collection operations in the operational cycle. Includes collection planning, identifying, assessing, recruiting, training, tasking, interviewing, and providing source operations support.
3 hours lecture.
Prerequisite(s): IOS 101 or permission of instructor.

IOS 202 - Force Protection Operations and Support (3)

Teaches students how to assimilate, analyze, and distribute multidiscipline counterintelligence products in support of tactical force protection. Areas covered include counterintelligence operations in a deployed environment and current threat assessment technology.
3 hours lecture.
Prerequisite(s): IOS 101, IOS 102, IOS 103, or permission of instructor.

IOS 203 - Combating Terrorism (3) °

Familiarizes students with the history and development of terrorism. Trains students to recognize the phases of a terrorist incident and to understand a terrorist group's structure, degree of support, and scope of operations. Teaches students to use the basic analytical tools available to combat terrorism.
3 hours lecture.
Prerequisite(s): IOS 101, IOS 102, IOS 103, or permission of instructor.

IOS 204 - Interrogation and Interviewing Techniques (3)

Teaches students how to prepare for and question a source, collect all information of intelligence value, and report this information in the proper format. Training includes appropriate approach and questioning techniques, effective listening and note-taking methods, source screening procedures, and proper exploitation phases to collect intelligence information.
3 hours lecture.
Prerequisite(s): IOS 104, IOS 105, or permission of instructor.

IOS 209 - Automated Intelligence Systems (4)

Covers the use of automated intelligence systems in the field of intelligence operations. Students learn basic system operations and conventions.
4 hours lecture.
Prerequisite(s): CIS 116.

IOS 210 - Intermediate Remote Sensing (3)

An intermediate course which builds on the topics presented in IOS 110. Students apply their knowledge of intelligence operations, and they use observed activity in the analysis of hardcopy and softcopy imagery. They query imagery databases to provide organizations with accurate and timely reports, intelligence briefs, and assessments based on given scenarios and Priority Intelligence Requirements (PIRs).
3 hours lecture.
Prerequisite(s): IOS 110.

IOS 211 - Military Decision Making (1-3) °

A practical study of mission analysis and the military decision-making process. Includes a review of situation analysis, problem analysis, and decision analysis; and a review of the relationship between the decision maker and the decision environment. May be taken three times for a total of three credits.
Prerequisite(s): None.

IOS 212 - Intermediate Imagery Analysis Techniques (3)

This course builds on the fundamentals taught in IOS 112. Students develop their ability to apply photogrammetry techniques, equipment identification techniques, and softcopy and hardcopy imagery manipulation techniques to produce accurate imagery analyses and activity assessments.
3 hours lecture.
Prerequisite(s): IOS 112.

IOS 214 - Reporting of Intelligence Data II (3)

A course in the preparation of intelligence reports using pertinent information to satisfy the appropriate requirements.
3 hours lecture.
Prerequisite(s): ENG 102.

IOS 215 - Briefing Skills II (1-3)

An advanced course in the preparation and delivery of briefings in the intelligence operations field. May be taken three times for a total of three credits.
Prerequisite(s): None. Recommended Preparation: IOS 115.

IOS 220 - Reporting of Intelligence Data III (3)

A tactical human intelligence (HUMINT) course designed for the advanced intelligence operations practitioner maintaining a HUMINT-specific occupational specialty. It enhances the student's ability to plan and prepare timely and effective intelligence reports in both urban and rural environments.
3 hours lecture.
Prerequisite(s): ENG 102. Recommended Preparation: IOS 114.

IOS 221 - Counterintelligence Investigations III (3)

An advanced course that trains students to understand the objectives, apply the procedures, and produce the reports used in advanced counterintelligence investigations. Students will expand their knowledge and abilities in the planning, communicating, operating, credentialing, and investigating processes related to advanced counterintelligence investigations. This course is designed for the tactical human intelligence (HUMINT) practitioner.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L. Recommended Preparation: IOS 101.

IOS 223 - Intelligence Law and Administration of Justice II (1)

An advanced course in the legal principles and regulations of intelligence law as they apply to counterintelligence investigations and operations. Prepares students to apply the principles of intelligence law and of the administration of justice in the performance of their duties as tactical human intelligence (HUMINT) practitioners.
1 hour lecture.
Prerequisite(s): None. Recommended Preparation: IOS 103.

IOS 224 - Force Protection Operations and Support II (3)

A tactical course designed to improve the human intelligence (HUMINT) practitioner's ability to assimilate, analyze, and distribute multidiscipline human products in support of tactical force protection operations. Focus is on human intelligence operations in a tactically deployed environment.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: IOS 202.

IOS 225 - Analytical Process and Product II (3) °

A tactical human intelligence (HUMINT) course designed to improve students' ability to prepare analytical tools to assess a combat environment. Students must have a good understanding of conventional and unconventional threat forces, various types of organizations, and associated weapons and equipment, as well as a working knowledge of the tactics, techniques, and procedures of groups or forces identified as posing a threat to U.S. interests.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: IOS 104.

IOS 226 - Interrogation and Interviewing Techniques II (3)

An advanced tactical human intelligence (HUMINT) course that further trains students to prepare for questioning and to question a human intelligence source, and to collect and report information that is of intelligence value.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: IOS 204.

IOS 241 - Management of Intelligence and Counterintelligence Operations I (4)

A study of the organizational management of intelligence and counterintelligence operations. Topics include the theoretical and practical perspectives of managing increasing levels of responsibility, with emphasis on problem-solving and decision-making processes and on the role of the leader.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): IOS 211.

IOS 242 - Management of Intelligence and Counterintelligence Operations II (4)

An in-depth study of the managerial challenges related to the multidiscipline roles in intelligence and counterintelligence operations. Emphasis is on the assessment of external and internal environments, strategic initiatives, and communication techniques, and on the allocation and coordination of personnel and resources.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): IOS 241.

IOS 245 - Analysis of Counterintelligence II (3) °

This course is a continuation of Analysis of Counterintelligence I. Counterintelligence II examines and analyzes the different types of counterintelligence threats, evaluates the functions, and expends resources related to the toll of economic espionage. This course also uses case studies and a research project to evaluate overall learning.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and IOS 145, or permission of instructor/Dean.

JRN - JOURNALISM

JRN 101 - Introduction to Mass Communications (3)

An introduction to mass communications media with emphasis on understanding basic concepts of gathering, writing, and evaluating news and other kinds of

communication in newspapers, television, radio, magazines, wire services, books, movies, computer/digital and other media.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor.

JRN 102 - Essentials of News Writing (3) *

Entry-level course in media arts/communications or journalism. Students will be introduced to news values, interviewing techniques, basic newspaper writing formats, and legal and ethical concerns of media professionals.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or concurrent enrollment, and CIS 116 or concurrent enrollment.

JRN 201 - Essentials of Newspaper Publishing (3)

Introduces students to the publication of a college newspaper, with focus on newsworthiness and appropriateness, news gathering, news and editorial writing, headline writing, editing, page design, photography, and other publishing activities. Newsroom management and ethical and legal considerations are also covered.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): JRN 102 and CIS 116, or permission of instructor.

JRN 224 - Field Experience in Communication or Digital Media (1-6)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in communication or media technology and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in communication or digital media; and COM 102, DMA 110, or JRN 101. Cross-Listed as: ENG 257 Literary Magazine Production and Design.

JRN 224 - Field Experience in Communication or Digital Media (1)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in communication or media technology and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in communication or digital media; and COM 102, DMA 110, or JRN 101.

JRN 257 - Literary Magazine Production (3)

Production of the college literary and arts magazine. Includes application of promotion, editing, design, layout, and production techniques.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, or permission of instructor.

LEO - Law Enforcement

LEO 200 - Introduction to Law Enforcement Technology (2) ‡

An overview of the components of the criminal justice system, their functions, responsibilities and interrelationships, to include the historical development of law enforcement agencies, general management and supervisory principles and techniques, and the emphasis on high moral, ethical and performance standards.
2 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code.

LEO 201 - Legal Aspects of Law Enforcement (3)

An overview of laws and legal matters of the criminal justice system, to include law enforcement terminology, constitutional requirements, statutes and case law, functions, authority and jurisdiction of federal and state courts, legal duties and responsibilities as a law enforcement officer, and the civil and criminal liability facing law enforcement agencies and officers.
3 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 202 - Firearms Training for Law Enforcement (2)

An overview of the mechanical and safety features of a service handgun, which includes identifying the nomenclature of the service weapon, proper methods for servicing and firing the weapon, types of discharge, firearms safety, demonstration of the principles of good marksmanship, safe handling techniques of handguns, shooting positions, and safely qualifying with a service handgun on the AZ POST daytime and nighttime firearms qualification courses.
4 hours laboratory.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 203 - Report Writing for Law Enforcement (2)

An overview of good writing skills and techniques for developing complete, descriptive and accurate reports and field notes, which includes style and procedures for various reports, elements of composition, proper and improper conclusions and descriptions of a person and property, and practice with taking notes and writing reports.
2 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the

Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 204 - Physical Conditioning and Wellness for Law Enforcement (1)

An overview of the value of physical fitness in law enforcement which includes strength training, aerobic conditioning, flexibility, nutrition, back injury prevention, hazards and long-term effects of tobacco and alcohol use, and the necessary skills and knowledge to prepare a lifetime personal fitness program.
2 hours laboratory.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 205 - Community Relations for Law Enforcement (2)

An overview of the importance for the individual officer in developing positive police/community relations, to include recognizing cultural differences, the legal and moral obligations of the law enforcement officer's relative to victims, interpersonal communications, crime prevention functions and services available designed for crime prevention programs, the Arizona Victims' Rights Bill, the evolution of policing from traditional methodology, and developing partnerships and problem-solving strategies is stressed.
2 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 206 - First Aid for Law Enforcement (1)

An overview of methods for providing emergency care to victims of accidents or illnesses and related safeguards which includes Good Samaritan Law, legal and civil issues, basic functions and major organs of the human body, breathing impairments, cardiac conditions, uncontrolled bleeding, various injuries and medical conditions, shock, childbirth, injury management, movement of the injured and extrication of victims, triage, taking a focused history, and identifying resources at the scene.
1 hour lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 207 - Defensive Tactics for Law Enforcement (1)

An overview of defensive techniques which includes maintaining physical control of disruptive, combative, or potentially dangerous subjects, restraint holds, come-alongs, takedowns, cuff and search procedures, proper baton techniques and safety, and potential for injury or death is strongly emphasized.
2 hours laboratory.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 208 - Tactical Driving for Law Enforcement (1) ‡

An overview of tactical driving which includes basic defensive driving techniques and hazardous road conditions, the dynamics of a moving vehicle, stopping distances of a vehicle, the study of vehicle pursuits and high-speed response procedures and techniques for high speed vehicle control, reduction of risk and methods to stop fleeing vehicles, mechanical and human limitations and liability factors related to pursuits, and driving a vehicle under simulated conditions.
2 hours laboratory.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 209 - Criminal Investigations for Law Enforcement (4)

An overview of criminal investigations which includes protecting the crime scene, identifying the crime involved, conducting a proper search, sketching the crime scene, recording and preserving notes and synthesizing information into a final report, the proper attitude for the police officer, the need for the accurate data collection, the necessity for the thorough evaluation of a complainant, proper techniques for identifying, handling, collecting, marking and packaging types of evidence, physical evidence procedures, the chain of custody, proper interviewing techniques, Miranda Rights, procedures for verifying reliability and credibility of witnesses, fingerprinting techniques, investigations for criminal, sex crimes and death investigations, organized criminal activity and other criminal offenses, and narcotics and other dangerous drugs.
4 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 210 - Criminal Law for Law Enforcement (3)

An overview of criminal law which includes basic concepts and definitions, laws of arrest, conditions for an officer or citizen arrest following Arizona Revised Statutes, health and safety risks associated with public contact, deadly force, examples of persons immune from arrest per the Arizona Constitution, statutes and case law on search and seizure, rules of evidence to law enforcement and tests of admissibility of evidence applied to the courts, summonses, subpoenas and warrants, civil cases, jurisdiction of federal and state courts, juvenile laws and agencies, courtroom demeanor, constitutional and substantive law, and liability issues.
3 hours lecture.

Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 211 - Patrol Procedures for Law Enforcement (4)

An overview of the types, purposes and techniques of police patrol procedures which includes vehicle patrol and alternative methods of patrol, citizen protection, crime prevention and identification, apprehension of subjects, officer safety and related procedures, answering emergency and non-emergency situations, routing patrol and observation, inspection and control of hazards, coordination of helicopter activities, observation skills, domestic violence, managing crisis situations, authority granted to law enforcement agencies, services for victims, court orders, mental illnesses, responding to a crime in progress, controlling hostile and non-hostile crowds, duties during a bomb threat or disaster, intoxication cases, communications and police information systems, hazardous materials, bias-motivated crimes, fires and civil disputes.
4 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LEO 212 - Traffic Procedures for Law Enforcement (4)

An overview of traffic procedures which includes the effects of alcohol and drugs, and techniques for obtaining evidence for successful prosecution, scientific tests and accurate reporting, proper attitude and techniques in dealing with traffic violators, legal basis of the Uniform Traffic Citation and the differences between traffic violations, procedures for safely stopping, approaching and contacting the occupants, situations in which issuance of a traffic citation is not in the best public interest, traffic collision investigations, use of a speed Nomograph, traffic collision investigations, directing and controlling vehicular and pedestrian movements, hand signals, and substantive traffic law.
4 hours lecture.
Prerequisite(s): Must be 21 years old by Police Academy Graduation. Must meet standards set forth in R13-4-105 of the Arizona Administrative Code. LEO 200 or concurrent enrollment.

LGS - LOGISTICS

LGS 101 - Principles of Logistics (3)

An introduction to the field of logistics including the development of logistics systems, careers in logistics, distribution planning, supply chain security, and customer service. Also deals with the roles and functions of purchasing, inventory control, physical distribution, warehousing, transportation methods, packaging, and customs.
3 hours lecture.
Prerequisite(s): None.

LGS 102 - Inventory Control (3)

A study of inventory-control concepts and techniques. Includes examining cost concepts, determining nature and size of inventory, forecasting, and planning and controlling inventory. Also includes ordering methods, pilferage control, and customer satisfaction strategies.
3 hours lecture.
Prerequisite(s): None.

LGS 103 - Freight Claims and Contracts (3)

A study of the mitigation of losses in transit and of the various aspects of negotiating and drafting freight and logistics contracts. Includes claim preparation, filing procedures, and claim dispute resolution. Also includes legal and regulatory requirements applicable to product transportation contracts, and considerations for drafting and negotiating contracts with freight carriers, warehousemen, and other logistics-service providers.
3 hours lecture.
Prerequisite(s): None.

LGS 104 - Computerized Logistics (2)

An analysis of the use of computers in the logistics industry, and an introduction to available logistics software. Discusses why computers are needed, their history and possible future uses in the logistics industry, and their impact on customer service. Also includes logistics software availability, selection, and implementation; and computer security measures.
2 hours lecture.
Prerequisite(s): None.

LGS 105 - Warehouse Management (3)

A study of the managing of warehouses. Includes analysis of warehouse location and operations, controls and procedures, finances, security, cargo and materials handling, and productivity.
3 hours lecture.
Prerequisite(s): None.

LGS 106 - Transportation and Traffic Management (3)

A study of the domestic freight transportation system. Addresses patterns of freight movement, and laws, regulations, pricing, and policies of freight transportation. Examines issues related to traffic management, security, and international transportation.
3 hours lecture.
Prerequisite(s): None.

LGS 107 - Introduction to Purchasing (3) °

A study of the basic purchasing functions: establishing inventory requirements and quantities, developing policies and procedures for purchasing, making purchasing decisions,

receiving goods, arranging packaging and shipping, and managing inventory levels.
3 hours lecture.
Prerequisite(s): None.

