COCHISE COLLEGE

Catalog
2022-2023

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2022-2023 Catalog

Welcome to Cochise College

Dear Students,

Welcome to Cochise College! We are committed to providing education that is student-centered and future-focused. Our caring faculty, staff, and fellow students stand ready to assist you in your learning journey. I encourage you to take a close look at the offerings in this catalog and seek advice from our student services staff, who are ready to support you through every step and milestone, from academic advising and financial counseling to tutoring and library services.

I hope you will take advantage of all that Cochise College offers, whether to collaborate with other students, engage in student leadership and projects, gain hands-on experience at campus jobs and internships, or participate in college ambassador roles.

I hope you enjoy your time at Cochise and wish you all the best in your academic journey.

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 16 – Aug. 5, 2022, 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 2022
Cochise College is an equal-opportunity, affirmative-action employer and educational institution committed to excellence through diversity.

College Locations

Benson Center

1025 State Route 90
Benson, AZ 85602-6501
(520) 586-1981
Benson Center Web Page - www.cochise.edu/benson-center/

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
Douglas Campus Web Page - www.cochise.edu/douglas-campus/

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
Downtown Center Web Page - www.cochise.edu/downtown-center/

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
Fort Huachuca Center Web Page - www.cochise.edu/ft-huachuca-center/

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
Sierra Vista Campus Web Page - www.cochise.edu/contact/sierra-vista-campus/

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
Willcox Center Web Page - www.cochise.edu/willcox/

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

COCHISE COUNTY
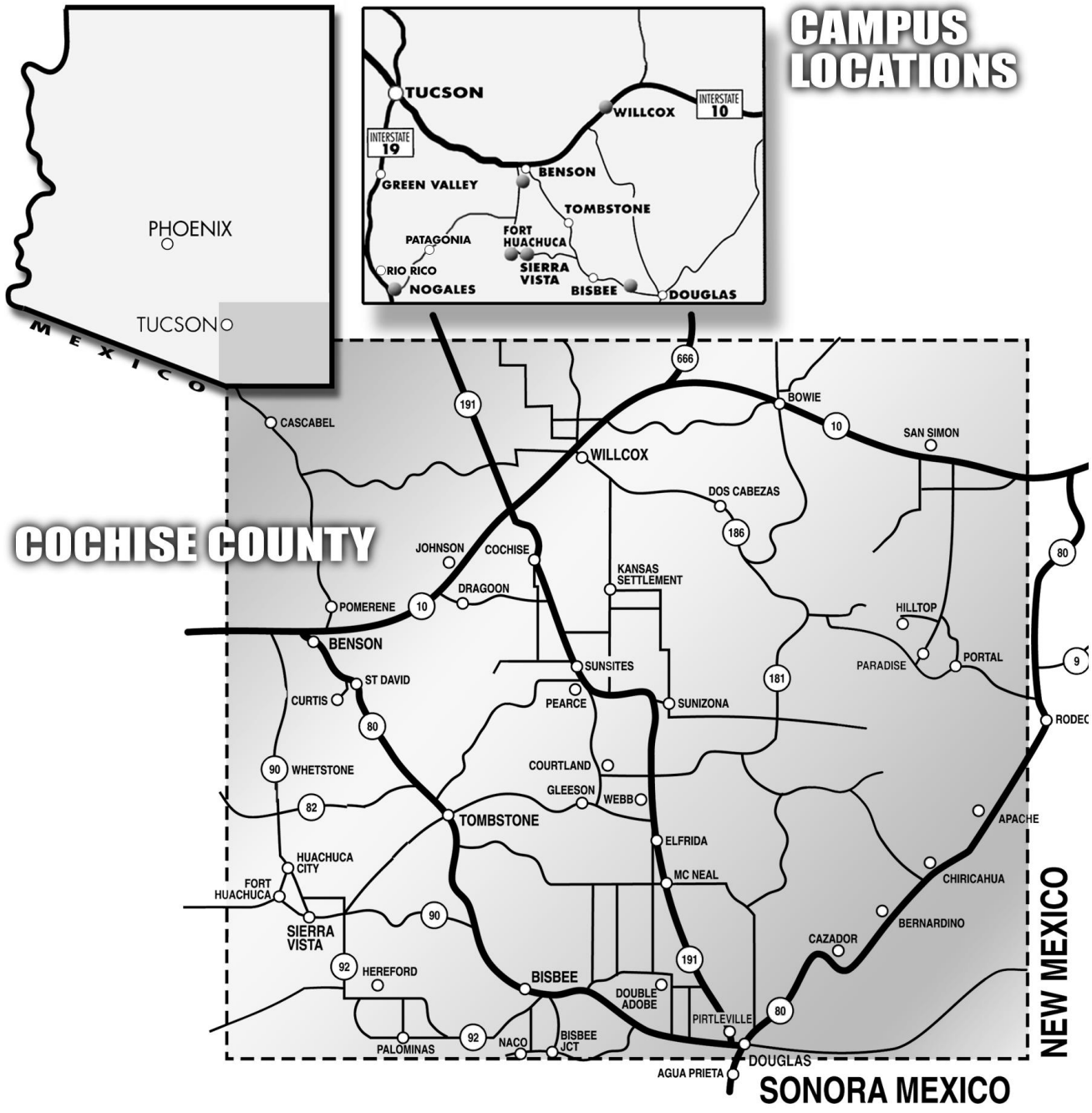
Academic Calendar

SUMMER SEMESTER 2022

Summer business hours	May 16 - Aug. 5
Eight-Week Session:	*May 31 - July 25*
Last day to add classes	May 30
Last day to change to withdraw or audit status	July 20
Grades due by noon	July 29
Financial Aid:	
Summer freeze date*	June 8
Summer disbursement date	June 9
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 30
Juneteenth Observed	June 20
Independence Day	July 4

FALL SEMESTER 2022

Police Academy 20-Week Semester	July 25 - Dec 8
Flight 21-Week Semester	July 25 - Dec 16
Flight & Police Academy freeze date	August 2
Flight & Police Academy disbursement date	August 3
Convocation (offices closed)	August 15
Saturday registration	August 20
Residence halls open	Aug. 20 - Dec. 16
Spring registration begins	November 1
16-Week Semester:	*Aug. 22 - Dec. 15*
Last day to add classes (the day before the class begins)	August 21
Last day to withdraw or change to audit status	December 2
Finals (including Saturday)	Dec. 9 - 15
Grades due by noon	December 21
First Eight-Week Session:	*Aug. 22 - Oct. 18*
Last day to add classes (the day before the class begins)	August 21
Last day to withdraw or change to audit status	October 13
Grades due by noon	October 21
Second Eight-Week Session:	*Oct. 24 - Dec. 15*
Last day to add classes (the day before the class begins)	October 23
Last day to withdraw or change to audit status	December 9
Grades due by noon	December 21
Financial Aid:	
16-week and First Eight-Week freeze date*	August 30
16-week and First Eight-Week disbursement date	August 31
Second Eight-Week freeze date*	November 1
Second Eight-Week disbursement date	November 2
* Financial aid will not pay for classes added after this date.	
Holidays (no classes):	
Labor Day	September 5
Columbus Day	October 10
Veterans Day Holiday Observed	November 11
Thanksgiving recess	Nov. 24 - Nov. 25
Winter break (all staff)	Dec. 26 - Jan. 6