LGS 108 - International Logistics (3)

An introduction to the role of logistics in global business. Examines international logistics as they apply to processes, terms, and transportation networks. Addresses the role of governments and intermediaries in the preparation of international transportation documents. Also reviews the fundamentals of effective import and export management.
3 hours lecture.
Prerequisite(s): None.

LGS 224 - Field Experience in Logistics (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in logistics and related fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required.
Prerequisite(s): A declared major in logistics and LGS 101.

LMO - Leadership, Management, and Operations

LMO 301 - Leadership Theory and Practice (3) °

This course is an introduction to historical and contemporary leadership theories. Current terminology, concepts, competencies, and behaviors of general and personal leadership styles are examined to provide an understanding of leadership's role in all aspects of an organization.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 311 - Leadership in Organizations (3) °

This course provides an overview of leadership within organizations by examining leadership dynamics at the personal, interpersonal, team, and organizational levels. Ethical, cultural, situational, and practical leadership characteristics will be explored.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 321 - Industrial and Organizational Psychology (3) °

This course is a scientific study of human behavior in the workplace. Assessments of individual, group, and organizational dynamics through the lens of industrial-organizational psychology principles, theory, research, and methodologies assist with identifying organizational problems and providing insight to improve individual and organizational effectiveness.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 331 - Communication and Conflict Management (3) °

This course examines communication theories and practices applied to interpersonal, organizational, and public settings and focuses on the role that communication plays in developing and managing conflict situations. Conflict theory provides a foundation for understanding intervention, mediation, and negotiation processes and strategies for conflict resolution.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 341 - Financial Analysis and Budgeting (3) °

This course examines fiscal management in public and private organizations, a manager's financial responsibility, and the interface with finance departments. Public financial data, analysis methods, and various financial management tools will provide an understanding of financial concepts, principles, and practices to promote informed decision-making within public and private sectors.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 401 - Data Analysis and Decision Making (3) °

This course is an introduction to data analytics and its role in business operations. The fundamentals of data analysis provide the framework for understanding the analytical tools and techniques used to enhance an organization's ability to optimize operations through data-driven decision making.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 411 - Project Management (3) °

This course is a comprehensive introduction to project management. Fundamental concepts and competencies, such as project theory and scope, as well as time, cost and quality management, are used to design and manage projects within organizational settings.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 421 - Innovation and Change Management (3) °

This course examines the concepts and strategies for innovation and change management which are formulated to provide an understanding of the ethical, legal, political and social implications that innovation and change have on leading and managing individuals, teams and organizations.
3 hours lecture.

Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 431 - Human Capital and Resource Management (3) °

This course examines human capital and resource management from a strategic lens to improve organizational effectiveness. Human resource (HR) practices, facilities management, time management and sustainability are introduced to align HR and resource strategies with organizational strategies ensuring a competitive advantage in a business environment.
3 hours lecture.
Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science program.

LMO 441 - Leadership, Management, and Operations Capstone (3) °

This course is a culmination of concepts, principles, and methods from all topics addressed in the BAS Leadership, Management, and Operations. Application of the knowledge and skills acquired during this program will demonstrate an ability to lead a modern empowered organization. Project topics will follow an instructor approval process.
3 hours lecture.
Prerequisite(s): LMO 301, LMO 311, LMO 321, LMO 331, LMO 341, LMO 401, LMO 411, LMO 421, and LMO 431.

MAT - MATHEMATICS

MAT 081 - Beginning Algebra (4) °, ‡

This course is an introduction to algebra meant to prepare students for college mathematics courses. Topics include fundamental properties and operations of real numbers, algebraic expressions, properties of exponents, linear equations and inequalities, literal equations, dimensional analysis, graphing of linear functions, counting theory and probability.
4 hours lecture.
Prerequisite(s): Appropriate placement measurement, and CPD 150 or concurrent enrollment.

MAT 091 - Intermediate Algebra (4) °, ‡

This course prepares students to take MAT 151 and is a review of the algebra required for college algebra. Topics include linear equations and inequalities, rational expressions, polynomials, exponents, radicals, linear equation graphs, and quadratic equations.
4 hours lecture.
Prerequisite(s): Appropriate placement measurement or MAT 081, and CPD 150 or concurrent enrollment.

MAT 132 - Applied Mathematics (3) °, ‡

This course is a survey of mathematical concepts, including numeric and fundamental algebraic operations, measurement, geometric figures, right-triangle trigonometry, and statistical measures of center. The course focuses on solving technology-related problems.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement or MAT 081.

MAT 132L - Applied Mathematics with Support Lab (3) ‡

This course is a survey of mathematical concepts, including numeric and fundamental algebraic operations, measurement, geometric figures, right-triangle trigonometry, and statistical measures of center. The course focuses on solving technology-related problems. This course includes lab for additional student support.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): Appropriate placement measurement or MAT 081.

MAT 142 - College Mathematics (3) *, °, ‡

This course is a quantitative reasoning course that builds an understanding of how data are collected, summarized and interpreted. Topics include data collection, data display, descriptive statistics, probability, normal distributions, scatter plots and regression models.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement or MAT 081.

MAT 142L - College Mathematics with Support Lab (3) ‡

This is a quantitative reasoning course that builds an understanding of how data are collected, summarized, and interpreted. Topics include data collection, data display, descriptive statistics, probability, normal distributions, scatter plots, and regression models.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): Appropriate placement measurement or MAT 081.

MAT 151 - Precalculus Algebra (4) *, °, ‡

This course is a study of college-level algebra that prepares students for statistics and calculus courses. Topics include function notation, analysis of graphs, asymptotic behavior, symmetry, inequalities, analysis of polynomials, the rational root theorem, logarithmic, and exponential functions.
4 hours lecture.
Prerequisite(s): Appropriate placement measurement or MAT 091.

MAT 151L - Precalculus Algebra with Support Lab (4) ‡

This course is a study of college-level algebra that prepares students for statistics and calculus courses. Topics include function notation, analysis of graphs, asymptotic behavior, symmetry, inequalities, analysis of polynomials, the rational root theorem, logarithmic, and exponential functions.
4 hours lecture, 2 hours laboratory.
Prerequisite(s): Appropriate placement measurement or MAT 091.

MAT 154 - Mathematics for Elementary Education Majors I (3) °, ‡

This course provides preschool, elementary, and secondary education majors with a deeper understanding of several concepts taught in elementary and middle schools. Topics include critical thinking, problem solving, set theory, number systems, and number theory, and operations on whole numbers, integers, and rational numbers.
3 hours lecture.
Prerequisite(s): MAT 142 or MAT 142L; or MAT 151 or MAT 151L.

MAT 156 - Mathematics for Elementary Education Majors II (3) °

This course provides elementary and secondary education majors with a deeper understanding of several concepts taught in elementary, middle, and high schools. Topics include algebra, geometry, statistics, and probability.
3 hours lecture.
Prerequisite(s): MAT 142 or MAT 142L; or MAT 151 or MAT 151L.

MAT 167 - Elements of Statistics (3) *, °, ‡

This course covers basic concepts of descriptive and inferential statistics with applications in business, economics, the natural sciences, and the social and behavioral sciences. Topics include methods of data collection, sampling techniques, probability distributions, confidence intervals, hypothesis testing, regression and correlation.
3 hours lecture.
Prerequisite(s): MAT 142 or MAT 142L, MAT 151 or MAT 151L, or MAT 187.

MAT 182 - Precalculus Trigonometry (3) °

This course, along with MAT 151 Precalculus Algebra, prepares students for calculus courses. Topics include trigonometric functions, graphs, identities, conditional equations, right and oblique triangles, inverse trigonometric functions, and trigonometric forms of complex numbers.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement, MAT 151 or MAT 151L or concurrent enrollment.

MAT 187 - Precalculus (5) *, °

A combination of college-level algebra and trigonometry. Algebra topics include analysis of graphs, asymptotic behavior, symmetry, inequalities, analysis of polynomials, the rational root theorem, and logarithmic and exponential functions with applications. Trigonometry topics include the trigonometric functions, inverse functions, identities, formulas, and angle measures.
5 hours lecture.
Prerequisite(s): Appropriate placement measurement or MAT 091. Recommended Preparation: Some knowledge of college algebra and/or trigonometry.

MAT 212 - Calculus for Business (3) *, °

This course is a brief introduction to calculus with emphasis on business applications. Topics include business related functions, limits, derivatives and integrals.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement, MAT 151 or MAT 151L, or MAT 187. Recommended Preparation: Placement should have occurred within the last twelve months.

MAT 220 - Calculus I (5) *, °, ‡

This course is an integrated study using analytic geometry to develop and apply calculus concepts. Topics include techniques and applications of differentiation, and integration of elementary functions.
5 hours lecture.
Prerequisite(s): Appropriate placement measurement, MAT 187, OR MAT 151 or MAT 151L and MAT 182.

MAT 227 - Discrete Mathematics (3) *

This course is an introduction to the study of non-continuous mathematics. Topics include propositional and predicate logic, formal proof techniques, number theory, set theory, functions, relations, probability, and graph theory.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement, MAT 151 or MAT 151L, and MAT 182 or MAT 187.
Recommended Preparation: MAT 220.

MAT 231 - Calculus II (4) *, °, ‡

This course is the second in the calculus series and provides further development and a deeper understanding of calculus topics. Topics include integration applications, techniques of integration, sequences and series, parametric equations, and polar coordinates.
4 hours lecture.
Prerequisite(s): MAT 220.

MAT 241 - Calculus III (4) *, °, ‡

This course introduces the calculus of scalar and vector-valued functions of several variables. Topics include partial and directional derivatives, chain rule, the gradient, optimization, multiple integrals, line integrals, Green's Theorem, Stokes' Theorems, and Divergence Theorem.
4 hours lecture.
Prerequisite(s): MAT 231.

MAT 252 - Introduction to Linear Algebra (3) °

This course is a study of the properties of vector spaces. Topics are introduced in the context of real valued matrices and then generalized to more abstract spaces. Basic arithmetic of matrices is reviewed and then extended to cover linear transformations, eigenvalues, eigenvectors, and applications.
3 hours lecture.
Prerequisite(s): MAT 231.

MAT 262 - Differential Equations (3) *

This course is an introduction to the study of ordinary differential equations. Topics include the theory, methods of solution, and applications of the following: first-order differential equations, nth-order linear differential equations, systems of linear differential equations, and series solutions.
3 hours lecture.
Prerequisite(s): MAT 231.

MST - Military Intelligence Systems Technician

MST 101 - Introduction to Electronic Systems (3-4)

This course introduces students to the fundamentals of electronics and power integration associated with military intelligence systems. Emphasis is on the knowledge and skills required to analyze electrical systems, apply safety measures, calculate electrical quantities, troubleshoot circuits, and design power integration plans.
3-4 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 102 - RF Communications Fundamentals (3-4)

This course trains the students on systems communications and radio frequency (RF) tests and measurements. Emphasis is on the knowledge and skills required to define, identify, and analyze communication components, frequency signal characteristics, various modulation methods, antenna principles, receiver circuits, and direction-finding theory. Students will also possess the necessary skills to conduct RF tests and measurements using spectrum analyzers and oscilloscopes.
3-4 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 103 - Network Communication Fundamentals (3-4)

This course trains students to configure and maintain network connectivity within a heterogeneous network while ensuring proper network security. Emphasis is on the knowledge and skills required to configure and maintain Cisco routers and switches, the OSI and TCP/IP models, subnet analysis and design, ACL configuration, advanced settings, and network security principles.
3-4 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 104 - Managing Virtual Machine Infrastructure (1-3)

This course trains students to configure and maintain virtual machines in a virtual network computing environment using VMware. Emphasis is on the knowledge and skills required to use virtualization concepts and hierarchy to identify, configure, and manage virtual resources, create and configure virtual machines, and configure virtual networks.
1-3 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 105 - Microsoft Windows Operating Systems (3-4)

This course trains students to configure and manage Windows-based computing environments. Emphasis is on the knowledge and skills required to configure network interfaces, manage shares, install Active Directory, manage Active Directory objects, handle permissions, manage group policy objects, manage printers, control software usage, and employ network security measures.
3-4 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 106 - Linux Servers and Workstations (4-7)

This course trains students to configure, operate, and maintain Linux-based computing environments. The course covers installing and configuring Linux server and workstation operating systems, modify computer and disk configurations, configure network interfaces, manage software, modify the Linux boot process, configure network file systems (NFS), manage users and groups, handle permissions, manage printers, and employ network security measures.
4-7 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 201 - Information Security (6-8)

This course trains students how to react to network security incidents and prepares them to take the CompTIA Security+ certification examination. The course covers network security, compliance and operational security, threats and vulnerabilities, applications, data, and host security, as well as access control and identity management, and cryptography.
6-8 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 202 - Integration and Troubleshooting of DPN (4-6)

This course trains students how to integrate intelligence servers and workstations into an intelligence architecture, as well as the maintenance and repair of a heterogeneous computer network within this environment. It covers how to effectively manage, troubleshoot, and repair network infrastructure across military intelligence distributed processing networks (DPNs).
4-6 hours lecture.

Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MST 203 - Software Defined Receivers (1-3)

This course trains students on the employment, integration, maintenance, and repair of Software Defined Receivers (SDRs) within intelligence architecture and operational settings. It covers the role of SDRs in intelligence architecture, identifying hardware and software requirements, and possessing the skills to set up and configure SDRs for operational use.
1-3 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

MUS - MUSIC

MUS 100 - Fundamentals of Music Notation (3) °

An introduction to the fundamentals of music notation including pitch, rhythm, meter, scales, and intervals. Also introduces basic harmonic structures and the elements of composition. Students use music software to create original musical pieces.
3 hours lecture.
Prerequisite(s): None.

MUS 101 - Introduction to Music (3)

An introduction to the elements of music, illustrated with important musical literature from various periods of music history. Covers music from the Middle Ages and the Renaissance, as well as the Baroque, Classical, Romantic, and Twentieth-Century periods.
3 hours lecture.
Prerequisite(s): None.

MUS 103 - Voice Class Instruction (1)

The study and development of basic vocal techniques such as breath management, tone quality, projection, and diction. Guided practice includes singing in class, both in group and solo situations.
1 hour lecture.
Prerequisite(s): None.

MUS 106 - Jazz Band I (1) ‡

This course is the study and performance of various pieces of Jazz literature from different musical periods. Emphasis is on the development of improvisational and jazz-related styles used in all instrumental sections of the ensemble, including but not limited to voice, keyboard, wind, horn, and rhythm sections.
3 laboratory hours.
Prerequisite(s): Audition. . Recommended Preparation: Ability to sight read 16th notes on your instrument.

MUS 106A - Jazz Band II (1) ‡

This course is the continued study and performance of various pieces of Jazz literature from different musical periods. Emphasis is on the development of improvisational and jazz-related styles used in all instrumental sections of the ensemble, including but not limited to voice, keyboard, wind, horn, and rhythm sections.

3 hours laboratory.
Prerequisite(s): MUS 106.

MUS 107 - Chorus I (1) ‡

This course is the study and performance of various pieces of choral literature from different musical periods. Emphasis is on vocal and choral techniques as applied through the rehearsal of repertoire. Includes public performances at college and community events. No prior choir experience necessary.

3 hours laboratory.
Prerequisite(s): None.

MUS 107A - Chorus II (1) ‡

This course is the continued study and performance of various pieces of choral literature from different musical periods. Emphasis is on vocal and choral techniques as applied through the rehearsal of repertoire. Includes public performances at college and community events.

3 hours laboratory.
Prerequisite(s): MUS 107.

MUS 109 - Orchestra I (1) ‡

This course is the study and performance of various pieces of the orchestral literature from different musical periods. Emphasis is on sight reading, mind and body control, rhythms, and orchestral performance. Includes public performances at college and community events.
3 hours laboratory.
Prerequisite(s): Audition. Recommended Preparation: Ability to sight read 16th notes on your instrument.

MUS 109A - Orchestra II (1) ‡

This course is the continued study and performance of various pieces of the orchestral literature from different musical periods. Emphasis is on sight reading, mind and body control, rhythms, and orchestral performance. Includes public performances at college and community events.
3 hours laboratory.
Prerequisite(s): MUS 109.

MUS 111 - Band I (1) ‡

This course is the study and performance of various pieces of the standard concert band literature from different musical periods. Emphasis is on sight reading, mind and body control, scales, and band performance. Includes public performances at college and community events.

2 hours laboratory.
Prerequisite(s): Audition. Recommended Preparation: Ability to sight read 16th notes on your instrument.

MUS 111A - Band II (1) ‡

This course is the continued first year study and performance of various pieces of the standard concert band literature from different musical periods. Emphasis is on sight reading, mind and body control, scales, and band performance. Includes public performances at college and community events.
3 hours laboratory.
Prerequisite(s): MUS 111.

MUS 112 - Instrumental Class Instruction (1) ‡

The study and development of basic instrumental techniques such as coordination, and of rhythms, scales, and sight reading. Guided practice includes performing in class, both in group and solo situations.
1 hour lecture.
MUS 112A Piano Class Instruction
MUS 112E String Class Instruction
Prerequisite(s): None.

MUS 113 - Instrument - Individual Instruction (1-2) ‡

A systematic study of technique and repertoire on an instrument of the student's choice. May be taken twice for a total of two credits. (Students can gain credit by examination for this class. Contact the Dean of Liberal Arts for details.)
MUS 113A Individual Instruction - Piano
MUS 113B Individual Instruction - Brass
MUS 113C Individual Instruction - Woodwind
MUS 113D Individual Instruction - Percussion
MUS 113E Individual Instruction - Strings
MUS 113F Individual Instruction - Guitar

Prerequisite(s): Audition or permission of instructor.

MUS 115 - Voice - Individual Instruction (1-2) ‡

A study of the basics of vocal technique and a preparation for the performance of pieces in the vocal literature. May be taken twice for a total of two credits. (Students can gain credit by examination for this class. Contact the Dean of Liberal Arts for details.)
Prerequisite(s): Audition or permission of instructor.

MUS 123 - American Popular Music (3) °

This course is an introduction to elements, forms, and uses of popular music beginning with the early 20th Century in America. Course content is illustrated by recordings and videos of influential performers and composers, with an emphasis on the music industry within the context of popular culture.
3 hours lecture.
Prerequisite(s): None.

MUS 132 - Music Theory I (3) °

This first course in music theory is a study of the construction and of the analysis of music including scales, intervals, transposition, figured bass symbols, cadences, non-harmonic tones, and melodic organization.
3 hours lecture.
Prerequisite(s): MUS 100 or permission of instructor, and concurrent enrollment in MUS 134. Recommended Preparation: In addition, music majors should enroll in either MUS 113 or MUS 115.

MUS 133 - Music Theory II (3) °

This second course in music theory includes voice-leading, seventh chords, modulation types, secondary dominants, secondary leading-tone chords, and binary and ternary forms.
3 hours lecture.
Prerequisite(s): MUS 132 and MUS 134, or permission of instructor; and concurrent enrollment in MUS 135. Recommended Preparation: In addition, music majors should enroll in either MUS 113 or MUS 115.

MUS 134 - Aural Skills I (1)

A progressive series of exercises in sight singing, rhythmic dictation, and melodic dictation.
1 hour lecture.
Prerequisite(s): Concurrent enrollment in MUS 132.

MUS 135 - Aural Skills II (1)

A continuation of the progressive series of exercises in sight singing, rhythmic dictation, and melodic dictation introduced in MUS 134.
1 hour lecture.
Prerequisite(s): MUS 134 and concurrent enrollment in MUS 133.

MUS 201 - Ensemble (1) ‡

This course is the study and performance of music written or arranged for small ensembles. Emphasis is on performance techniques for small vocal and/or instrumental groups.
3 hours laboratory.
Prerequisite(s): Audition. Recommended Preparation: Ability to sight read 16th notes on your instrument or voice.

MUS 206 - Jazz Band III (1) ‡

This course is the second year study and performance of various pieces of Jazz literature from different musical periods. Emphasis is on the development of improvisational and jazz-related styles used in all instrumental sections of the ensemble, including but not limited to voice, keyboard, wind, horn, and rhythm sections.
3 hours laboratory.

Prerequisite(s): MUS 106A.

MUS 206A - Jazz Band IV (1) ‡

This course is the continued advanced study and performance of various pieces of Jazz literature from different musical periods. Emphasis is on the development of improvisational and jazz-related styles used in all instrumental sections of the ensemble, including but not limited to voice, keyboard, wind, horn, and rhythm sections.
3 hours laboratory.

Prerequisite(s): MUS 206.

MUS 207 - Chorus III (1) ‡

This course is the second year study and performance of various pieces of choral literature from different musical periods. Emphasis is on vocal and choral techniques as applied through the rehearsal of repertoire. Includes public performances at college and community events.

3 hours laboratory.

Prerequisite(s): MUS 107A.

MUS 207A - Chorus IV (1) ‡

This course is the continued advanced study and performance of various pieces of choral literature from different musical periods. Emphasis is on vocal and choral techniques as applied through the rehearsal of repertoire. Includes public performances at college and community events.

3 hours laboratory.

Prerequisite(s): MUS 207.

MUS 209 - Orchestra III (1) ‡

This course is the second year study and performance of various pieces of orchestral literature from different musical periods. Emphasis is on sight reading, mind and body control, rhythms, and orchestral performance. Includes public performances at college and community events.

3 hours laboratory.

Prerequisite(s): MUS 109A.

MUS 209A - Orchestra IV (1) ‡

This course is the continued advanced study and performance of various pieces of orchestral literature from different musical periods. Emphasis is on sight reading, mind and body control, rhythms, and orchestral performance. Includes public performances at college and community events.

3 hours laboratory.
Prerequisite(s): MUS 209.

MUS 210 - Music Theatre Workshop (2)

A practical study of vocal and performance strategies for projection and communication. Students will participate in a college-sponsored operatic or musical production. ******This course is not currently offered.******
1 hour lecture, 3 hours rehearsal/performance.
Prerequisite(s): Audition or permission of instructor.

MUS 211 - Band III (1) ‡

This course is the second year study and performance of various pieces of the standard concert band literature from different musical periods. Emphasis is on sight reading, mind and body control, scales, and band performance. Includes public performances at college and community events.

3 hours laboratory.

Prerequisite(s): MUS 111A.

MUS 211A - Band IV (1) ‡

This course is the continued advanced study and performance of various pieces of the standard concert band literature from different musical periods. Emphasis is on sight reading, mind and body control, scales, and band performance. Includes public performances at college and community events.

3 hours laboratory.

Prerequisite(s): MUS 211.

MUS 232 - Music Theory III (3) *, °

This third music theory course focuses in chronological order on art music from the late Renaissance period through the early 20th century. Major forms are analyzed through melody, harmony, and various musical motives.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): MUS 133 and MUS 135.

MUS 233 - Music Theory IV (3) *, °

This fourth music theory course focuses in chronological order on art music from the late 19th century through the middle of the 20th century. Major forms are analyzed through melody, harmony, and various musical motives.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): MUS 232.

MUS 236 - Repertoire Strategy (1) ‡

Exploration of choral and instrumental chamber repertoire from the Middle Ages through the mid-18th century. Emphasis is on technique and interpretation. Performing groups include duets, trios, and small chamber groups.
3 hours rehearsal/performance.
Prerequisite(s): Permission of instructor.

MUS 260 - Music Fundamentals through Experience (3)

An introduction to musical skills, the mechanics of music, and musical experiences as a background for teaching music to children. Introduction to playing keyboard, autoharp, and recorder, as well as singing. Previous musical experience is not required. Fulfills the music education requirement for teacher certification.
3 hours lecture.
Prerequisite(s): None.

NUR - NURSING

NUR 112 - Introduction to Pharmacology (3) ‡

An introduction to the basic principles and legal implications of pharmacology, and to the safe administering of medications. Includes pharmacokinetics, pharmacodynamics, drug classifications, drug dosage calculation, and medication administration. Students convert and calculate oral, injectable, and intravenous drug dosages for adults and children, and they calculate intravenous flow rates.
3 hours lecture.
Prerequisite(s): None.

NUR 113 - Practical Nursing I (8) ‡

Practical Nursing I provides an introduction to the fundamental concepts and skills necessary to provide basic nursing care to clients in a variety of settings. Focus is on the basic physiological and psychological needs of clients of all ages across all cultures.
4 hours lecture, 12 hours laboratory.
Prerequisite(s): BIO 160, NUR 112, and NUR 121A, all with a grade of B or better; and HLT 101 and HLT 111.

NUR 114 - Practical Nursing II (9) ‡

A study of the concepts and skills needed to provide nursing care throughout the adult lifespan. Focus is on the application across all cultures of skills necessary in the care of adults with diseases and disorders.
5 hours lecture, 12 hours laboratory.
Prerequisite(s): NUR 113 with a grade of B or better and concurrent enrollment in NUR 115.

NUR 115 - Practical Nursing III (3) ‡

A study of the concepts and skills needed to provide nursing care to obstetrical and pediatric clients in family care applications across all cultures. Focus is on nursing skills, on biopsychosocial and cultural concepts relating to growth and development, and on disorders and diseases of pediatric and normal obstetrical clients. Upon successful completion of NUR 114 and NUR 115, students are eligible to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).
2 hours lecture, 3 hours laboratory.
Prerequisite(s): NUR 113 with a grade of B or better and concurrent enrollment in NUR 114.

NUR 116 - Practical Nursing II/III (12)

Practical Nursing II/III provides a study of the concepts and skills needed to provide nursing care throughout the adult lifespan, obstetrical and pediatric clients. The focus is on nursing skills, biopsychosocial and cultural concepts relating to adult populations, growth and development, and disorders and diseases of normal obstetrical clients. Upon successful completion of NUR 116, students are eligible to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).
7 hours lecture, 15 hours laboratory.
Prerequisite(s): Completion of NUR 113 with a B or better.

NUR 120 - Transition to Practical Nurse (1) ‡

For first-year re-entering nursing students who have been out of nursing studies at Cochise College for less than one year. Provides an update of the philosophy, policies, and procedures of the Cochise College nursing program. Emphasis is on the nursing process, patient care planning, therapeutic use of self, clinical expectations, and basic nursing skills.
1 hour lecture, 0.5 hour laboratory.
Prerequisite(s): NUR 122 with a grade of B or better at Cochise College within the last twelve months and approval of Nursing Department.

NUR 121A - Medication Math I (2) °, ‡

This course gives students the math skills necessary to convert and calculate drug dosages for oral, injectable, and intravenous drugs. Experience is provided in techniques for the calculation of oral and parenteral drug dosages for adults and children, and for the calculation of intravenous flow rates.
2 hours lecture, 1 hour laboratory.
Prerequisite(s): Appropriate placement measurement or MAT 081, and acceptance into the nursing program.

NUR 121B - Medication Math II (2) °, ‡

This course reinforces the skills necessary to convert and calculate drug dosages for oral, injectable, and intravenous drugs; it reviews techniques for the calculation of oral and parenteral drug dosages for adults and children, and for the calculation of intravenous flow rates. Focus is on these skills and techniques as they apply to pediatrics, critical care, pediatric critical care, labor and delivery, and the general community.
2 hours lecture, 1 hour laboratory.
Prerequisite(s): NUR 121A with a grade of B or better, and concurrent enrollment in NUR 232.

NUR 122 - Nursing I Fundamentals of Nursing (12) ‡

In this first-semester course in the nursing program, students learn concepts and skills necessary to provide basic nursing care to healthy individuals in a variety of settings. Focus is on basic physiological and psychological needs of clients throughout the lifespan across all cultures.
8 hours lecture and 5 hours clinical, 4 hours laboratory.

Prerequisite(s): BIO 201, BIO 202, BIO 205, and NUR 203 all with a B or better; ENG 101 or ENG 101L, MAT 142 or MAT 142L, PSY 101 and PSY 240; and admission into the nursing program. Recommended Preparation: TEAS score of 66.1 or higher. All prerequisite courses with a grade of B or better.

NUR 123 - Nursing II-A (6) ‡

In this second-semester required course in the program, students build on the concepts and skills learned in NUR 122. Through a concept-based approach to learning, the focus will be on patients with chronic and common conditions with an introduction to acute illness. Application of the concepts and skills learned with the medical-surgical client. This course is taken concurrently with NUR 124 to care for culturally diverse clients across the lifespan. After successful completion of this course and NUR 124, the student has the skills and eligibility for the National Council Licensure Examination for Practical Nurses (NCLEX-PN) and may proceed into Nursing II (NUR 232).
6 hours lecture, 3 hours laboratory.
Prerequisite(s): NUR 121A and NUR 122, both with a grade of B or better.

NUR 124 - Nursing II-B (6) ‡

In this second-semester course that is taken concurrently with Nursing II-A, students continue to build on the basic concepts and skills needed to provide nursing care throughout the entire lifespan. Focus is on application across all cultures in the care of obstetric and pediatric clients with diseases and disorders. Upon successful completion of Nursing II-A and Nursing II-B, students are eligible to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).
6 hours lecture, 8 hours laboratory.
Prerequisite(s): NUR 121A and NUR 122, both with a grade of B or better. Recommended Preparation: NUR 124 taken concurrently with NUR 123. .

NUR 130 - LPN to Professional Nurse I (4) ‡, °

For licensed practical nurses with one year's experience who have been out of a nursing program for more than one year. This first-semester course in the LPN to Professional Nurse program updates students on the philosophy, policies, and procedures of the Cochise College nursing program and on changes within the profession. Emphasis is on the nursing process, patient care planning, therapeutic use of self, and basic nursing skills.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): BIO 201, BIO 202, and NUR 203, all with a grade of B or better; concurrent enrollment in NUR 121A; ENG 101 or ENG 101L, ENG 102, and PSY 101; and current unencumbered Arizona LPN license, one year’s experience as an LPN, and admission into the LPN to Professional Nurse program.

NUR 201 - Infusion Therapy/Venipuncture by Licensed Practical Nurses (3) ‡

Teaches the theory and technical skills necessary to provide intravenous (IV) therapy and venipuncture, including the administering of premixed intravenous medications and solutions through an IV line. Adheres to the competencies for infusion therapy/venipuncture outlined in the Arizona State Board of Nursing Advisory Opinion. Upon successful completion, students receive a departmental Certificate of Competency indicating they have met state guidelines.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): Current unencumbered LPN license or two semesters of nursing.

NUR 203 - Pharmacology Essentials for the Health Professional (3) °, ‡

This course builds the foundation for understanding drug therapies and their administration. Students learn pharmacology principles and critical thinking to make decisions necessary for the safe administration of medications. These principles will be applied in a multisystem application by focusing on drug therapies for problems within the nervous, cardiovascular, endocrine, respiratory, gastrointestinal, and reproductive systems. This course applies information about current medications to patient care. Students learn to assess, evaluate and analyze information and situations, think critically, and make decisions necessary for the safe administering of medications.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

NUR 220 - Transition: Practical Nurse to Registered Nurse (1) ‡

For second-year re-entering nursing students who have been out of nursing studies at Cochise College for less than one year. Provides a review and an update of the philosophy, policies, and procedures of the Cochise College nursing program. Emphasis is on the nursing process, patient care planning, therapeutic use of self, clinical expectations, and more advanced nursing skills.
1 hour lecture, 0.5 hour laboratory.
Prerequisite(s): NUR 123 or NUR 232 with a grade of B or better at Cochise College within the last twelve months and approval of Nursing Department.

NUR 232 - Nursing III (12) ‡

In this third-semester course in the nursing program, the focus is on the problems and the physical and psychosocial health needs of acutely-ill adult clients. Topics include the framework for effective communication and the nursing process with emphasis on intervention and evaluation. A clinical setting helps students develop competence in discharge planning, community nursing, and leadership. Students utilize knowledge of new developments in health care to adapt to changes in the field and to be proactive in the nursing profession.
6 hours lecture, 12 hours laboratory.