SPRING SEMESTER 2023

Saturday registration	January 14
Police Academy resident halls open	Jan 8 - May 6
Police Academy 20-Week Semester	Jan 9 - May 5
Residence halls open	Jan 14 - May 12
Flight 21-Week Semester	Jan 17 - June 9
Summer and Fall registration begins	April 10
Commencement	May 12
16-Week Semester:	*Jan 17 - May 11*
Last day to add classes (the day before the class begins)	January 16
Last day to withdraw or change to audit status	April 30
Finals (including Saturday)	May 4 -10
Grades due by noon	May 15
First Eight-Week Session:	*Jan 17 - Mar 10*
Last day to add classes (the day before the class begins)	January 16
Last day to withdraw or change to audit status	March 5
Grades due by noon	March 13
Second Eight-Week Session:	*Mar 20 - May 11*
Last day to add classes (the day before the class begins)	March 19
Last day to withdraw or change to audit status	May 5
Grades due by noon	May 15
Financial Aid:	
PFT & LEO freeze date*	January 25
PFT & LEO disbursement date	January 26
16-Week and First Eight-Week freeze date*	January 25
16-Week and First Eight-Week disbursement date	January 26
Second Eight-Week Session freeze date*	March 28
Second Eight-Week Session disbursement date	March 29
* Financial aid will not pay for classes added after this date.	
Holidays (no classes):	
Martin Luther King Day	January 16
Lincoln/ Washington Presidents' Day	February 20
Spring Break	March 13 - 17

SUMMER SEMESTER 2023

Summer business hours	May 15 - Aug.11
Eight-Week Session:	*May 30 - July 24*
Last day to add classes	May 29
Last day to change to withdraw or audit status	July 19
Grades due by noon	July 27
Financial Aid:	
Summer freeze date*	June 7
Summer disbursement date	June 8
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 29
Juneteenth Observed	June 19
Independence Day	July 4

General Information

HISTORY

Cochise College opened its doors in 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.

The development of community-directed services has included the Center for Lifelong Learning, the Small Business Development Center, the Virtual Campus, the Correctional Education Division, Adult Education, and the Center for Economic Research. The college has increased its offering of educational programs while expanding partnerships with K-12 schools, universities and local industries.

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.

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:

David DiPeso, Chair
Cochise College, A.A.
University of Arizona, B.S.

Dennis L. Nelson, Secretary
University of Alaska, B.A.
University of Alaska Anchorage, M.A.
University of Gonzaga School of Law, J.D.

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

Tim Quinn, Member
Montana State University, B.A.
Kansas State University, M.S.
National Defense University, M.S.

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 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 under the age of 18 must submit either an official high school transcript or GED certificate with test scores before registration is permitted. High school transcripts should be sent directly by the issuing institution to the Admissions Office. Official transcripts hand-carried by the applicant cannot be accepted if previously opened.
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 two semesters or longer 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 regionally 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 non-regionally 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 occurs once a student has been admitted to Cochise College. Students may not request an official Cochise College transcript until they have registered for and completed at least three credits of Cochise College coursework with a grade designation of A, B, C, D, F, P or AU (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. 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.

ADMISSION OF INTERNATIONAL STUDENTS

Steps to Apply

International students are persons who are not citizens or residents of the United States of America who enter the US for the purpose of studying at a US educational facility. International students require a student visa to enter the US for the purpose of studying.

The following must be submitted 60 days prior to the start of the semester in which the applicant plans to enroll:
1. Complete international application for admission online at www.cochise.edu/international
2. A non-refundable $75.00 application fee
3. A copy of the identification page of the passport
4. The Financial Guarantee Form providing proof of funding for one academic year for college and living expenses.
5. College transcripts, certified and translated to English

Mail transcript(s) to:

International Student Office
COCHISE COLLEGE
4190 W. Highway 80
Douglas, AZ 85607

6. International transfer students: Provide all items listed above and also items listed below.
   a. International students transferring from a college or university within the United States are required to inform their current institution the intent to transfer to Cochise College and submit a Transfer Authorization form
   b. A copy of current F-1 student visa and I-20 issued from a U.S. educational institution
7. Student health record
8. Proof of U.S. medical/accident insurance or purchase insurance upon arrival at Cochise College
9. Complete and submit online Housing application with $150 USD deposit

Border Commuter Students

Border commuter students from Mexico are permitted to attend Cochise College part time or full time. These students must apply for an F-1 student visa 120 days prior to attending. The Form I-20 will be issued to students once the following documents have been submitted to the International Student Office:
1. Complete international application for admissions online at www.cochise.edu/international
2. A non-refundable $20.00 application fee
3. A copy of the identification page of the passport
4. The Financial Guarantee Form providing proof of funding for one academic year for college and living expenses
   • Full-time students $3,204.00 USD

- Part-time $2,112.00 USD
5. Official high school transcripts, or certificate or diploma, with English translation
6. Student Health Record
7. Sonora Agreement form (if applicable)

Information for international students is available at www.cochise.edu/international or from the International Student Office at (520) 417-4050 or (800) 966-7943.

Additional Requirements

International students must attend fall and spring semesters and take at least 12 credits hours each semester. International students are not permitted to enter the U.S. 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. Immigration and Customs Enforcement requirements concerning visas, passports, permits, permission to work, and related matters. Students are also assisted in making academic, social, and environmental adjustments to campus and community life.

International students must carry medical insurance while studying and living in the U.S.

OFFICE OF DISABILITY 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 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/disability

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/tuition. Documentation can be returned to the Registration Office or scanned and emailed to the attention of the registrar at adm@cochise.edu or reg@cochise.edu. 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, must do so in person at the Registration Office at any time after the start of a semester. Enrollment verification is free of charge and processed within 48 hours of receiving the request. The National Student Clearinghouse is Cochise College's authorized agent for providing degree and enrollment verifications at www.degreeverify.org.

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 Registrar by email at reg@cochise.edu or call 800-593-9567.