Prerequisite(s): NUR 123 and NUR 124 (both with a grade of B or better) and PSY 240. For LPN to RN advanced placement pathway students NUR 130 (prerequisite). PSY 240 (corequisite).

NUR 233 - Nursing IV (12) ‡

In this fourth and final nursing course in the ADN program,clients with increasingly complex health problems are studied and further independent learning by the student is reinforced through clinical experiences. This includes a preceptorship rotation that allows the student to have experiences and perform the roles of a new graduate nurse. This course allows the student to learn more about leadership,management and collaborative team membership on a novice level. After successful completion of this course, the student is eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN) and is given the tools to successfully pass the exam.
6 hours lecture, 12 hours laboratory.
Prerequisite(s): NUR 121A, NUR 121B, NUR 122, NUR 123, NUR 124, NUR 203 and NUR 232. Nursing courses must be passed with a grade of B better.

NUR 305 - Reflective Practice, Issues, and Trends (3) °

In this course students explore nursing theories and principles that serve as guides for ethically sound behavior within a nursing context. This course addresses the added complexities that technological advances bring to the healthcare field. Other topics include economic issues, patient self-determination, ethics in research, diversity, and discrimination in healthcare.
3 hours lecture.
Prerequisite(s): Admission into the Nursing (RN to BSN) Bachelor of Science program.

NUR 310 - Health Care Delivery and Quality Outcomes (3) °

This course focuses on nursing practice foundations including the influence of socio-cultural-political-economic and physical environments on health, healthcare delivery systems, and outcomes.
3 hours lecture.
Prerequisite(s): Admission into the Nursing (RN to BSN) Bachelor of Science program.

NUR 335 - Developing Nursing Practices (3) °

This course introduces a structured critical thinking approach to achieving the Institute of Medicine's five core competencies. Students will be guided by Critical Thinking Habits of the Mind and Critical Thinking Skills in critiquing nursing assessments, interdisciplinary planning, and setting goals for patient health outcomes. The course offers suggestions for assessing the critical thinking abilities of patients and families to participate in care.
3 hours lecture.
Prerequisite(s): NUR 305 and NUR 310.

NUR 345 - Health Assessment (3) °

This course provides students with integrated functional health assessment knowledge and practical applications of physical assessment. The integrated health assessment includes physical, social, cultural, psychological, and spiritual components across the lifespan. Emphasis will be placed on developing and using therapeutic communication skills. This course includes 30 contact hours of activities. This course requires the purchase of virtual assessment software for an estimated price of $90 -$110.
3 hours lecture.
Prerequisite(s): NUR 305.

NUR 415 - Nursing Management Services (3) °

This course introduces concepts of organization and management theory as they relate to key issues in nursing management. Topics included in this course are delegation, conflict negotiation, standards of practice, and professional responsibility. Students will engage in discussion regarding management traits, decision-making, and workplace motivation.
3 hours lecture.
Prerequisite(s): NUR 305.

NUR 421 - Leadership and Strategic Planning (3) °

This course provides the theoretical foundation for understanding organizational and systems leadership, quality improvement, and safety within selected healthcare settings. Emphasis is placed on strategies for effective change management and communication in quality improvement and patient safety. In addition, ethical, legal, and resource management concepts will be explored.
3 hours lecture.
Prerequisite(s): NUR 305.

NUR 422 - Nursing Research (3) °

This course is a foundational research course designed to introduce students to the components of the nursing research process, with an emphasis on critiquing and applying current research for evidence-based practice.
3 hours lecture.
Prerequisite(s): NUR 305.

NUR 432 - Community Health Nursing (3) °

This course provides an overview of concepts and theories related to community health nursing. The emphasis during this course is on population-focused practice, health promotion, health maintenance, and risk reduction. Topics include core functions and essential services of public health, epidemiology concepts, community assessment, and interprofessional collaboration to meet client needs in community settings.
3 hours lecture.
Prerequisite(s): NUR 305.

NUR 440 - Case Management (3) °

This course covers current topics and trends in nursing case management including, disease navigation, and demand management. The course focuses on the nurse's role in a collaborative team approach utilizing both acute and community settings. The course offers a cumulative final project whereby the student chooses their patient population and builds the project on that specific patient/disease type.
3 hours lecture.
Prerequisite(s): NUR 305, NUR 415, NUR 421, NUR 422, and NUR 432.

NUR 499 – BSN Capstone Project (3) °

The final course in the RN to BSN program is designed to synthesize all of the knowledge gained during the program and then apply this to a health promotion opportunity. Students will use leadership and change theory and propose appropriate evaluation measures. The student will also create a professional leadership development plan as part of their accountability for their practice.
3 hours lecture.
Prerequisite(s): NUR 305, NUR 310, NUR 335, NUR 345, NUR 415, NUR 421, NUR 422, NUR 432, and NUR 440.

PFT - Professional Flight Technology

PFT 100 - Introduction to Aviation (1)

Instruction in the program-specific requirements, polices, and aircraft procedures which are not covered in Federal Aviation Administration training course outlines. Designed to prepare students who have been accepted into the aviation program for flight training.
1 hour lecture.
Prerequisite(s): Acceptance into the aviation program.

PFT 101 - Private Pilot Ground School (5) °, ‡

A comprehensive course that prepares students for the Federal Aviation Administration Private Pilot Airplane knowledge exam. Prepares students to acquire the knowledge and skills necessary to operate as a private pilot and to pursue a career in aviation.
5 hours lecture.
Prerequisite(s): Acceptance into the aviation program.

PFT 103 - Private Pilot Review (1) ‡, °

A review of the course materials and of the flight proficiency requirements for the Federal Aviation Administration Private Pilot Certification. Also prepares those seeking to satisfy FAA currency requirements.
1 hour lecture.
Prerequisite(s): Acceptance into the aviation program.
Recommended Preparation: Successful completion of the FAA Private Pilot knowledge test.

PFT 105 - Crew Resource Management - Flight (2)

A study of resources available to flight crews to assure safe and efficient flight operations and reduce cockpit errors. Focus is on the development of cognitive and interpersonal skills such as situational awareness, communication, teamwork, task allocation, and decision making, which are needed to manage flights.
2 hours lecture.
Prerequisite(s): Acceptance into the aviation program.

PFT 111 - Solo Flight Preparation (3.5) ‡

Designed to prepare the student for solo flight in accordance with FAA requirements.
3.5 hours lecture.
Prerequisite(s): Concurrent enrollment in PFT 101 or permission of the Aviation Department.

PFT 112 - Cross-Country Navigation (1.5) ‡

Designed to prepare the student for cross-country navigation in accordance with FAA requirements.
1.5 hours lecture.
Prerequisite(s): PFT 101 and concurrent enrollment in PFT 111, or permission of the Aviation Department.

PFT 113 - Private Pilot Certification (1) ‡

Designed to prepare the student for private pilot certification in accordance with FAA requirements.
1 hour lecture.
Prerequisite(s): PFT 111 and concurrent enrollment in PFT 112, or permission of the Aviation Department.

PFT 121 - Commercial Flight I (3) ‡

The first in a series of three courses designed to prepare students for a Commercial Pilot Airplane Single Engine Land Certificate. Topics include preflight preparations and procedures, flight maneuvers, and postflight operations, with emphasis on the airmanship skills and aeronautical knowledge stipulated by the Federal Aviation Administration for commercial pilots. Provides a foundation for the development of a professional pilot career.
3 hours lecture.
Prerequisite(s): Possession of a Private Pilot Airplane Single Engine Land Certificate.

PFT 122 - Aviation Weather (3) °

A continuation of the study of aviation weather theory, one of the topics introduced in PFT 101. Includes an in-depth study of weather elements and hazards, and of aviation weather reports and forecasts. Covers weather conditions as they relate to aircraft and flight performance.
3 hours lecture.
Prerequisite(s): PFT 101 or permission of instructor.

PFT 130 - Commercial Pilot Ground School (5) °, ‡

A comprehensive course that prepares students for the Federal Aviation Administration Commercial Pilot Airplane knowledge exam. Focuses on improving students' aeronautical

knowledge as well as their decision-making, aviation-safety, and risk-management skills in preparation for a career as a commercial pilot.
5 hours lecture.
Prerequisite(s): PFT 101 or possession of a Private Pilot Certificate, and acceptance into the aviation program.

PFT 131 - Commercial Flight II (3) ‡

The second in a series of three courses designed to prepare students for a Commercial Pilot Airplane Single Engine Land Certificate. Focus is on commercial pilot-level airmanship skills and aeronautical knowledge. Continues developing the foundation for a professional pilot career.
3 hours lecture.
Prerequisite(s): PFT 121, concurrent enrollment, or permission of the director of aviation; and possession of a Private Pilot Certificate with Airplane Single Engine Land.

PFT 204 - Instrument Rating Ground School (5) °, ‡

A comprehensive course that prepares students for the Federal Aviation Administration Instrument Rating Airplane exam. Focuses on air traffic control procedures, the national airspace system, aviation weather, risk management, aeronautical decision making, and aviation safety as they all relate to instrument flight operations in preparation for a career as a professional pilot.
5 hours lecture.
Prerequisite(s): PFT 101 or possession of a Private Pilot Certificate, and acceptance into the aviation program.

PFT 206 - Aircraft Systems (3) °

A study of the fundamentals of physics, and of various aircraft systems-mechanical, electrical, and hydraulic-used to manage complex aircraft operations.
3 hours lecture.
Prerequisite(s): PFT 101 or permission of the director of aviation.

PFT 208 - Jet Transition Training (3)

A CRJ 700 passenger jet simulation-based flight-training experience that teaches principles common to many modern jet and turbo propeller airliners. The training utilizes an integrated flight and navigation management system with displays, aircraft and flight control systems, realistic views of the environment, and simulated malfunctions that mimic emergency situations.
3 hours lecture.
Prerequisite(s): Concurrent enrollment in PFT 218 or possession of a Commercial Pilot Airplane Certificate.

PFT 210 - Multi-Engine Rating Ground School (1) °, ‡

A comprehensive course covering the aeronautical knowledge required for a Multi-Engine Land Airplane Class Rating.
1 hour lecture.
Prerequisite(s): Possession of a Private Pilot Certificate with Airplane Single Engine Land.

PFT 211 - Multi-Engine Rating Flight (1) ‡

A comprehensive course that develops the required airmanship skills, knowledge, and proficiency for a Multi-Engine Land Airplane Class Rating per the Federal Aviation Administration Practical Test Standards.
1 hour lecture.
Prerequisite(s): PFT 210 or concurrent enrollment; and possession of a Private Pilot Certificate with Airplane Single Engine Land.

PFT 214 - Instrument Rating Flight I (3.5) ‡

The first of two courses designed to prepare the student for instrument flight navigation and air traffic control rating in accordance with FAA requirements.
3.5 hours lecture.
Prerequisite(s): PFT 204.

PFT 215 - Instrument Rating Flight II (1.5) ‡

The second of two courses designed to prepare the student for instrument flight navigation and air traffic control rating in accordance with FAA requirements.
1.5 hours lecture.
Prerequisite(s): PFT 214.

PFT 217 - Instrument Pilot Review (1) ‡

A review of the course materials and of the flight proficiency requirements for the Federal Aviation Administration Instrument Rating Certification. Also prepares those seeking to satisfy FAA currency requirements.
1 hour lecture.
Prerequisite(s): Acceptance into the aviation program.
Recommended Preparation: Successful completion of the FAA Instrument Rating knowledge test.

PFT 218 - Commercial Flight III (1) ‡

The third in a series of three courses designed to prepare the student for a Commercial Pilot Airplane Single Engine Land Certificate. Emphasis is on correlating the aeronautical knowledge and airmanship skills developed in PFT 121 and PFT 131 with the Federal Aviation Administration Commercial Pilot Practical Test Standards.
1 hour lecture.
Prerequisite(s): PFT 121 or concurrent enrollment and PFT 131 or concurrent enrollment, or permission of the director of aviation; and possession of a Private Pilot Certificate with Airplane Single Engine Land.

PFT 220 - Commercial Pilot Review (1) ‡

A review of the course materials and of the flight proficiency requirements for the Federal Aviation Administration Commercial Pilot Certification. Also prepares those seeking to satisfy FAA currency requirements.
1 hour lecture.
Prerequisite(s): Acceptance into the aviation program.
Recommended Preparation: Successful completion of the FAA Commercial Pilot knowledge test.

PFT 222 - Aircraft Dispatcher (7) ‡

A comprehensive course that prepares students for the Federal Aviation Administration Aircraft Dispatcher Certificate required for a career as a licensed dispatcher. Topics include FAA regulations, weather protocol, flight planning and decision making, and navigation and dispatch procedures.
7 hours lecture.
Prerequisite(s): PFT 101, PFT 122, PFT 204, and PFT 206.

PFT 230 - Flight Instructor - Fundamentals Ground School (3) ‡

A study of the principles of teaching and performance assessment, and an analysis of student behavior and learning as they all relate to aviation students. Offered in preparation for the Federal Aviation Administration Fundamentals of Instructing knowledge exam.
3 hours lecture.
Prerequisite(s): PFT 130 and PFT 204, or permission of the director of aviation.

PFT 231 - Flight Instructor - Airplane Ground School (5)

An application of the fundamentals of instruction as they relate to aviation students. Emphasis is on the development and demonstration of the instructional knowledge and skills required for the Federal Aviation Administration Flight Instructor Airplane Single Engine practical test.
5 hours lecture.
Prerequisite(s): PFT 130, PFT 204, and PFT 230 or concurrent enrollment.

PFT 233 - Flight Instructor - Airplane Review (1) ‡

A review of the course materials and of the flight proficiency requirements for the Federal Aviation Administration Flight Instructor Airplane Certification. Also prepares those seeking to satisfy FAA currency requirements.
1 hour lecture.
Prerequisite(s): Acceptance into the aviation program.
Recommended Preparation: Successful completion of the FAA Fundamentals of Instruction and Flight Instructor Airplane knowledge tests.

PFT 235 - Flight Instructor - Airplane Stage I (1.5) ‡

The first of two courses that apply the fundamentals of instruction, with a demonstration of the aeronautical knowledge and airmanship skills required for students seeking the Flight Instructor Airplane Single Engine Certification. Flight training occurs in a non-complex aircraft.
1.5 hours lecture.
Prerequisite(s): Possession of a Commercial Airplane Single Engine Land Certificate with an Instrument Airplane Rating.
Recommended Preparation: PFT 230 and PFT 231, or successful completion of the FAA Flight Instructor Airplane and FAA Fundamentals of Instruction knowledge tests.

PFT 236 - Flight Instructor - Airplane Stage II (1.5) ‡

The second of two courses that apply the fundamentals of instruction, with a demonstration of the aeronautical knowledge and airmanship skills required for students seeking the Flight Instructor Airplane Single Engine Certification. Flight training occurs in a complex aircraft.
1.5 hours lecture.
Prerequisite(s): PFT 235 and possession of a Commercial Airplane Single Engine Land Certificate with an Instrument Airplane Rating.

PFT 240 - Flight Instructor - Multi-Engine Ground School (2) ‡

An application of the fundamentals of instruction as they relate to aviation students. Emphasis is on the development and demonstration of the instructional knowledge and skills required for the Federal Aviation Administration Flight Instructor Airplane Multi-Engine practical test.
2 hours lecture.
Prerequisite(s): PFT 230 or concurrent enrollment and PFT 231 or concurrent enrollment, or possession of a Flight Instructor Airplane Single Engine Certificate and a Commercial Airplane Multi-Engine Land Certificate.

PFT 241 - Flight Instructor - Multi-Engine Flight (2) ‡

An application of the fundamentals of instruction, and a demonstration of the aeronautical knowledge and airmanship skills required for students seeking the Flight Instructor Airplane Multi-Engine Certification.
2 hours lecture.
Prerequisite(s): PFT 230, PFT 231, and possession of a Flight Instructor Airplane Single Engine Certificate and a Commercial Airplane Multi-Engine Land Certificate with Instrument Rating.

PFT 250 - Flight Instructor - Instrument Ground School (3) ‡

An application of the fundamentals of instruction as they relate to aviation students. Emphasis is on the development and demonstration of the instructional knowledge and skills required for the Federal Aviation Administration Flight Instructor Instrument Ground practical test.
3 hours lecture.
Prerequisite(s): PFT 230 or concurrent enrollment, PFT 231 or concurrent enrollment, PFT 235 or concurrent enrollment, and PFT 236 or concurrent enrollment; or possession of a Flight Instructor Airplane Single Engine Certificate.

PFT 251 - Flight Instructor - Instrument Flight (3) ‡

An application of the fundamentals of instruction, and a demonstration of the aeronautical knowledge and airmanship skills required for students seeking the Flight Instructor Instrument Airplane Certification.
3 hours lecture.
Prerequisite(s): PFT 230 or concurrent enrollment, PFT 231 or concurrent enrollment, PFT 235 or concurrent enrollment, and PFT 236 or concurrent enrollment; and possession of a Flight Instructor Airplane Single Engine Certificate and a

Commercial Airplane Single Engine Land Certificate with Instrument Rating.

PFT 260 - Airline Transport Pilot - Ground School (3)

A comprehensive review of the aeronautical knowledge required for the Federal Aviation Administration Airline Transport Pilot certification.
3 hours lecture.
Prerequisite(s): Possession of a Commercial Pilot Airplane Certificate with Instrument Rating.

PFT 261 - Airline Transport Pilot - Flight (1)

Comprehensive flight training in order to complete the Federal Aviation Administration requirements for Airline Transport Pilot certification.
1 hour lecture.
Prerequisite(s): Possession of a Commercial Pilot Airplane Certificate with Instrument Rating.

PFT 271 - Unmanned Aerial Vehicle (UAV) Operator (29)

Teaches the theory of UAV systems, with emphasis on aerial vehicles, mission payload, and flight line operations. Students gain the knowledge and practical skills required to safely employ UAV systems in any theater of operation.
20 hours lecture, 27 hours laboratory.
Prerequisite(s): PFT 101 or completion of an FAA approved Stage One Ground School, and a sponsored employee of the Department of Defense or of a DOD UAV contractor.

PHI - PHILOSOPHY

PHI 111 - Introduction to Western Philosophy (3) *, °, ~

A study of the most influential philosophers and philosophies in the Western tradition. Topics include the possibility of knowledge, free will, and morality and their natures; and the distinction between appearance and reality.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

PHI 113 - Introduction to Logic (3) *, °, ~

A study of various topics in logic, including the evaluation of arguments, the detection of formal and informal fallacies, the construction of truth tables, and the process of natural deduction in propositional logic.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

PHI 130 - Introduction to Ethics (3) *, °, ~

A study of the most influential philosophers and philosophies in the moral tradition. Topics include the nature of values, right conduct, and character; and the application of theory to real-world actions and situations.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

PHI 201 - Introduction to Eastern Philosophy (3) °, ~

A study of the most influential philosophers and philosophies in the Eastern tradition. Topics include the possibility of knowledge, free will, and morality and their natures; and the distinction between appearance and reality.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

PHI 202 - Philosophy of Religion (3) °, ~

A study of the most influential philosophers and philosophies in the religious tradition. Topics include the nature and existence of God, the value of faith versus knowledge, the possibility of religious pluralism, and the problem of evil.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L.

PHI 330 - Professional Ethics (3) °

This course provides a survey of ethics in theory and practice, with an emphasis on the application of moral theory to a number of enduring real-world problems that occur across the professions. Special attention will be paid to moral questions as they arise within business and healthcare settings.

3 hours lecture.

Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science or Nursing (RN to BSN) Bachelor of Science program.

PHT - PHARMACY TECHNOLOGY

PHT 224 - Field Experience in Pharmacy Technology (1-3)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in pre-pharmacy and related healthcare fields. Semester-long regular workplace participation and weekly contact with assigned faculty advisor are required. ******This course is not currently offered.******
Prerequisite(s): A declared major in any related field; and BIO 156, BIO 181, or concurrent enrollment in either. .

PHY - PHYSICS

PHY 111 - General Physics I (4) *, ‡, °

This course is an introduction to the general principles of physics in the area of classical mechanics. Special emphasis is placed on algebra in solving word problems. Topics include kinematics, dynamics, energy, momentum, rotational motion, fluids, and waves and sounds. This course is for students whose degree programs do not require physics with calculus.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 091 or higher.

PHY 112 - General Physics II (4) *, ‡, °

This course is introductory physics without calculus for students whose degree programs do not require physics with calculus. Course topics include electrostatics, electric

potential, resistance, circuits, magnetism, Faraday's law, electromagnetism, light and geometric optics, optical instruments, interference and diffraction, quantum physics, atoms, and nuclei.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): PHY 111.

PHY 230 - Physics with Calculus I (4) *, ‡, °

This course is a fundamental calculus-based study of classical mechanics for engineering students and others who require physics with calculus. Topics include kinematics, dynamics, linear and angular momentum, and oscillations.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 220 and either PHY 111 or one year of high school physics.

PHY 231 - Physics with Calculus II (4) *, ‡

This course is a study of using calculus concepts, of electromagnetic fields and their various applications for engineering students and others who require physics with calculus. Topics include electrical and magnetic properties of matter, and circuit devices used in DC and simple AC circuits.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): PHY 230.

PMD - Paramedicine

PMD 101 - Paramedicine I (6) ‡, °

An introductory course that includes an EMT refresher and an overview of human anatomy and physiology.
6 hours lecture, 1 hour laboratory.
Prerequisite(s): Appropriate placement measurement, MAT 081, or higher; and RDG 092 or exemption. Prior to enrollment, students must hold a current certification as an EMT (AZ or NREMT).

PMD 201 - Paramedicine II (7) ‡

PMD 201 is an introduction to the roles and responsibilities of the paramedic and to advanced pre-hospital care. Topics include the medical and legal aspects of pre-hospital care, and the general principles of pathophysiology, pharmacology, and medication administration.
6 hours lecture, 2 hours laboratory.
Prerequisite(s): PMD 101.

PMD 202 - Paramedicine III (7) ‡

PMD 202 is a continued study of pre-hospital care to include advanced airway management, therapeutic communication, physical examination techniques, and patient assessment in the field, with an overview of trauma and burns.
6 hours lecture, 2 hours laboratory.
Prerequisite(s): PMD 201.

PMD 203 - Paramedicine IV (10) ‡

This course is an in-depth study of pulmonary, cardiac, neurological, and endocrine-related medical emergencies. Cadaver labs are utilized to study anatomy and physiology of pulmonary, cardiac, neurological, and endocrine-related medical emergencies. Students will study electrocardiogram interpretations and interventions, and prepare for certification in Advanced Cardiac Life Support (ACLS). Clinical rotations begin during this course.
6 hours lecture, 8 hours laboratory.
Prerequisite(s): PMD 202.

PMD 204 - Paramedicine V (10) ‡

This course is a continued study of medical emergencies focusing on immunology, gastroenterology, urology, toxicology, hematology, infectious disease, psychiatric, pediatrics, geriatrics, obstetrics, and the challenged patient. Students continue clinical rotations.
6 hours lecture, 8 hours laboratory.
Prerequisite(s): PMD 203.

PMD 205 - Paramedicine VI (9) ‡

An overview of the various responses to and treatments for infectious diseases, psychological emergencies, and conditions requiring attention in the areas of neonatology, pediatrics, geriatrics, and challenged patients. Additional topics include the incident command system (ICS) and special operations such as rescue situations, hazardous materials, and terrorism as they relate to medical emergencies. Includes certification in Pediatric Advanced Life Support (PALS). Students increase their number of clinical rotations.
2 hours lecture, 14 hours laboratory.
Prerequisite(s): PMD 204.

PMD 206 - Paramedicine VII (6) ‡

The capstone course of the paramedicine program, offered primarily as a field internship. Students are assigned to a paramedic preceptor on an advanced life support (ALS) ambulance where they operate as the lead paramedic in the field. Students, preceptors, and instructors meet weekly to discuss student progress.
1 hour lecture, 10 hours laboratory.
Prerequisite(s): PMD 205.

PMD 210 - Paramedic Refresher (3) ‡

A refresher course that equips students with the knowledge and skills required of paramedics seeking recertification. Topics include preparatory information--roles and responsibilities of the paramedic, medical and ethical issues, and basic anatomy and physiology--as well as airway management and ventilation, patient assessment, trauma, and medical conditions as they relate to emergency medical systems. May be repeated as required for recertification.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): Certification as an Arizona or nationally-registered paramedic in good standing.

POS - Political Science

POS 110 - American National Government (3) *, °

A study of the United States political system with emphasis on constitutional democracy, political parties, elections and voting, and the three branches of government. Also covers the impact of race, gender, and ethnicity on the political process, and the role of civil rights and civil liberties in the protection of American citizens. Satisfies the United States Constitution requirement for Arizona K-12 teacher certification.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

POS 220 - Federal and Arizona Constitutions (3) °, ~

A study of the federal government of the United States and the state government of Arizona accomplished through the examination and interpretation of their constitutions. Satisfies both the United States and the Arizona Constitution requirements for Arizona K-12 teacher certification.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

POS 221 - Arizona Constitution (1) °

A study of the Arizona government through the examination and interpretation of its constitution. Satisfies the Arizona Constitution requirement for Arizona K-12 teacher certification.
1 hour lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption.

POS 230 - World Politics (3) *, °, ~

A study of international politics and the relations among nation-states. Topics include the development of international systems, the Cold War and its aftermath, the use of power in the pursuit of national political objectives, the evolution of international alignments, the rise of terrorism, and various areas of conflict.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption. Recommended Preparation: HIS 244, POS 110, or POS 220.

POS 240 - Comparative Politics (3) *, °

The study of comparative politics with emphasis on political systems, movements, ideologies, and economic development.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption. Recommended Preparation: HIS 244, POS 110, or POS 220.

PSY - PSYCHOLOGY

PSY 101 - Introduction to Psychology (3) *, °

A study of psychology, its history, and its research methods. Topics include sensation and perception, consciousness, learning, memory, motivation and emotion, lifespan development, and personality. Also covers biopsychology, social psychology, abnormal behavior, and therapy.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

PSY 103 - Foundations of Psychology (3) °

A study of the basic theoretical principles of psychology and their applications to human behavior and growth. Students explore psychology as a practical science and they examine how psychological research can lead to improved personal and professional relationships.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

PSY 210 - Social Psychology (3) °, ~

This course will unravel the mysteries of the social mind and gain insights that will transform your understanding of yourself and the world around you! Immerse yourself in the fascinating world of Social Psychology and discover the hidden forces that shape our thoughts, behaviors, and relationships. Explore the power of influence, group dynamics, and the psychology behind everyday interactions. Join us on this journey and be part of a thought-provoking exploration of the forces that drive human connections and society!
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and PSY 101.

PSY 231 - Human Sexuality (3) °

This course is an overview of human sexuality during the life cycle, viewed from both sociological and psychological perspectives. Includes an exploration of the biological and cultural foundations of gender and sexuality, sexual orientations and identities, intimate relationships and intimate communication, sexual behaviors, sexual dysfunctions, and social issues surrounding sexuality.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption. Recommended Preparation: ANT 102, PSY 101, or SOC 101.

PSY 240 - Developmental Psychology (3) °, ~

A sequential study of the human lifespan, from conception through death, emphasizing theories and applications in the biological, cognitive, psychoanalytic, and psychosocial domains.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and PSY 101.

PSY 250 - Introduction to Statistics (4) °, ‡, ~

An introduction to the basic concepts of experimental design, with emphasis on measurement and descriptive and inferential statistics as they apply to psychological research.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): ENG 101 or ENG 101L, MAT 142 or MAT 142L, and PSY 101.

PSY 270 - Psychological Disorders (3) °, ~

This course dives into the complex realms of the human mind! Explore the rich tapestry of psychological disorders in our

captivating course. From unraveling the mysteries of mood to delving into the depths of personality, you'll embark on a transformative journey that aims to destigmatize mental health and the disorders that are most prevalent. Get ready to analyze, diagnose, and discuss these disorders from diverse angles, all while delving into the ethical intricacies and cultural influences that shape the world of mental health. Join us and be prepared to witness the remarkable power of understanding and empathy in the realm of psychological disorders.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and PSY 101.

PSY 290 - Research Methods (3) °, ~, *

This course will unleash your inner researcher as you'll embark on a journey through the science of investigation. Learn to wield the tools of experimentation, surveys, and correlations in a real-world hands-on manner. Master the art of crafting a compelling APA-formatted research report, harness the power of statistical software to breathe life into your findings, and learn to present it all. By the end, you'll be a research maestro, able to captivate any audience with your eloquent communication of newfound knowledge.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, PSY 101, and PSY 250.

PSY 350 - Applied Statistics (3) °

This course equips students with the necessary skills to effectively collect, describe, and make appropriate inferences from data. Students will learn to communicate statistical results effectively and utilize a statistical software package for data analysis. Through practical exercises and projects, students will gain hands-on experience applying statistical techniques to real-world data sets, enabling them to draw meaningful conclusions and make data-driven decisions.

3 hours lecture.

Prerequisite(s): MAT 142 or MAT 142L, or higher, and admission into the Leadership, Management, and Operations Bachelor of Applied Science or Nursing (RN to BSN) Bachelor of Science program.

PSY 390 - Applied Research Methods (3) °

This course provides students with the essential knowledge and skills to conduct rigorous and ethical research. Through a blend of theoretical foundations and practical applications, students will learn to design research studies, collect and analyze data, understand quantitative and qualitative methods, critically evaluate research methodologies, and communicate research findings effectively using APA formatting and style. Ethical considerations, cultural sensitivity, and responsible research conduct will be emphasized throughout this course.
3 hours lecture.

Prerequisite(s): Admission into the Leadership, Management, and Operations Bachelor of Applied Science or Nursing (RN to BSN) Bachelor of Science program.

PSY 395 - Psychology of Resilience (3) °

This course explores the dynamic relationship between psychology and effective leadership in challenging organizational environments. This advanced-level course equips students with the knowledge and skills to lead with resilience, adaptability, and strength. Topics include theoretical foundations of resilience, psychological factors influencing leaders, evidence-based strategies, organizational culture impact, and resilience training design. Students cultivate self-awareness, decision-making, and interpersonal skills while addressing the role of personal well-being in leadership effectiveness.

3 hours lecture.

Prerequisite(s): PSY 101 and admission into the Leadership, Management, and Operations Bachelor of Applied Science or Nursing (RN to BSN) Bachelor of Science program.

RDG - Reading

RDG 020 - Basic Reading (3)

This course is the first of two reading courses designed to equip students with the skills necessary to succeed in college-level content area courses and to become lifelong readers. It emphasizes the development of vocabulary, reading strategies and higher-level comprehension skills.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement, and CPD 150 or concurrent enrollment.

RDG 090 - College Reading Support (3) °

A supplementary reading course taken concurrently with an introductory course which requires reading exemption. It is an option taken in place of the prerequisite RDG 092 College Reading. Successful completion of this course makes a student reading exempt.
Prerequisite(s): RDG 020 or placement into RDG 092.

RDG 092 - College Reading (3) °, ‡

This course is the second of two reading courses designed to equip students with the skills necessary to succeed in college-level content area courses and to become lifelong learners. It emphasizes advanced vocabulary development, critical reading, and higher-level comprehension skills.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement or RDG 020, and CPD 150 or concurrent enrollment.