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

Category	Per Credit
In-state	$91
In-state tuition (per credit hour) for Nursing NUR and Police Academy LEO	$127
In-state tuition (per credit hour) for Aviation PFT	$275
Out-of-state 1-6 credits	$136
Out-of-state over 6 credits (retroactive to first credit)	$250
Out-of-state tuition for Nursing NUR	$350
Out-of-state tuition for Aviation PFT	$398
Student without Prop 300 documentation	$250
Online in-state courses (per credit hour)	$91
Online out-of-state (per credit hour)	$250
Co-op education courses	$46
New Mexico Tuition Waiver (NMW)*	$91
NMW tuition for Nursing NUR and Police Academy LEO	$127
NMW tuition for Aviation PFT	$275
Western Undergraduate Exchange Tuition (WUE)**	$136
WUE tuition for NUR and Police Academy LEO	$191
WUE tuition for Aviation PFT	$398
Golden Apache (county resident 60+ years):	
Regular course	$46
Online courses	$46

*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)	$77
Myers-Briggs	$20
Strong Interest Inventory	$15
Other testing services	$20
Placement scores (faxed)	$10
MOS credentialing fee	$60
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), in room satellite cable services, 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	$150*
Laundry Facility Service Fee per semester	$32

*Required. Deposit does not apply toward room and board fees and is refundable less laundry fees, any damage fees or other outstanding balances owed to the College.

Regular Student – 17 Weeks

Meal program	$2,481
Room rate	$1,250

Combined Rate

Meal plan and housing with 15 or more credit hours of enrollment	$2,481
Meal plan and housing with 12-14 credit hours of enrollment	$3,271

Professional Pilot – 21 Weeks

Meal plan	$3,046
Room rate	$1,544

Combined Rate

Meal plan and housing with 15 or more credit hours of enrollment	$3,046
Meal plan and housing with 12-14 credit hours of enrollment	$3,906

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 Executive Dean 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, unlike a loan, does not have to be repaid. It is restricted to undergraduate students. Eligibility is established by the federal government, and the grant is targeted to students with high need. The award adjusts to students' actual enrollment status. Students never attending a course or withdrawing from all of their courses could face repayment of all received Pell Grant monies.

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 Cochise 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.

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 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 not completed a course during a given academic year. In the event of re-enrollment, the student must meet the requirements of the catalog in effect at that time.

ACADEMIC CLASSIFICATION AND STATUS

Classification of Students

Freshman: Student with fewer than 32 passing college credits.
Sophomore: Student with 32 or more passing college credits.
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 (F2F): Classes that meet physically and students are required to attend regular face-to-face sessions.
2. Live Streaming Room-to-Room (LS): 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 Cochise College classroom or computer center and actively participate in class activities during the scheduled class times.
3. Live Streaming Anywhere (LSA): A class where students participate in real time through a web conferencing system. Students may utilize Cochise 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. Hybrid (F2F/LS), (F2F/ONLN), (LS/ONLN): Classes combine two of the other methods in approximately equal proportions. Requirements for meeting will match the livestream or Face-2-Face description in addition to the online requirements.
5. Online (ONLN): 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.
6. HyFlex (HYF): Classes are offered by an instructor in a traditional classroom setting in-person and are simultaneously delivered through a web conferencing system which will be recorded. Students may choose whether to attend class in-person, livestream logged in via a computer or watch the recorded session at a later time online. Students are responsible for all assignments due throughout the week.

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 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 an instructor. The student regularly submits assignments and other reports to the instructor. These classes are coordinated by the cooperative education office 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 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 effected 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 Program

General Eligibility: Students may join the Honors Program after completing 12 transfer-level credits with at least a 3.5 GPA.

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 on the 10th day of 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	12 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 a counselor or advisor. An advising hold will be placed on student records which will be removed once the student has earned 15 college credits.

International students must always meet with a counselor or advisor until they are graduated or leave the school.

ADDING AND DROPPING COURSES

Adding Classes

Students who wish to add classes to their schedule must register the day before the class begins.

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.

NON-TRADITIONAL LEARNING

A maximum of 30 credits are allowed for non-traditional learning experiences. 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. Non-traditional learning credits do not count toward the college residency requirement.

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.
Students must have completed at least one Cochise College course before CLEP or DSST credit is granted. 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. More information is available in Policy 3006.3 or at www.cochise.edu/transfer-to-cochise. Cochise College may award up to 30 credits for CLEP and DSST examinations; however, other colleges and universities are not obligated to accept these credits.

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 occurs once a student has been admitted to Cochise College. Students may not request an official Cochise College transcript until they have registered for and completed at least three credits of Cochise College coursework with a grade designation of A, B, C, D, F, P or AU (audit). Credit earned for military service may not be used toward the college's 16-credit residency requirement.

DEGREE AND CERTIFICATE REQUIREMENTS

Degree Requirements

A cumulative grade point average (GPA) of 2.0 or higher is required for any associate degree: Associate of Arts, Associate of Arts in Elementary Education, Associate of Business, Associate of Science, Associate of General Studies and Associate of Applied Science. 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.

Additional degree requirements are found in the Degrees and Programs section of this catalog.

Bachelor's Degree Waiver of General Education Requirements

Students who have already earned a bachelor's degree from a regionally accredited institution and are interested in pursuing an Associate of Applied Science (AAS) degree may use a bachelor's degree to satisfy the general education requirements for most AAS degrees. 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 Cochise College catalog. All courses must be completed with a grade of C or better. A minimum of 25 percent of the required credits must be taken in residency at Cochise College for each Certificate of Completion granted.

Additional Associate Degrees

Students may earn additional associate degrees at Cochise College if they complete the following for each additional degree:

- All requirements for the additional degree and
- Sixteen additional Cochise College credits not used in other Cochise College degree(s).

GRADUATION APPLICATION PROCESS

Graduating students must complete and submit the online graduation application at www.cochise.edu/advising/graduation. Students must notify the Student Development Center of any change of name or address that occurs during the application process period. For associate degrees, students must file their application by the deadline listed in the academic calendar. Diplomas will be delayed and student names may not appear in the commencement program if students miss the deadline to file. For certificates, students must 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 must 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. Archived transcripts (prior to 1985) may require additional processing time. Transcripts are mailed via first-class mail. Cochise College offers an expedited service for an additional fee. According to federal law, transcript requests must be submitted in writing 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 at www.cochise.edu/cc.

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 Executive Dean 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. Each library also has open study areas, study rooms, photocopiers, WEPA print stations, and computers with Internet access.

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, and by email.

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

Student Success Center

The Student Success Centers, located on the Douglas and Sierra Vista campuses, coordinate several key services supporting student learning: academic advising, counseling, career exploration, testing, tutoring, referrals for experiential learning and CTEPS programs. Counselors and advisors assist students in defining, planning, and achieving success by helping them develop decision-making skills and personal strengths. Students can plan their program of study, learn about work/career options, explore transfer programs, and learn about college resources.