SCM - Supply Chain Management

SCM 101 - Principles of Supply Chain Management (3)

Introduction to global supply chain management includes the development of logistics systems, careers in supply chain management, distribution planning, supply chain security, and customer service. It also introduces the roles and functions of purchasing, inventory control, physical distribution, warehousing, transportation methods, packaging, and customs.
3 hours lecture.
Prerequisite(s): None.

SCM 104 - Supply Chain Technology (3)

An analysis of the use of technology in the supply chain industry, an introduction to available supply chain software, appropriate selection methods, and technological security measures. Course also addresses the history and future of technology in the supply chain industry and its impact on customer service.
3 hours lecture.
Prerequisite(s): None.

SCM 106 - Purchasing and Freight Claims (3)

An introduction to basic purchasing functions: inventory requirements and quantities; developing policies and procedures for purchasing; making purchasing decisions; receiving goods; arranging packaging and shipping; and managing inventory levels. Study of mitigation of losses in transit and of various aspects of negotiating and drafting freight and supply chain contracts. Includes claim preparation, filing procedures, and claim dispute resolution.
3 hours lecture.
Prerequisite(s): None.

SCM 108 - Transportation and Traffic Management (3)

A general overview of domestic freight transportation systems. Addresses patterns of freight movement and laws, regulations, pricing, and policies of freight transportation. Examines issues related to traffic management, security, and global transportation.
3 hours lecture.
Prerequisite(s): None.

SCM 110 - Warehouse Management and Inventory Control (3)

A study of managing warehouses and inventory. Includes analyzing warehouse locations, procedures, operations, finances, security, cargo and materials handling, examining cost concepts, determining scope of inventory, forecasting, and planning and controlling inventory. Includes ordering methods, cost control, and customer satisfaction strategies.
3 hours lecture.
Prerequisite(s): None.

SCM 224 - Field Experience in Supply Chain Management (1)

A supervised cooperative education field experience involving the combined efforts of educators and employers. Students accomplish various academic and career-related objectives in supply and related fields. Semester-long regular workplace participation and regular contact with assigned faculty advisor are required.
Field experience of 75 clock hours.
Prerequisite(s): SCM 101.

SLE - Service Learning

SLE 192 - Special Topics in Service Learning (1-3)

Students engage in a formal, community-based service learning experience and reflect on how it applies to the content of the course they are concurrently enrolled in, thereby deepening their understanding of the relationship between community and classroom learning.
Prerequisite(s): Concurrent enrollment in a course approved by the instructor.

SLE 292 - Special Topics in Service Learning II (1-3)

An advanced, community-focused service-learning experience that provides an opportunity for students to hone service and engagement skills acquired in SLE 192, to participate actively in an organized service experience and, through reflection activities, to relate those experiences to academic or occupational course content. A minimum of 25 direct service hours per credit is required in addition to periodic instructor or mentor meetings and training sessions.
Prerequisite(s): SLE 192. Recommended Preparation: Sophomore standing.

SOC - Sociology

SOC 101 - Introduction to Sociology (3) *, °

An overview of sociology focusing on its main perspectives, theories and research methods. Areas of emphasis include culture, socialization and social institutions, social interaction, groups and organizations, social class and social stratification, deviance and crime, race and ethnicity, and gender and sexuality.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

SOC 192 - Special Topics in Sociology (1-3)

Designed for professional development and personal enrichment through the exploration of special topics in sociology. Topics will vary according to student needs and interests.
Prerequisite(s): ENG 101 or ENG 101L, and SOC 101.
Recommended Preparation: SOC 202, SOC 212 or SOC 215.

SOC 202 - Social Problems (3) *, °, ~

An exploration of social problems through the lens of traditional and current theoretical perspectives. Includes how social problems are perpetuated through social institutions such as education, government, family, health care, and the economy. Students investigate how these institutions reinforce

discrimination based on race, gender, sexual orientation, and age.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption. Recommended Preparation: SOC 101.

SOC 212 - Sociology of Gender (3) °, ~

An exploration of the social construction of gender throughout history and how it has shaped current social interactions and institutions. Focus is on the sociological concepts and theories used to explore cultural explanations of gender, as well as on the biological theories of sex, gender, and sexuality. Includes an examination of gender as it intersects with race, ethnicity, social class, age, and sexual orientation; and a study of the consequences of sex and gender in the lives of men, women, and gender non-conforming individuals.
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption. Recommended Preparation: SOC 101.

SOC 215 - Race and Ethnicity (3) *, °, ~

This course is an exploration of the social construction of race and ethnicity and how it shapes social interactions and institutions. It includes the history of race relations leading to an exploration of contemporary relations among racial groups, with emphasis on the consequences of power, privilege, and oppression
3 hours lecture.
Prerequisite(s): ENG 101 or ENG 101L, and RDG 092 or exemption. Recommended Preparation: SOC 101.

SPA - Spanish

SPA 101 - Elementary Spanish I (4) *, °

SPA 101 is an introduction to the Spanish language, its pronunciation, and its basic grammar structures. This course develops the student's ability to speak, read, and write in simple sentences based on personal and classroom experience, and explores a variety of topics related to Hispanic culture, history, geography, and arts.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): None. Recommended Preparation: SPA 115 or previous experience in a second language.

SPA 102 - Elementary Spanish II (4) *, °

SPA 102 is a continued study of the Spanish language, its pronunciation, and its basic grammar structures, with emphasis on more complex verb tenses and sentence structure. This course further develops the student's ability to speak, read, and write simple sentences based on personal and classroom experience, and explores additional topics related to Hispanic culture, history, geography, and arts.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): SPA 101, one year of high school Spanish, or permission of instructor.

SPA 115 - Conversational Spanish I (3)

This course is a beginning conversational experience in Spanish through which students build oral proficiency while increasing their awareness of Hispanic culture.
3 hours lecture.
Prerequisite(s): None.

SPA 116 - Conversational Spanish II (3)

This course is a beginning conversational experience in Spanish through which students continue to build oral proficiency while further increasing their awareness of Hispanic culture.
3 hours lecture.
Prerequisite(s): SPA 101, SPA 115, or permission of instructor.

SPA 201 - Intermediate Spanish I (4) *, °

SPA 201 is a continued study of the Spanish language, its pronunciation, and its grammar structures, with emphasis on intermediate-level verb tenses and sentence structure. This course further develops the student's ability to speak, read, and write even more complex sentences based on personal and interpersonal experiences, and explores additional topics related to Hispanic culture, history, geography, and arts.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): SPA 102, two years of high school Spanish, or permission of instructor.

SPA 202 - Intermediate Spanish II (4) *, °

SPA 202 is an exploration of Hispanic cultures presented through authentic literary works and audio-visual media with integrated practice in reading, writing, speaking, and understanding the Spanish language.
4 hours lecture, 1 hour laboratory.
Prerequisite(s): SPA 201, three years of high school Spanish, or permission of instructor.

SPA 215 - Conversational Spanish III (3)

This course is an intermediate conversational experience in Spanish through which students build oral proficiency while increasing their awareness of Hispanic culture.
3 hours lecture.
Prerequisite(s): SPA 102, SPA 116, or permission of instructor.

SPA 216 - Conversational Spanish IV (3)

This course is an intermediate conversational experience in Spanish through which students continue to build oral proficiency while increasing their awareness of Hispanic culture.
3 hours lecture.
Prerequisite(s): SPA 201, SPA 215, or permission of instructor.

THE - Theatre Arts

THE 101 - Acting I (3)

Introduction to theories of dramatic art and practice in acting situations. This course includes basic acting techniques, theatrical vocabulary and comportment, and character and script analysis.
3 hours lecture.
Prerequisite(s): None.

THE 103 - Introduction to Theatre Arts (3) °, *

Theatre has been a favorite form of recreation and artistic expression for humanity for thousands of years. But, what is theatre? And, what makes it "good?" Join us as we explore how the theatre works, how it has changed through time, and its importance and impact today. Cross-listed as HUM 111.
3 hours lecture
Prerequisite(s): None. Cross-Listed as: HUM 111 Introduction to Theatre Arts.

THE 110 - Theatre Workshop (3)

A study of the components of the theatrical process, to include acting, directing, production design, and management. Students participate in a drama in an acting or production capacity.
2 hours lecture, 4 hours rehearsal/performance.
Prerequisite(s): Audition or permission of instructor.

THE 201 - Acting II (3)

Exploration and application of advanced techniques of acting through physical and vocal expression, improvisation, and scene work. Emphasis on the actor's approach to characterization. Opportunity for experience in production.
3 hours lecture.
Prerequisite(s): THE 101.

THE 220 - Dramatic Structure (3) *

Examination of the structural elements of major dramatic forms and styles. Includes reading and viewing of representative plays and analysis of their structures in relationship to modes of presentation and the resulting effects.
3 hours lecture.
Prerequisite(s): THE 101 or permission of instructor.

UAS - Unmanned Aircraft Systems

UAS 104 - Introduction to Unmanned Aircraft System UAS (4)

An introduction to the fundamentals of unmanned aircraft systems (UAS), including their evolving history and developing role in the modern aviation industry. Topics include structural elements, avionics, flight control and guidance systems, navigation, remote sensing, and human factors. UAS integration into commercial and military airspace FAA, and regulations and sanctions will be discussed. Emphasis will be on future employment in the field with a focus on commercial airspace.
1 hours lecture, 6 hours laboratory.
Prerequisite(s): None.

UAS 105 - FAA Part 107 Preparation (4)

This course provides students with the knowledge and skills to pass the Federal Aviation Administration (FAA) small unmanned aircraft systems (sUAS) exam.
1 hours lecture, 6 hours laboratory.
Prerequisite(s): None.

UAS 121 - Remote Sensing and Imagery (3)

A study of the theory and operation of common sensors—visual spectrum, infrared, and synthetic aperture radar (SAR)—used by operators of unmanned aircraft systems. Topics include equipment acquisition and characteristics, sensor limitations and restrictions, and data analysis and image interpretation.
3 hours lecture.
Prerequisite(s): None.

UAS 204 - Commercial Aerial Cinematography (4)

This course introduces the student to fundamental aspects of capturing photographic still images and video clips during small UAS operations.
1 hours lecture, 6 hours laboratory.
Prerequisite(s): UAS 105 or permission of instructor. FAA Part 107 Knowledge Exam Certified. .

UAS 205 - Commercial Drone Industry Experience (4) °

This advanced UAS course prepares students to develop and execute mission plans for commercial applications, and it provides students with the skills necessary to think critically and safely, and make safe operational decisions.
1 hours lecture, 6 hours laboratory.
Prerequisite(s): UAS 105 or permission of instructor. FAA Part 107 Knowledge Exam Certified.

UVO - Unmanned Aerial Vehicle Operator

UVO 101 - Introduction to Military UAV Operations (5-8)

This course introduces students to the history, regulations, and fundamentals associated with military unmanned aerial vehicles (UAVs). Students gain the knowledge and practical skills required to understand the role of UAVs and equipment in any theater of operation.
5-8 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

UVO 102 - UAV Airfield and Ground Control Fundamentals (4-8)

This course introduces students to airfield operational environments and ground control. Students gain situational awareness of the dynamic environments where unmanned aerial vehicles (UAVs) are launched, operated, maintained, and stored.
4-8 hours lecture.

Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

UVO 103 - UAV Airspace and Aviation School Fundamentls (5-9)

This course trains unmanned aerial vehicle (UAV) students in air traffic control, aviation industry standards, aircraft aerodynamics, aircrew components, and flight requirements. Emphasis is on the theoretical knowledge and skill necessary to pass standard aviation tests.
5-9 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

UVO 201 - UAV Pilot Flight Operations (5-9)

This course trains unmanned aerial vehicle (UAV) students through the use of aircraft simulation programs. Emphasis is on the practical knowledge and skills necessary to operate safely and successfully as an unmanned aerial systems pilot in a variety of standard and non-standard situations.
5-9 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training program.

UVO 202 - UAV RSTA Missions (5-9)

This course serves as the capstone for unmanned aerial vehicle (UAV) students. Emphasis is on the applied knowledge and skills necessary to plan, conduct, and debrief successful reconnaissance, surveillance, and target acquisition (RSTA) missions using unmanned aerial systems, vehicles, and data.
5-9 hours lecture.
Prerequisite(s): Must be a sponsored employee of the Department of Defense (DOD) and enrolled in the associated military training course.

VRD - Virtual Reality Content Developer

VRD 130 - Virtual Reality Programming Logic (3) ‡

A course in spatial computing software and programming concepts. Topics include object-oriented design, methodologies, data, operators, sequence, selection, repetition, event handling, and the software development cycle.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): Concurrent enrollment in VRD 144.

VRD 144 - Virtual Reality Development in Unity (5) ‡

A study of the fundamentals of virtual reality development using the Unity Game Engine. Emphasis is placed on the Microsoft Visual Studio Integrated Development (IDE), version control workflow using Git, as well as proper programming strategies and architectures for the Unity Game Engine with C#.
2 hours lecture, 6 hours laboratory.
Prerequisite(s): Concurrent enrollment in VRD 1

VRD 244 - Virtual Reality Cross-Platform Application Development (4) ‡

A study of the analysis and implementation of multiple virtual reality development platforms including: Steam VR, Oculus, Windows Mixed Reality, and Google Daydream. Students will study the limitations and capabilities of each platform as they apply to projects developed in VRD 144 and proposed projects.
2 hours lecture, 4 hours laboratory.

Prerequisite(s): Prerequisites: VRD 130, VRD 144 AND concurrent enrollment in VRD 264 .

VRD 264 - Unity Programming Standards and Application (4) ‡

This course is an in-depth look at the architecture of Unity and the standards of programming for Unity developers in the industry. Students will focus on debugging, interpreting the Application Interface (API), creating code for component architecture, and code evaluation.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): Prerequisites: VRD 130, VRD 144 AND concurrent enrollment in VRD 244.

VRD 294 - Virtual Reality Co-operative Internship (1)

This class provides students with the opportunity to utilize their skills and knowledge gained through Virtual Reality Content Developer (VRD) training in an industry workplace.
75 internship/field hours.
Prerequisite(s): VRD 130, VRD 144, VRD 244 AND concurrent enrollment in VRD 264 or Permission of Instructor.

VRT - Virtual Reality Technology

VRT 101 - Foundations of Virtual Reality Instruction (4)

This course gives the history and evolution of extended reality (XR) and explains how it differs from other media options used in learning environments. It also instructs Virtual Reality Technologists on the different devices and configurations they need in order to select, download, and integrate applications into academic and industry learning environments.
3 hours lecture and 2 hours of laboratory.
Prerequisite(s): None.

VRT 102 - Virtual Reality Literacy (4)

This course is a study of the vocabulary and basic virtual reality (VR) concepts related to the VR, augmented reality (AR), mixed reality (MR), and VR technical framework and hardware. It emphasizes the levels of immersion in VR, 360 Video and Model-Based VR, and the three types of illusions.

The course focuses on VR applications and where VR is being integrated into various industries, used to enhance life, and academic training environments.
3 hours lecture and 2 hours of laboratory.
Prerequisite(s): None.

VRT 103 - Instructional Design for Virtual Reality Education (4)

This course supports and complements the other VRT courses and provides additional knowledge about the application of extended reality (XR) technologies including virtual reality (VR), augmented reality (AR), and mixed reality (MR) in academics, entertainment, and professional training. Students are introduced to the instructional design concepts applied to the creation of VR content for education and training which include VR programming languages, the use of cameras in VR, creating VR experiences, navigating in VR, global illumination, use of polygons and pixels, VR graphics techniques, creating VR objects and assets.
3 hours lecture and 2 hours of laboratory.
Prerequisite(s): None.

VRT 294 - Virtual Reality Technologist Internship (4)

This course combines a supervised cooperative education field experience with a laboratory in VR content development. In the field experience students will apply the VR software and hardware skills acquired in their course work. In the laboratory portions of the course students will be trained in VR content development.
4 hours of laboratory.
Prerequisite(s): VRT 103 Instructional Design for Virtual Reality Education.

WLD - Welding Technology

WLD 101 - Welding Survey (4)

This course is a practical application of major welding practices to include shield metal arc, gas metal arc, gas tungsten, oxyacetylene, brazing, and soldering processes. The course also covers welding metallurgy, weldment design and inspection, manufacturing of materials and safety. ******This course is not currently offered.******
3 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

WLD 105 - Oxyacetylene Welding (3) ‡

This course is a study of the safety practices associated with oxyacetylene cutting and welding, and a practical application of equipment setup and operation. Students perform welds on standard alloys of steel. Brazing and soldering of ferrous metals are also included.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): None.

WLD 106 - Basic Shield Metal Arc Welding (3) ‡

This course is a study of the safety practices associated with shield metal arc welding (SMAW), and a practical application of equipment setup and operation. Students use SMAW to apply various techniques of joining gauge thickness carbon steel.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): None.

WLD 108 - Introduction to Pipe Welding (3) ‡

This course is a continued study of the shield metal arc welding process. Topics include safety, equipment care and operation and welding rod and current selection. Students perform out-of-position welding of heavy steel plate in open root configuration in preparation for welding pipe to API 1104 standards. Additional topics include layout methods and the fitting and welding of various sizes and types of pipe.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): WLD 106.

WLD 114 - Welding for Metal Sculpture (3) ‡

Focuses on basic welding processes and techniques used in the design and fabrication of metal sculptures. Team taught by welding and art faculty.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): None.

WLD 128 - Gas Metal Arc Welding (3) ‡

This course is an introduction to the gas metal arc welding (GMAW) process. Emphasis is on the set up and operation of GMAW equipment and on the use of solid wire on various thicknesses of ferrous metal. Precautions and safety practices in welding are also covered.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): None.

WLD 200 - Welding Code Interpretation of D1.1 (1)

This course is a study of the American Welding Society D1.1 codebook. Interpretation of the codebook will emphasize prequalified structural joints.
1 hour lecture.
Prerequisite(s): Course prerequisites vary based on the degree or certificate sought. .

WLD 201 - Welding Code Interpretation of D17.1 (1)

This course is a study of the American Welding Society D17.1 codebook. It focuses on interpretation of the codebook with emphasis on aerospace and thermal fusion technologies.
1 hour lecture.
Prerequisite(s): Course prerequisites vary based on degree or program sought.

WLD 203 - Print Interpretation (4)

This course is an introduction to the principles and procedures used to interpret prints in the welding industry. It covers the essential concepts of structural, pipe, and standard print formatting. It also covers welding symbols and their specific meanings.
4 hours lecture.

Prerequisite(s): None. Recommended Preparation: Basic mathematics skills.

WLD 209 - Gas Tungsten Arc Welding (3) ‡

This course is a study of the safety practices associated with gas tungsten arc welding (GTAW) and a practical application of equipment setup and operation. Students use GTAW on non-ferrous metals.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): WLD 105 or permission of instructor.

WLD 211A - Pipe Welding I (3) ‡

This involves fitting and welding various sizes of pipe according to the standards of the American Welding Society (AWS) and the American Petroleum Institute (API). Students weld pipe using the shield metal arc welding (SMAW) process in preparation for certification through API 1104 standards.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): WLD 106 and WLD 108.

WLD 211B - Pipe Welding II (3) ‡

This course is an overview of the fitting and welding of various sizes of pipe according to the standards of the American Welding Society (AWS) and the American Petroleum Institute (API). Students weld pipe using the shield metal arc welding (SMAW) process.
1 hour lecture, 4 hours laboratory.
Prerequisite(s): WLD 211A.

WLD 212 - Advanced Shield Metal Arc Welding II (2) ‡

This course is an advanced study of the shielded metal arc welding (SMAW) process and is designed to prepare students for the American Welding Society (AWS) D 1.1 Structural Steel certification test.
5 hours laboratory.
Prerequisite(s): WLD 106 and WLD 200 or concurrent enrollment.

WLD 215 - Welding Design and Fabrication (3) ‡

A study of the proper methods of welding design, layout, and fabrication. Students with demonstrated welding skills work on specific projects, using appropriate cutting and welding equipment.
2 hours lecture, 3 hours laboratory.
Prerequisite(s): MAT 132 or MAT 132L, WLD 105, WLD 106, WLD 128, and WLD 203.

WLD 218 - Advanced GTAW - Soft Metals (2) ‡

This course is a continuation of WLD 209 Gas Tungsten Arc Welding and is designed to develop the skills necessary to meet aerospace and motorsports certification standards. Emphasis is on advanced welding of aluminum alloys.
5 hours laboratory.
Prerequisite(s): WLD 105, WLD 201 or concurrent enrollment, AND WLD 209.

WLD 219 - Advanced GTAW - Hard Metals (2) ‡

This course is a continuation of WLD 209 Gas Tungsten Arc Welding and is designed to develop the skills necessary to meet aerospace certification standards for aircraft. Emphasis is on advanced welding of stainless steel and 4130 chromoly steel.
5 hours laboratory.
Prerequisite(s): WLD 105, WLD 201 or concurrent enrollment, AND WLD 209.

WLD 220 - Advanced GTAW - Exotic Metals (2) ‡

This course is a continuation of WLD 219 Advanced GTAW - Hard Metals and is designed to develop skills necessary to meet aerospace certification standards for aircraft. Emphasis is on advanced welding application of titanium and nickel-chromium alloys.
5 hours laboratory.
Prerequisite(s): WLD 105, WLD 201 or concurrent enrollment, WLD 209 and WLD 219.

WLD 227 - Advanced Shield Metal Arc Welding (2) ‡

This course is an advanced study of the shielded metal arc welding (SMAW) process and is designed to prepare students for the American Welding Society (AWS) D 1.1 Structural Steel certification test.
5 hours laboratory.
Prerequisite(s): WLD 106 and WLD 200 or concurrent enrollment.

WLD 228 - Advanced Gas Metal Arc Welding (2) ‡

This course is an advanced study of the gas metal arc welding (GMAW) process that is designed to prepare students for the American Welding Society (AWS) D1.1 Structural Steel Certification test.
5 hours laboratory.
Prerequisite(s): WLD 128 AND WLD 200 or concurrent enrollment.

WLD 229 - Advanced Flux-Cored Arc Welding (2) ‡

This is an advanced course in the flux-cored arc welding process which prepares the student for American Welding Society (AWS) D1.1 Structural Steel Certification.
5 hours laboratory.
Prerequisite(s): WLD 128, AND WLD 200 or current enrollment.

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University of Utah, Ph.D.

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Grand Canyon University, Ed.D.

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Phoenix College, A.A.
Northern Arizona University, B.S.
University of Arizona, Ph.D.

Mr. Jeffrey Sturges (2020)
Cochise College, A.A
University of Arizona, B.A.
University of California Santa Barbara, M.A.

Mr. Monte Surratt (2015)
University of Arizona, B.F.A., M.F.A

Mrs. Teresa Vernon (2024)
Cochise College, ADN
Western New Mexico University, BSN

Mr. Mark von Destinon (2013)
University of Arizona, B.A., M.Ed., Ph.D.

Mr. Thomas Waddoups
University of Idaho, B.S.
Arizona State University, M.S.

Mr. Roger Weller (2012)
Wayne State University, B.S.
University of Arizona, M.S.

Dr. John (Jack) Ziegler (2006)
Seton Hall University, B.A., M.A.
University of Connecticut, Ph.D.

INSTRUCTIONAL STAFF

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York University, Canada, B.A., M.B.A., M.A.

Cory Adams; Instructor, Welding Technology (2023)
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University of Washington, B.A.
University of Phoenix, MISM, DM
Capella University, Ph.D.

Alan Anderson; Instructor, Automotive Technology (2021)
Colorado State University, B.S.

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Cochise College, A.A.S.

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Walden University, B.S., M.S.N.

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University of Dhaka, Bangladesh, B.S., M.S.
Nara Women's University, Japan, Ph.D.

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Northern Arizona University, B.S.

Western New Mexico University, M.A.

Nancy Bhe; Instructor, Adult Education (2023)
East Carolina University, B.S.

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Hampton University, B.S.N.
University of South Carolina, M.S.N.

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Dickinson State University, B.S.
University of North Dakota, M.B.A

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University of Northern Colorado, B.A.
University of Wisconsin – Madison, M.A.

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Ouachita Technical College, A.A.
Henderson State University, B.A.
University of Arkansas, M.A., Ph.D.

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University of Wyoming, B.A., B.A.
University of Kansas, B.A.
Middlebury College Board Bread Loaf School of English at Oxford University, M.A.

Scott Brown; Instructor, Welding Technology (1998)

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Cochise College, A.A.
University of Arizona, B.A.E.E.
Western New Mexico University, M.A.T.

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California State University Fresno, B.A., M.A.
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Northern Arizona University, M.S.

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Vladivostok State University of Economics and Service, B.A., M.A.

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Grand Canyon University, B.S.N.

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Southern Illinois University, M.A., Ph.D.

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Bowling Green State University, B.S., M.S.

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University of Southern California, B.A.
Temple University, M.F.A.

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University of Arizona, M.A.
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University of Nevada, B.S.
Arizona State University, M.S.
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University of Phoenix, A.A., B.S., M.I.S.
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University of South Florida, B.S., M.S.

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Gannon University, B.S.
Edinboro University of Pennsylvania, M.S.

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University of Arizona, B.S.

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Cochise College, A.A.S.

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Florissant Valley Community College, A.A.
Columbia College, B.S.
Webster University, M.A.

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University of Puget Sound, B.S.

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American Sentinel University, M.S.N.
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Trident University, M.B.A.
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Colorado Christian University, B.A.
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Wayland Baptist University, B.A.S.
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Santa Clara University, B.S.
Fresno Pacific College, M.A.
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Augsburg College, B.M.
University of South Florida, M.M.
University of Arizona, D.M.A.

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Northern Arizona University, B.S.N.
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University of Central Texas, B.S., M.S.

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Harvey Mudd College, B.S.
University of Washington, M.S.

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Baylor University, B.S.
Walden University, M.S.

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Grand Canyon University, B.S.N., M.S.N.

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Texas State University – San Marcos, B.A.
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University of Arizona, B.A.
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Kentucky State University, B.A.
American Intercontinental University, M.Ed.
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Glendale Community College, A.A.S.

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New Mexico Institute of Mining and Technology, B.S., M.S.

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Southern New Hampshire University, M.A.

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Northern Virginia Community College, A.S.
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Northern Arizona University, B.A., M.A.T.
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Hardin-Simmons University, B.S.
Rochester Institute of Technology, M.F.A.

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Northern Arizona University, B.S.
University of Montana, M.F.A.

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Grand Canyon University, M.P.A.

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University of Iowa, B.A.
St. Mary's University of Minnesota, M.Ed.
University of Arizona, Ph.D.

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Central Wyoming College, A.S.
University of Wyoming, B.A., M.S.

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University of Arizona, B.S.

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Cleveland Institute of Art, B.F.A.
Savannah College of Art and Design, M.F.A.

Instructional - Adult Education

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University of Arizona, B.A.
Arizona State University, M.S.W

David Natko; Adult Education Instructor (2023)
Arizona State University, B.A., M.A.

Elizabeth Speck; Adult Education Instructor (2022)
University at Buffalo, B.A.

Seyon "CeCe" Washington; Adult Education Instructor/Student Success Coach (2019)
Jackson State University, B.A.

Coaches

Jerry Carrillo; Head Coach, Men's Basketball (1995)
University of Arizona, B.S.
University of Northridge, M.A.

Ricardo Escalera; Assistant Coach, Women's Soccer (2022)
Ottawa University, B.A.
Todd Inglehart; Head Coach, Baseball (1999)
Saddleback College, A.A.
University of Wyoming, B.A., M.S.

Derek Lane; Assistant Coach, Men's Basketball (2023)
Cochise College, A.G.S., A.A.
Grand Canyon University, B.S.

Austin Nelson; Assistant Coach, Baseball (2021)
University of Nevada, Las Vegas, B.A.

Misty Opat; Head Coach, Women's Basketball (2020)
Garden City Community College, A.S.
Bethany College, B.A.
Fort Hays State University, M.S.

Santos Rangel; Assistant Coach, Women's Soccer (2023)
Northern Arizona University, B.A.

Lynn Smith; Head Coach, Rodeo (2022)
Central Wyoming College, A.S.

Diego Suarez; Assistant Coach, Rodeo (2022)
Sul Ross State University, B.S., M.S.

Scott Zacker; Assistant Coach, Women's Basketball (2023)
Wichita State University, B.A., M.Ed.

ASSOCIATE FACULTY

Abston, Marcus (B.A., M.S.)
Agatucci, Jacob (B.A., M.A.)
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Arledge, Joshua (B.A., M.S.)
Ashraf, Tasneem (B.S., M.S., M.S.)
Baker, Joy (B.S., M.S.)
Barbro, Kevin (B.F.A., M.F.A.)
Becker, Dr. Carl (B.A., M.A., Ph.D.)
Benjamin, Aixa (A.A.S.)
Berry, Cindy (B.S., M.A.)
Bigio Benitez, Dr. Dalila (B.A., M.A., Ph.D.)
Bourland, Kylie
Boutte, Lawrence
Bradberry, David (M.A.)
Branner, Ryan (M.Ed.)
Britto, Randall (M.S., B.S.)
Brown, Damian (B.A., M.A.)
Buchness, Lauren (B.F.A., M.F.A.)
Bullock, Kathleen (B.S., M.P.A., D.B.A.)
Campos, Judy (B.A., M.A.)
Cantrell-Briggs, Loree (M.S.)
Cantwell, Veronica (B.S.)
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Chenoweth, Timothy
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Clark, Dr. Janet (B.S.N., M.S.N., D.N.P.)
Coleman, Malachi (A.A.S.)
Colwell, Seth (B.B.A., M.Tax.)
Conger, Wendy (M.Ed.)
Conroy, Samantha (A.S., B.S.N., M.S.)
Coppi, Matt (B.S., M.Ed., M.S.)
Cox, Brian E. (B.S., M.A.)
Coyle, Mary (B.A., M.A.)
Crenshaw, Sharen (B.S., M.S.)
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Curtis, Shaulee (B.S., M.Ed., M.A.)
Dahl, James (M.A.)
Dahn, Danyell (B.A., M.Ed.)
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Denney, Kurtis
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Drew, Stephen (B.S., M.S)
Dunk, Cristina (M.A.)
Edging, Donald (B.A., M.A.)
Edginton, Dr. Vilma (M.B.A., Ph.D.)
Egbert, Hannah – (B.S.)
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Ellsworth, Josephine
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Farmer, Elnora (B.S., M.B.A.)
Fick, Susan (B.S., M.A.)
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Holt, Deborah (B.A., M.S.)
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Jarvis, Christina (B.A., M.M.)
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Salazar, Nathalie – (A.S., B.S.)
Sanders, Susana (B.S., M.S.)
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Schmidt, Jason (B.S., M.A.)

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Searle, Brent
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Soflin, Elizabeth (B.M., M.M.)
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Joel Evans; MOS Credentialing Coordinator (2017)
Cochise College, A.G.S.
Wayland Baptist University, B.A.S.

Melissa Faglie; Curriculum Development Manager (2023)
Cochise College, A.A.
Sul Ross State University, B.A., M.Ed.

Jeff Falkner; Director, Athletics (2022)
Santa Barbara City College, A.A.
Grand View College, B.A
California University of Pennsylvania, M.S.

Alexandra Felton, Electronic Resources Librarian (2011)
California State University, B.A.
Simmons College, M.L.I.S.

Lindsey Forbes, Student Retention Manager (2023)
University of Phoenix, B.S.
Liberty University, M.Ed.

Lauren Gaub, Learning Management System Manager (2023)
University of Arizona, B.G.S., M.S.

Angela Garcia; Dean, Liberal Arts (2022)
Cochise College, A.A.S.
University of Arizona, B.S.
Northern Arizona University, M.Ed.