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 which 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 demonstrate their skill levels in English, mathematics, and reading prior to registration. This is usually done by taking the college placement assessment. Students who place at the developmental level in any of the three areas above need to improve their skills and 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 are required to complete the ACCUPLACER placement assessment or 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.

Normally, students must complete placement assessments in English, mathematics, and reading after which they meet with an advisor prior to registering in any course with an English, mathematics, and/or reading prerequisite. However, this 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.

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, MAT 154, MAT 156, 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 Exemt

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 tests, understand mathematical concepts, generate ideas for essays, work through the writing process, conduct research, build 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 a variety of 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 Disability 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, student programming coordinator, and public relations coordinator, who are selected based on an application process each spring. 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 dual enrollment coordinator. Information is available at https://www.cochise.edu/k12/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. Fees are based on household income on a sliding scale. For more information visit www.cochise.edu/adulteducation/.

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.

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. Students shall receive two notices to complete the training within the six-month period. 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 Compliance/Title IX Coordinator, 901 North Colombo, HRB-324, Sierra Vista, AZ 85635, titleix@cochise.edu, (520) 452-2683 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 drug and alcohol-free workplace report is updated each April. The reports 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 Executive Dean 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

General education at Cochise College creates opportunities for students to build the foundation of knowledge and skills necessary for lifelong success. It helps them enrich their quality of life by encouraging habits of mind that enable them to understand and value the world they live in and to contribute to its well-being.

Values

Through its general education curriculum, Cochise College strives to instill into the learning process a sense of interconnectedness and wholeness. We value learning as an ongoing process. We value effective communication; aesthetic investigation, innovative solutions, and creative self-expression; critical thinking in problem solving; awareness of and respect for diversity; appropriate evaluation and application of information; and technological skills in information management and presentation. We believe these values lead to ethical, responsible social behavior. Our values are reflected in our general education outcomes.

Outcomes

Students fulfill general education requirements at Cochise College by demonstrating competency in the following: communication, creativity, critical thinking, diverse and global perspectives, information literacy, and technology literacy. These outcomes clearly state the expected knowledge, skills, attitudes, competencies, and habits of mind that students are expected to have acquired at the college upon completion of a degree.

- **Communication:** Students, using writing and speaking skills, individually and collaboratively, discover, organize, and communicate information, ideas, and arguments in a clear and effective manner appropriate to the audience and purpose.
- **Creativity:** Students perform one or more of the following: analyze, evaluate, and reflect on aesthetic experiences; propose innovative solutions to technical, scientific, social, or individual problems; produce artifacts of self-expression.
- **Critical Thinking:** Students employ logical, analytical, analogical, and reflective reasoning in combination with scientific, mathematical, humanistic, or artistic inquiry to solve problems effectively.
- **Diverse and Global Perspectives:** Students demonstrate an understanding of the diversity of human experience and the interdependent roles of historical, cultural, socio-economic, geographic, and ecological influences on this experience.
- **Information Literacy:** Students recognize that information is needed, and they use both traditional and modern technologies to effectively locate, evaluate, and apply the needed information.
- **Technology Literacy:** Students apply technological skills and processes to effectively acquire, manage, and present information.

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.

TRANSFER 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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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

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 - 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.
- Placement testing is required and prerequisites may apply.

AA, AAEE, ABUS, AND AS DEGREES

COMPOSITION 6 CREDITS

ENG 101	Composition*°	3
ENG 102	English Composition*° OR	3
ENG 102H	English Composition	3

MATHEMATICS 3-5 CREDITS
AGEC-A

MAT 142	College Mathematics*°‡	3
MAT 151	Precalculus Algebra*°‡	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

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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 Imaging 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 109	Orchestra I	1
MUS 109A	Orchestra II	1
MUS 110	Chorus I	1
MUS 110A	Chorus 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 201A	Voice Ensemble‡	1
MUS 201D	Percussion Ensemble‡	1
MUS 201F	Guitar Ensemble‡	1
MUS 201G	Jazz Ensemble°	1
MUS 210	Music Theatre Workshop	2
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 Humanities II~	3
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 201	Intermediate Spanish I*°	4
SPA 202	Intermediate Spanish II*°	4
THE 103/HUM 111	Introduction to Theatre Arts°*	3

SOCIAL AND BEHAVIORAL SCIENCES 6 CREDITS

AJS 101	Introduction to Administration of Justice*°	3
AJS 204/COM 204	Elements of Intercultural Communication°~	3
ANT 101	Bones, Stones, and Human Evolution°‡	4
ANT 102	Society and Culture°	3
ANT 110	Exploring Archaeology°	3
ANT 235	Principles of Archaeology°~	3
ANT 286	Historic Native Peoples of North America~	3
ANT 287	Archaeology of the Southwest°~	3
COM 204/AJS 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-	3

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

	1877*°	
HIS 111	History of the United States Since 1877*°	3
HIS 201	History of Women in the United States~	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/SOC 230	Human Sexuality°	3
PSY 240	Developmental Psychology°~	3
PSY 250	Introduction to Statistics°‡~	4
PSY 270	Abnormal Psychology°~	3
PSY 290	Research Methods°~*	3
SOC 101	Introduction to Sociology*°	3
SOC 160	Sociology of Race and Ethnicity*°~	3
SOC 202	Social Problems*°~	3
SOC 212	Sociology of Gender°~	3
SOC 230/PSY 231	Human Sexuality°	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
ENG 102	English Composition*°	3

MATHEMATICS 3-5 CREDITS

MAT 132	Applied Mathematics°	3
MAT 142	College Mathematics*°‡	3
MAT 151	Precalculus Algebra*°‡	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
ENG 102	English Composition*°	3

MATHEMATICS/LABORATORY SCIENCES 3-4 CREDITS

MAT 132	Applied Mathematics°	3
MAT 142	College Mathematics*°‡	3
MAT 151	Precalculus Algebra*°‡	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
AJS 204/COM 204	Elements of Intercultural Communication°~	3
ANT 101	Bones, Stones, and Human Evolution°‡	4
ANT 102	Society and Culture°	3
ANT 110	Exploring Archaeology°	3
ANT 235	Principles of Archaeology°~	3
ANT 286	Historic Native Peoples of North America~	3
ANT 287	Archaeology of the Southwest°~	3
ART 103	Two-Dimensional Design and Composition*‡°	3
ART 106	Drawing Foundations*‡°	3
ART 107	Survey of World Art: Prehistoric -	3