Robert Gibbs; Chief Information Security Officer (2020)
United States Naval Academy, B.S.
Strayer University, MSIS

Loren Gladwill; Student Wellness Manager (2022)
Arizona State University, B.A., M.A.

Ashlee Gray; Librarian-Archivist (2022)
Saint Bonaventure University, B.A.
SUNY University at Buffalo, M.S.

Dr. Thomas Guetzloff; Dean, Mathematics and Sciences (2020)
St. Norbert College, B.S.
South Dakota State University, Ph.D.

Dan Guilmette; Director, Computer Information Systems/Cybersecurity (2023)
Champlain College, A.S.
US Military Academy, B.S.
Naval Postgraduate Academy, M.S.

Michael “Cody” Hammack; Assessment & Program Review Manager (2023)
Bevill State Community College, A.S.
Mississippi University for Women, B.A.
University of West Alabama, M.S.

Bethany Hill; Dean, Nursing and Allied Health (2020)
Cochise College, A.S.
University of Phoenix, B.S., M.S.

Denise Hoyos; Executive Director, Foundation/Advancement (2001)
Indiana University of Pennsylvania, B.A.
Western International University, M.B.A.

William “BJ” Jackson; Building and Grounds Manager (2022)

Celia Jenkins; Director, Grants Management (2020)
University of Tennessee, B.S.

Hannah Jones; Science Lab Manager (2012)
Cochise College, A.A.
University of Arizona, B.S.

Wendy Koop; Payroll/Benefits Manager (2020)
Cochise College, A.BUS.

Michael Kreitz, Director of User Support Services (2024)
Academy for the Visual Arts

Brenda Kurtz; Director, Early College Programs (2022)
University of Arizona, B.A.
Northern Arizona University, M.A., M.Ed.

Jeff Lalowski; Systems Administrator (2023)
Moody Bible Institute, B.A.

Irvan “Wick” Lewis; Executive Director, Human Resources (2018)
Eastern Arizona College, A.A.
Northern Arizona University, B.S.

Belen Lopez-Hart; Director, Finance & Procurement Services (2023)
University of Phoenix, B.S., M.M.

David Luna; Chief Information Officer (2019)

Northern Arizona University, B.S.E.D.

Faye Luna; Director, Registration and Records (2022)
Arizona State University, B.S.
Northern Arizona University, M.Ed.

Robyn Martin; Assistant Dean, Enrollment Management and Marketing (2015)
Art Institute of Seattle, A.A.
University of Maryland University College, B.A.
American Public University System, M.B.A.

Denise Mazanek; Talent Manager (2022)
University of Phoenix, M.A.
Southern Utah University, B.S.

Dr. Vivian Miranda-Wendelken; Director, Counseling and Advising (2022)
Arizona State University, B.S.W, M.Ed., Ed.D.

Jessica Morgan-Tate; Director, Compliance/Title IX Coordinator (2022)
Friends University, B.B.A.
Emporia State University, M.A.
University of Kansas, J.D.

Mandy Nowlin; Technology Project Manager (2022)
University of Phoenix, B.S.

Angel Ortega; Assistant Director, Athletic/Sports Information (2022)
Grand Canyon University, B.S.
University of Phoenix, M.Ed.

Tetima Parnprome; Librarian (2009)
University of Southern California, B.S.
Simmons College, M.L.S.

Brenden Pitt; Academic/Career Counselor (2016)
Northern Arizona University, B.S., M.Ed.

Dr. Dale Porter; Assistant Dean, Business & Technology (2021)
Colorado State University, B.A., M.S., Ph.D.

Esmeralda Puente; Budget Manager/Senior Accountant (2023)
University of Phoenix, B.S.

Jose Quintana; Recruit Training Officer (2023)

Stella Rees; Building & Grounds Manager (2023)

Dr. Kristy Ritter; Dean, Business & Technology (2022)
Regis University, B.A., M.Ed.
University of Idaho, M.A.T.
Walden University, Ed.D.

Nanette Romo; Director, Accessibility Services (2022)
Cochise College, A.G.S.
Western New Mexico University, B.S., M.A.

Nannette “Lynn” Roy; Systems Analyst (2020)

F. Cullen Scarborough; Dean, Military Programs and Adult Education (2022)
Wayland Baptist University, B.S.O.E., M.P.A.

Karly Scarbrough; Director, Library Services (2021)
Cochise College, A.S.
University of Arizona, B.S, M.A.

Mark Schmitt; Director, Small Business Development Center (2008)
University of South Dakota, B.S.
University of Phoenix, M.B.A.

Janelle Simpson; Executive Director, Institutional Research (2023)
Central Wyoming College, A.A.
University of Wyoming, B.A., M.A.

Ana Smith; Center for Lifelong Learning Manager (2020)
Wayland Baptist University, B.A.S.

Eric Stiemert; Math Lab Supervisor (2007)
Cochise College, A.S.
Northern Arizona University, B.S.

Priscilla Stone; Writing Lab Supervisor (2021)
University of Arizona, B.A.
Prescott College, M.A.

Brian Tackett; Assistant Director, Facilities (2022)
Coastline Community College, A.A., A.S.

Danny Trotter; Skilled Trades Coordinator/Instructor (2022)
Arizona Automotive Institute, A.A.

Shelley Ulmer; Grants Accountant (2019)
Saint Leo University, A.A., B.A.

Johanna Urquijo; Athletic Trainer (2023)
Northern Arizona University, B.S.
University of St. Augustine, M.H.S.

Abraham Villarreal; Campus Dean, Douglas Campus (2021)
Western New Mexico University, B.A., M.A.

Dr. Jennifer Wantz; Executive Dean, Community Engagement (2022)

SUNY University of Buffalo, B.A., M.Ed.
Northern Arizona University, E.D.D.

Rebecca (Becky) Westby; Director, Testing Services (2021)
Cochise College, A.A.
University of Arizona, B.A.

Crystal Wheeler; Executive Assistant President/Governing Board (2017)
Cochise College, A.A.S.

Benjamin (Ben) Wilson; Director, Risk Management (2022)
American Public University System, B.A.
Northern Arizona University, M.A.

Jesus Yanez; Director, Infrastructure & Network Services (2022)
University of Arizona, B.S.
Cochise College, A.A.

ADMINISTRATIVE SUPPORT

Berumen, Rose; Advancement Relations Coordinator (2019)
Biggs, Katja; Academic Career Advisor (2022)
Brock-Olivares, Jodi; Center Coordinator Willcox (2022)
Brown, Donna; Marketing Specialist (2023)
Canez, Alexandra; English Tutor/Instructor (2021)
Carr, Stephanie; Academic Advisor Military Programs (2022)
Castillo, Marie; Academic Career Advisor (2021)
Cepero, Melissa; Credentials Evaluator (2023)
Clay, Mandee; Academic Advisor Military Programs (2019)
Dagnino, Elizabeth; Center for Lifelong Learning Coordinator (2022)
Espinosa, Tiffany; Data Analyst (2023)
Faber, Icela; Financial Aid Advisor (2023)
Foti, Danielle; Graphic Designer (2021)
Glasgow, Raisa; Accountant/Position Budget Control Coordinator (2023)
Gordon, Daniel; Web Content Manager (2018)
Gualtiere, Rebecca; English Tutor (2018)
Guetzloff, Rosa; College Success Navigator/Running Start Specialist (2017)
Harper, Scott; Enrollment Data Analyst (2018)
Hernandez, Sonia; College Success Navigator (2023)
Melendez, Sabrina; Math Tutor/Instructor (2021)
Membrila-Carrillo, Josette; Student Recruiter Navigator (2023)
Miller, Dale; Art Studio Coordinator (2023)
Navarro, Erika; International Student Coordinator (2023)
Nix, Cody; Academic Career Advisor (2022)
Noriega, Cesar; Academic Career Advisor (2023)
O'Brien, Brian; Facility Services Manager (2020)
Parris, John; Financial Aid Data Analyst (2019)
Perez, Teresa; Credentials Evaluator (2023)
Pressler, Amy; Career Services Coordinator (2022)
Prince, Holly; Credentials Evaluator (2006)
Raber, Alicia; Early College Coordinator (2023)
Randolph, Tonya; Academic/Career Advisor CTEPS (2010)
Ratliff, Tina; Financial Aid Operations Manager (2018)
Rubalcava, Edward; Data Analyst (2023)
Salcedo DuPuis, Miriam; SBDC Business Analyst (2021)
Sandstrom, Judith; Academic Career Advisor (2023)
Sherwood, Jake; Math Tutor (2018)
Sorensen, Katie; Events Management Coordinator (2022)
Tinoco, Emily; Academic/Career Advisor - TRiO/Student Support Services (2023)
Wagner, Amy; Accountant (2023)
Weeks, Sonya; Benson Center Coordinator (2023)

PROFESSIONAL STAFF

Andrea Alston; Events Management Specialist (2022)
Tizoc Anaya; User Support Supervisor (2022)
David Barclay; Senior Electrician (2023)
Devin Bohr; User Support Supervisor (2023)
Bonnie Braley; Payroll/Benefits Specialist (2021)
Jose Ceja; Mechanic/Shop Specialist (2024)
Janet Cramer; Procurement Specialist (2023)
Kathleen Denney; Facilities Office Supervisor (2023)
Genevieve Falcon; Early College Specialist (2023)
Karlo Favela; Audio Visual (AV) Support Supervisor (2022)
Heather Gijanto; Testing Services Specialist (2020)
Denise Grandon-Keane; User Support Specialist (2022)
Joshua Groves; HVAC Supervisor (2022)
Patricia Hermansen; Accounts Payable Specialist (2017)
Alan Hom; Video Production Specialist (2020)
Erin Karvaski; Enrollment Management Specialist/Department Assistant (2022)
Casey Kutzner; Admissions Specialist (2022)
Sandra Leverty; Accounts Receivable Specialist (2018)
Tiani Martinez; Testing Services Specialist (2022)
Amy Easton; Human Resources Specialist (2022)
Leanne Perkins; Payroll Data Specialist (2023)
Jack Petty; Adult Ed Data Specialist/Department Assistant (2022)
Dawn Rinehart; Testing Services Specialist (2018)
Iris Routhieaux; Institutional Research Specialist (2020)
Coleen Thrasher; Financial Aid Veterans Services Specialist (2023)

CLASSIFIED STAFF

Manuel Acedo
Diana Acosta
Patrick Adams
Ernesto Alvarez
Erick Anderson
Shane Andrews
Javier Armenta
Bryan Armstrong
William Auchincloss
Vanessa Ayala
Vienna Baker

Sergio Batista
Amber Baxter
Sandra Berry
Haley Bright
Manuel Burgos
Marla Cardona
Tyler Carnival
Christine Carriero
Kathleen Carrillo
George Ceron-Cano
Noelia Chavez
Lindsay Christie
Irma Cook
Maria Cook
Matthew Crabb
Evan Dantzler
Steven DeFelice
Andrea Dorame
Delia Dorame
Noble Dorre
Tracey Dugan
Laura Escapule
Ruth Fenchak
Hilary Fleming
Simon Floyd
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Lisa Friel
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Jose Gutierrez
Darla Hammond
Ryan Harris
Jonathan Heath
Crystal Hernandez
Ray Howard
Diego Iglesias
Angela Jackson
Christopher Jackson
Heather James
Henry Jones
Sophia Kirkland
Jose Laguna
Arian Lee
Sonia Leyva
Nick Louviere
Christie Lunn
Harim Manzanares
Marc Matthews
Joe Mejia
Toby Merrick
Kristian Miguel
Joy Miller
Martin Molina
Caitlyn Moore
Carmen Morales
Eddie Moreno
Sharron Nason
Dawn Nuetzel
Allison Ocanas
Teresa Ortiz
Stephanie Owen
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Miguel Perez
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Margaret Reilly
Nathan Routhieaux
Dustin Sherman
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Kurtis Smith
Tinesha Smith
Linda Sterling
Adaline Stewart
Gerardo Valdez
Andres Valenzuela
John Vera
Darwin Waldron
Demetria Warren
Serena Westbrook
Daniel Wetstein
Juan Yepez

Disclaimers

Right to Make Changes or Correct Errors

Cochise College reserves the right to make changes without notice in fees, faculty assignments, time schedules, courses, curricula, and policies; to cancel classes when necessary; to set maximum and minimum limits for enrollments in certain classes; and to make changes to other matters contained in this catalog.

Responsibility for Personal Property

Cochise College is not responsible for loss, theft or damage to individuals' personal property.

Equal Opportunity/Students with Disabilities Policy

Cochise College does not discriminate in admission or access to, or treatment or employment in, its services, programs, or activities on the basis of race, color, national origin, sex, religion, age (40+) or disability, in compliance with the laws of the United States and the state of Arizona.
The college seeks to provide disabled students with any reasonable accommodation in order to facilitate access to college classes and activities. Students seeking such an accommodation should make an official request through Student Services.
A lack of English language skills will not be a barrier to admission or participation in the career and technical (vocational) education programs of the college.
Any questions regarding the applicability of state and federal anti-discrimination laws to Cochise College and its services, programs or activities, and any grievances or claims of violation of such laws, should be directed to the Title IX Coordinator/Section 504 Compliance Officer.
The college seeks to provide students with a documented disability with reasonable accommodation(s) in order to facilitate access to college classes and activities. Students seeking such an accommodation should make an official request through Accessibility Services at 520-515-5337 and/or www.cochise.edu/accessibility.

Nanette Romo, Director of Accessibility Services

Sierra Vista Campus
Student Union (Upstairs)
Room 1064 / 1065
901 Colombo Ave
Sierra Vista, AZ 85635
Phone: (520) 515-5337

Douglas Campus
MISSL Lab
Room 613
4190 West Highway 80
Douglas, AZ 85607
Phone: (520) 515-5339

Loren Gladwill, Director of Student Advocacy & Wellness/Title IX Coordinator

Sierra Vista Campus
901 North Colombo Avenue
Student Union Building, Room 1055
Sierra Vista, AZ 85635
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www.cochise.edu/title-ix/

Douglas Campus
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Learning Commons Bldg #600
Douglas AZ 85607
(520) 417-4752 (office)
www.cochise.edu/title-ix/

La Politica de Igualdad de Oportunidades y Los Estudiantes con Incapacidades

En cumplimiento con las leyes de los Estados Unidos y del Estado de Arizona, Cochise College no discrimina en base a la raza, el color, la nacionalidad, el sexo, la religión, la edad (el ser mayor de 40 años) o la discapacidad de las personas en sus procesos de empleo, de admisión o al tratar de obtener los servicios, programas o las actividades que ofrece esta institución.
Cochise College trata de proporcionar un acomodo razonable a sus estudiantes incapacitados o con limitaciones físicas para facilitarles el acceso a las clases o actividades. Aquellos estudiantes que necesiten este tipo de acomodo deberán formalmente solicitarlo al departamento de Servicios para Estudiantes.
La habilidad limitada del idioma inglés no es una barrera para la admisión o la participación de las carreras técnicas y vocacionales disponibles en la institución.
Cualquier pregunta sobre la administración de las leyes sobre discriminación en Cochise College en sus servicios,

programas o actividades, así mismo como cualquier queja o reclamo de violación de dichas leyes se debe dirigirse Cochise College busca proveer a los estudiantes que tengan una discapacidad documentada, los ajustes razonables que faciliten el acceso a las clases y a las actividades de la institución. Los estudiantes que buscan este tipo de acomodamiento deben hacer una solicitud oficial a través de la Oficina de Servicios de Accesibilidad al 520-515-5337 y / o www.cochise.edu/accessibility.

Nanette Romo, Directora de Servicios de Discapacidad

Campus de Sierra Vista
Centro Estudiantil (Segundo piso)
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Sierra Vista, AZ 85635
Teléfono: (520) 515-5337

Campus de Douglas
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Teléfono: (520) 515-5339

Loren Gladwill, Director de Abogacía y Bienestar Estudiantil / Coordinador del Titulo IX

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