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

	Gothic*°	
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/AJS 204	Elements of Intercultural Communication°~	3
DMA 210	Digital Imaging 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 201	History of Women in the United States~	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 109	Orchestra I	1
MUS 109A	Orchestra II	1
MUS 110	Chorus I	1
MUS 110A	Chorus 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 201A	Voice Ensemble‡	1
MUS 201D	Percussion Ensemble‡	1
MUS 201F	Guitar Ensemble‡	1
MUS 201G	Jazz Ensemble°	1
MUS 210	Music Theatre Workshop	2
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/SOC 230	Human Sexuality°	3
PSY 240	Developmental Psychology°~	3
PSY 250	Introduction to Statistics°‡~	4
PSY 270	Abnormal Psychology°~	3
PSY 290	Research Methods~*	3
SOC 101	Introduction to Sociology*°	3
SOC 160	Sociology of Race and Ethnicity*°~	3

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

SOC 202	Social Problems*°~	3
SOC 212	Sociology of Gender°~	3
SOC 230/PSY 231	Human Sexuality°	3
SPA 101	Elementary Spanish I*°	4
SPA 102	Elementary Spanish II*°	4
SPA 201	Intermediate Spanish I*°	4
SPA 202	Intermediate Spanish II*°	4
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 six degrees—the AA, AAEE, ABUS, AS, AGS, and AAS—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.

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:

Degree	Major Code
Administration of Justice	AJS
Computer Science	CSC
Early Childhood Care and Education	ECE
Exercise Science, Health and Physical Education, Recreation and Wellness	HPES
Fine Arts	ARTF
General Requirements	GENG
Liberal Studies	LBS
Music	MUS
Social and Behavioral Sciences	SBS
Theatre Arts	THE

GENERAL EDUCATION REQUIREMENTS, AGEC-A 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

Laboratory Sciences 8 credits
Arts 3 credits

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

LANGUAGE REQUIREMENT 0-16 CREDITS

University non-English language requirements vary. Check the language requirement for chosen major.

CORE CURRICULUM OR ELECTIVES 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 AA 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 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.

Associate of Arts Elementary Education (p. 59)   Major Code - EED

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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, HIS 110, and HIS 111 are highly recommended. PSY 101, ECN 201 or ECN 202, and PSY 240 are also recommended.

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.
See www.cochise.edu/AGEC.

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 CREDITS

Courses

EDU 201	Introduction to Education	3
EDU 222	Introduction to Special Education°	3
EDU 226	Cultural Diversity in Education°	3
EDU 230	Classroom Relationships°	3
MAT 154	Mathematics for Elementary Education Majors I°	3
MAT 156	Mathematics for Elementary Education Majors II°	3

ELECTIVES (AS NEEDED TO COMPLETE DEGREE)

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

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.

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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. POS 220 is recommended to fulfill three of the six credits. 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 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. 62)   Major Code - BUSG

GENERAL EDUCATION REQUIREMENTS, AGEC-B 35 CREDITS

Composition 6 credits
ENG 101	Composition*°	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 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:

Degree	Major Code
Biology	BIO
Chemistry	CHM
Computer Science	CSC
Engineering	EGR
General Requirements	GENG
Mathematics	MAT
Physics	PHY

GENERAL EDUCATION REQUIREMENTS, AGEC-S 35-39 CREDITS

Composition 6 credits
ENG 101	Composition*°	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)*‡° AND	4
BIO 182	General Biology II*‡ OR	4
CHM 151	General Chemistry I*‡° AND	4

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

CHM 152	General Chemistry II*‡° OR	4
PHY 230	Physics with Calculus I*‡ AND	4
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 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	AHS
Aviation Dispatch	AVD
General Studies	AGS
Professional Pilot Technology	PPT

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits
| ENG 101 | Composition*° | 3 |
| ENG 102 | English Composition*° | 3 |

Mathematics 3-5 credits
| MAT 132 | Applied Mathematics° or higher (3-5 credits) | 3 |

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:

Degree	Major Code
Animal Science	AGRA
Automotive Technology	ATC
Building Construction Technology	BCT
Business Management	BMT
Computer Information Systems	CIS
Computer Programming	CPG
Crop Science	AGRC
Culinary Arts	CUL
Cybersecurity	CYB
Digital Media Arts	DMA
Early Childhood Care and Education (p. 58)	ECE
Education	ED
Intelligence Operations Studies	IOST
Law Enforcement	LEO
Network Technology	NWT
Nursing	NUR
Paramedicine	PAR
Professional Pilot Technology	PPT

Residential Construction Technology	RCT
Unmanned Aerial Vehicle Flight Operator	UAVO
Unmanned Aircraft Systems Technician	UAVT
Welding Technology	WLD

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics/Laboratory Sciences 3-4 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

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° OR	3
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM (SEE AREAS OF STUDY)
ELECTIVES (AS NEEDED TO COMPLETE THE DEGREE)
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 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	35 credits	AGCA
AGEC-B	35 credits	AGCB
AGEC-S	35-39 credits	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. 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:

Career Certificates	Credits	Major Code
Aerospace Welding Technology	18	AEWT
Amazon Web Services Cloud Architecting	6	CLDA
Amazon Web Services Cloud Foundations	3	CLDF
Animal Science	16	ASC
Automotive Fundamentals	12	AUTF
Automotive Technology	24	ATC
Carpentry Technology	23	CTC
Chef Patissier – Baker's Apprentice	24	BKRA
Computer-Aided Drafting	26	CAD
Crop Science96	17	CRSC
Culinary Fundamentals Certificate 86	7	CULF
Culinary Skills Certificate	16	CULS
Early Childhood Care and Education	21	ECEC
Emergency Medical Technician (Prep for External Licensure)	8	EMT
Entrepreneurship/Small Business Management	30	ENTC
Fire Science Technology	20	FST
General Computer-Aided Drafting	16	GCAD
General Welding Technology	18	GWLD
Google IT Professional	3	GITP
Hemp Science	17	HSC
Home Health Aide	6	HHAC
Horticulture Science	17	HCSC
HVAC	16	HVAC
HVAC Refrigeration	20	REFR
Law Enforcement	30	LEOC
Light Vehicle Diesel Certificate	15	ATCD
Linux System Administrator	20	LSA
Medical Assistant	27	MEDA
Medical Billing and Coding - Certificate 76	27	MBC
Nursing Assistant (Prep for External Licensure)	6	CNA
Paramedicine	49-55	PAR
Practical Nursing (Prep for External Licensure)	32	PN
Residential Construction Fundamentals - Certificate	14-16	RCTF
Residential Construction Technology	37	RCC
Sous Chef Apprentice	40-43	SCCA
Supply Chain Management	16	SCM
Tax Preparer Certificate	16	TAXP
Unmanned Aircraft System Operations	16	UASO
Virtual Reality Content Developer	16	VRD
Virtual Reality Technologist	16	VRTC
Welding D1.1 FCAW/GMAW Certificate	15	WFGM
Welding D1.1 SMAW Certificate	17	WSM
Welding Fundamentals 89	12	WLDF
Welding Motorsports - Certificate	22	WMS
Welding Pipe and Fitting - Certificate	23	WPF

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

Areas of Study

ARTS & HUMANITIES

AGEC-A and General Requirements

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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. See www.cochise.edu/AGEC.

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

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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

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

Digital Media

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 university program or design/production profession with an emphasis in digital media art. Students gain the knowledge and skills necessary to prepare them for entry into professions such as advertising, design studio, videographer, freelance designer, or related fields.

Learning Outcomes

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

- Create, manipulate, and enhance digital images and resolve image problems.
- Determine, as a member of a production team, the correct uses of the digital video camera, camera lenses, and computer equipment in portfolio preparation and video production.
- Utilizing integrated knowledge, articulate the uses of still photography, including camera, computer, lighting, lenses, and composition techniques.
- Develop the use of animation, imaging, audio production, video production, and multimedia techniques and skills.
- Demonstrate a general knowledge of the art and architecture of western civilizations from the Renaissance through the 20th century, and formation of design philosophies, art movements, and digital media technology from the late 19th century to present day.
- Analyze how societal forces, and the use of propaganda in advertising, have driven the American newspaper to its current place in mass media

Degree Map

Students currently enrolled in the Media Production Arts Associate of Applied Science degree are in a teach-out process for that program.

GENERAL EDUCATION REQUIREMENTS 18 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

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° OR	3
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 35-40 CREDITS

ART 106	Drawing Foundations*‡°	3
ART 108	Survey of World Art: Renaissance to the Twentieth Century*°	3
CIS 129	Introduction to Programming Logic°	1
CIS 185	Internet Essentials°	3
CIS 244	World Wide Web Graphics	3
CIS 287	World Wide Web Development	3
COM 110	Public Speaking°	3
DMA 110	Digital Imaging I°‡	3
DMA 111	Computer Animation I°‡	3
DMA 260	Graphic Design I°‡	3
DMA 262	Digital Video Production‡	3
DMA 266	Digital Photography‡°	3
JRN 102	Essentials of News Writing*	3
JRN 224/ENG 257	Field Experience in Communication or Media Technology	1-6

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

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

TOTAL DEGREE REQUIREMENTS 60 CREDITS

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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

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.

Degree Map

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

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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

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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

Liberal Studies

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 English, Communications, 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.

Degree Map Communications Concentration
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.

Degree Map English Concentration
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.
Degree Map Humanities Concentration
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.
Degree Map Journalism Concentration
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.
Degree Map Philosophy Concentration

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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

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 15-18 CREDITS

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

	Communications	
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/AJS 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.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

Music and Theatre

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.
- Sight sing musical melodies from notation on first view.
- Apply performance practices from various eras of Western art music with a chosen instrument or their voice.
- Collaborate and perform with others using a chosen instrument or one's voice.
- Perform alone using a chosen instrument or one's voice.
- Create original musical compositions.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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

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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

		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 of the following (4 credits):

MUS 109	Orchestra I	1
MUS 109A	Orchestra II	1
MUS 110	Chorus I	1
MUS 110A	Chorus II	1
MUS 111	Band I	1
MUS 111A	Band II	1
MUS 201	Ensemble	1
MUS 201A	Voice Ensemble‡	1
MUS 201D	Percussion Ensemble‡	1
MUS 201F	Guitar Ensemble‡	1
MUS 201G	Jazz Ensemble°	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 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.

Degree Map

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

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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. See www.cochise.edu/AGEC.

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

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

ASSOCIATE OF GENERAL STUDIES

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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.
See www.cochise.edu/AGEC.

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

AVIATION

AVIATION DISPATCH - ASSOCIATE OF GENERAL STUDIES (MAJOR CODE - AVD)

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 132	Applied Mathematics° or higher (3-5 credits)	3

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. See www.cochise.edu/AGEC.

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.

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

The Professional Pilot Technology Associate of Applied Science degree is certified by the Federal Aviation Administration (FAA certificate HR8S200Q) under Part 141 of its regulations. The degree program provides students with the knowledge, skills, and ratings necessary to become competent, qualified professional pilots. 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-certified commercial pilot degree with instrument and multi-engine ratings.

Learning Outcomes
Students who successfully complete this program will be able to do the following:
- Demonstrate the knowledge and skills needed to safely exercise the privileges and responsibilities of a commercial/instrument pilot acting as pilot-in-command of a multi-engine airplane.
- Demonstrate the knowledge and skills needed to pass the Commercial Pilot Certificate, multi-engine land rating, as outlined in the appropriate FAA Practical Test Standards and Federal Aviation Regulations.
- Identify aircraft design, engine design, airport and aviation support facilities, and the practical economics of airline operations as they support the air transportation industry.
- Apply knowledge of air traffic control (ATC) technology and terminology, career requirements, components, and the function of the National Airspace System and Terminal.
- Demonstrate an understanding of en route ATC facilities as they support the ATC system.
- Identify aviation ground operations, technical operations, flight operations, and system operations as they support airline operations and management.
- State highlights in the history of aviation from its very beginnings to current endeavors.
- Explain pilot psychology, physiology, human factors, aircraft technology, crew resource management, and

accident review and investigation as they relate to aspects of aviation safety.

Degree Map Flight Instructor
Degree Map Multi-Engine

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
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

Liberal Arts 6 credits
Technology Literacy 3 credits

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

CORE CURRICULUM 43-52 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

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)
TOTAL DEGREE REQUIREMENTS 64-71 CREDITS

PROFESSIONAL PILOT TECHNOLOGY - ASSOCIATE OF GENERAL STUDIES (MAJOR CODE - PPT)

The Professional Pilot Technology Associate of General Studies degree is certified by the Federal Aviation Administration (FAA certificate HR8S200Q) under Part 141 of its regulations. The degree program provides students with the knowledge, skills, and ratings necessary to become competent, qualified professional pilots. 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-certified commercial pilot degree with instrument and multi-engine ratings.

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

- Demonstrate the knowledge and skills needed to safely exercise the privileges and responsibilities of a commercial/instrument pilot acting as pilot-in-command of a multi-engine airplane.
- Demonstrate the knowledge and skills needed to pass the Commercial Pilot Certificate, multi-engine land rating, as outlined in the appropriate FAA Practical Test Standards and Federal Aviation Regulations.
- Identify aircraft design, engine design, airport and aviation support facilities, and the practical economics of airline operations as they support the air transportation industry.
- Apply knowledge of air traffic control (ATC) technology and terminology, career requirements, components, and the function of the National Airspace System and Terminal.
- Demonstrate an understanding of en route ATC facilities as they support the ATC system.
- Identify aviation ground operations, technical operations, flight operations, and system operations as they support airline operations and management.
- State highlights in the history of aviation from its very beginnings to current endeavors.
- Explain pilot psychology, physiology, human factors, aircraft technology, crew resource management, and accident review and investigation as they relate to aspects of aviation safety.

Degree Map

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 132	Applied Mathematics° or higher (3-5 credits)	3

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. See www.cochise.edu/AGEC.

CORE CURRICULUM 35 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 130	Commercial Pilot Ground School°‡	5
PFT 131	Commercial Flight II‡	3
PFT 204	Instrument Rating Ground School°‡	5
PFT 214	Instrument Rating Flight I‡	3.5
PFT 215	Instrument Rating Flight II‡	1.5
PFT 218	Commercial Flight III‡	1

TOTAL DEGREE REQUIREMENTS 70 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.

BEHAVIORAL SCIENCES & HUMAN SERVICES

Administration of Justice

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:

- Describe the history of criminal justice in the United States and in historically significant global societies, and explain its impact upon the modern day criminal justice system in the United States.
- Describe the organization and characteristics of the United States system of criminal justice, to include law enforcement, the courts, corrections, and juvenile justice.
- Define and effectively use civil law, criminal law, law enforcement, court or judicial, and juvenile justice terminology.
- Describe the fundamental ethical characteristics required in the criminal justice profession, and demonstrate critical reasoning in the application of ethics to common criminal justice ethical dilemmas.
- Describe, and utilize in critical analysis scenarios, the social and legal definitions of crime, the societal and psychological precursors of crime, and the various categories of crime.
- Describe the relationship of socio-economic status, gender, and race and ethnicity to the definition of crime, and to adjudication and sentencing.
- Identify current and emerging innovations in the criminal justice system to include technology and scientific advances.
- Describe career opportunities within the criminal justice field.

Degree Map

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

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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

SOC 160	Sociology of 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. See www.cochise.edu/AGEC.

| 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. See www.cochise.edu/AGEC.

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

Education

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:

- Analyze public education, including the workings of a public school; current educational issues and the role, duties, and qualifications of educators; and educational theories and methods.
- Design developmentally appropriate curriculum and strategies that promote the advancement of physical health, intellect, communication, and creativity in young children.
- Demonstrate an understanding of the need to plan for and provide a learning environment that is responsive to each child's individual physical health, intellectual development, emotional well-being, and nutritional safety 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.
- Analyze the relationship of culture on children's self-concept and learning style.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits
| ENG 101 | Composition*° | 3 |
| ENG 102 | English Composition*° | 3 |

Mathematics 3-5 credits
| MAT 142 | College Mathematics*°‡ or higher (3-5 credits) | 3 |

Laboratory Sciences 8 credits
Arts 3 credits
| ART 120 | Appreciation of the Visual Arts OR | 3 |
| MUS 260 | Music Fundamentals through Experience | 3 |

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

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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

ECE 150	Introduction to Early Childhood Care and Education°	3
ECE 152	Observation, Behavior, and Guidance°	3
EDU 201	Introduction to 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

Select two of the following three (6 credits):

ECE 155	Children's Language Development°	3
ECE 156	Children's Literature and Literacy°	3
ECE 160	Early Childhood Growth and Development°	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 physical health, intellect, communication, and creativity in young children.
- Analyze, examine, and explain 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 physical health, intellectual development, emotional well-being, and nutritional safety needs.
- Design programs and strategies to support the social and emotional development of young children with diverse

abilities using positive guidance techniques and developmentally appropriate practices.
- 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.
- Examine issues of linguistic and multi-cultural diversity, and ethics while maintaining professionalism in the early childhood field.
- Demonstrate an understanding of special education, current practices, and related educational theories.

Degree Map

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics/Laboratory Sciences 3-4 credits

BUS 104	Business Math°	3
	OR	
MAT 142	College Mathematics*°‡ or higher (3-4 credits)	3

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 160	Sociology of 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	Observation, Behavior, and Guidance°	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 170	Curriculum Development for Early Childhood Education°	3
ECE 172	Teaching Strategies for Early	3

	Childhood Education°	
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 60 CREDITS)

Recommended electives include, but are not limited to, the following: ECE 174, SOC 160, COM 204, PSY 240, and EDU 226. Students should consult an advisor for course selection.

TOTAL DEGREE REQUIREMENTS 60 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 curricula and strategies that promote the advancement of physical, intellectual, communicative, and creativity in young children.
- Analyze, examine, and explain 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 physical health, intellectual and emotional well-being, and nutritional safety needs.
- Design programs and strategies to support the social and emotional development of young children with diverse abilities using positive guidance techniques and developmentally appropriate practices.
- Explain the importance of establishing a positive, productive, and reciprocal relationship with families.
- Develop inclusive programs that identify and relate child observation assessment tools and how they are used to guide developmentally appropriate decisions.
- Examine issues of linguistic and multi-cultural diversity, and ethics while maintaining professionalism in the early childhood field.

Degree Map

CORE CURRICULUM 21 CREDITS

ECE 150	Introduction to Early Childhood Care and Education°	3
ECE 152	Observation, Behavior, and	3

	Guidance°	
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 170	Curriculum Development for Early Childhood Education°	3
ECE 172	Teaching 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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡ or higher (3-5 credits)	3

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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, HIS 110, and HIS 111 are highly recommended. PSY 101, ECN 201 or ECN 202, and PSY 240 are also recommended.

General Education Electives 4-6 credits

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

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 CREDITS

EDU 201	Introduction to Education	3
EDU 222	Introduction to Special Education°	3
EDU 226	Cultural Diversity in Education°	3
EDU 230	Classroom Relationships°	3
MAT 154	Mathematics for Elementary Education Majors I°	3
MAT 156	Mathematics for Elementary Education Majors II°	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.

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.

Social Sciences

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.

Degree Map Anthropology Concentration

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.

Degree Map History Concentration

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.

Degree Map Political Science Concentration

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 |
| ENG 102 | English Composition*° | 3 |

Mathematics 3-5 credits

| MAT 142 | College Mathematics*°‡ or higher (3-5 credits) | 3 |

Laboratory Sciences 8 credits
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. See www.cochise.edu/AGEC.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. See www.cochise.edu/AGEC.

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 22-23 CREDITS

ANT 101	Bones, Stones, and Human Evolution°‡	4
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
Take the following (3 credits):

| ANT 102 | Society and Culture° | 3 |

Select one of the following (3 credits):

ANT 110	Exploring Archaeology°	3
	OR	
ANT 287	Archaeology of the Southwest°~	3

Select one of the following (3 credits).

ANT 235	Principles of Archaeology°~	3
	OR	
ANT 286	Historic Native Peoples of North America~	3

History
Take the following (6 credits):

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

Select one of the following (3 credits):

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

Political Science
Take the following (9 credits):

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

Psychology
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/SOC 230	Human Sexuality°	3
	OR	
PSY 240	Developmental Psychology°~	3
	OR	
PSY 270	Abnormal Psychology°~	3

Sociology
Take the following (6 credits):

| SOC 160 | Sociology of Race and Ethnicity*°~ | 3 |
| SOC 212 | Sociology of Gender°~ | 3 |

Select one of the following (3 credits):

SOC 202	Social Problems*°~	3
	OR	
SOC 230/PSY 231	Human Sexuality°	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.
For the Psychology Concentration, the department recommends that students satisfy elective credits by taking math courses through MAT 151 College Algebra.

TOTAL DEGREE REQUIREMENTS 60-62 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

BUSINESS

AGEC-B

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits
ENG 101	Composition*°	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. See www.cochise.edu/AGEC.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. See www.cochise.edu/AGEC. 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 and Management

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.

Degree Map

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

Composition 6 credits
ENG 101	Composition*°	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. See www.cochise.edu/AGEC.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. See www.cochise.edu/AGEC.

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)

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map
GENERAL EDUCATION REQUIREMENTS 15 CREDITS

Composition 6 credits

ENG 101	Composition*°	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

*ENG 102 recommended for university transfer.

CORE CURRICULUM 30 CREDITS

BUS 109	Survey of Business°	3
BUS 123	Human Resource Management°	3
BUS 143	Principles of Management°	3
BUS 145	Principles of Marketing°	3
BUS 146	Introduction to Accounting°	3
BUS 160	Essential Workplace Success Skills°	3
BUS 167	Business Communications°	3
BUS 183	Starting a Business°	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 of coursework numbered at the 100 level or above. The certificate must be approved by the Academic Dean of the Business Department.

TOTAL DEGREE REQUIREMENTS 60 CREDITS

Business Skills Training

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.

Degree Map
CORE CURRICULUM 15 CREDITS

BUS 143	Principles of Management°	3
BUS 145	Principles of Marketing°	3
BUS 146	Introduction to Accounting°	3
BUS 183	Starting a Business°	3
BUS 283	Small Business Management°	3
	Elective BUS course 3	

TOTAL CERTIFICATE REQUIREMENTS 18 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

SUPPLY CHAIN MANAGEMENT - CERTIFICATE (MAJOR CODE - SCM)

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.

Degree Map

CORE CURRICULUM 16 CREDITS

Courses

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

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.

Degree Map

CORE CURRICULUM 16 CREDITS

Courses

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

(PREREQUISITES APPLY.)

CIS 128	Linux Operating System°‡	4
CIS 129	Introduction to Programming Logic°	1
CIS 130	Programming Logic°‡	3
CIS 140	Introduction to Operating Systems°‡	3
CIS 150	Essentials of Networking°‡	3
CIS 160	Introduction to Information Security°‡	3

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

CIS 161	Network Security°‡	4
CIS 164	Introduction to Scripting Using Python°‡	4
CIS 179	Applied Technical Writing°	3
CIS 181	Computer Applications°	3
CIS 185	Internet Essentials°	3
CIS 204	C Programming°‡	4
CIS 208	Java Programming‡	4
CIS 217	Introduction to Visual C#.NET Programming°‡	4
CIS 218	Visual Basic Programming°‡	4
CIS 220B	Data Structures-Assembler‡	4
CIS 220C	Data Structures-C‡	4
CIS 220J	Data Structures-Java*‡	4
CIS 221	Digital Logic°‡	3
CIS 229	Linux System Administration°‡	4
CIS 232	Digital Communications and Network Hardware°‡	4
CIS 236	Microsoft Workstation Operating Systems°‡	4
CIS 242	World Wide Web Programming	3
CIS 244	World Wide Web Graphics	3
CIS 245	Microsoft Server and Active Directory‡	4
CIS 250	Database Management°‡	4
CIS 255	Microsoft PowerShell Scripting°‡	4
CIS 259	Advanced Linux Systems Administration°‡	4
CIS 260	Service and Maintenance of Personal Computers‡	4
CIS 262	Network Support and Troubleshooting‡	4
CIS 263	Network Defense°‡	4
CIS 264	Ruby Programming‡	4
CIS 267	Mobile Security‡	3
CIS 268	Technical Presentations°	3
CIS 270	Systems Analysis°‡	4
CIS 275	Computer Forensics‡	4
CIS 281	Advanced Computer Applications°	3
CIS 287	World Wide Web Development	3
CIS 291	Practical Applications in Cybersecurity‡	4
EGR 104	Introduction to Programmable Logic Controllers‡	4

Computer Information Systems

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.

Degree Map

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.

Degree Map

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.
- Demonstrate broad knowledge across various types of information systems.
- Exhibit proficiency with the Internet and with World Wide Web technologies.
- Create solutions to typical information systems problems; and demonstrate an understanding of basic information systems functions.
- Utilize spreadsheet applications to support decision making and to facilitate effective problem solving.
- Utilize database applications to support decision making and to facilitate effective problem solving.
- Identify and explain the basic functions, uses, and features of any operating system using proper terminology.
- Describe the major components of a modern networked environment.

Degree Map

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 120	Introduction to Information Systems*°	3

CORE CURRICULUM 34 CREDITS

CIS 130	Programming Logic°‡	3
CIS 140	Introduction to Operating Systems°‡	3
CIS 150	Essentials of Networking°‡	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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

CIS 294	Field Experience in Computer Information Systems	3

ELECTIVES (AS NEEDED TO COMPLETE 60 CREDITS)

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

TOTAL DEGREE REQUIREMENTS 60 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 complied 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.

Degree Map
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.

Degree Map

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 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 Courses

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 Courses

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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	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. See www.cochise.edu/AGEC.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. See www.cochise.edu/AGEC.

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡ or higher (3-4 credits)	3

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.

Degree Map

CORE CURRICULUM 3 CREDITS

Courses

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.

Degree Map

CORE CURRICULUM 20 CREDITS

CIS 120	Introduction to Information Systems*°	3
CIS 128	Linux Operating System°‡	4
CIS 129	Introduction to Programming Logic°	1
CIS 164	Introduction to Scripting Using Python°‡	4
CIS 229	Linux System Administration°‡	4
CIS 259	Advanced Linux Systems Administration°‡	4

TOTAL CERTIFICATE REQUIREMENTS 20 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

NETWORK TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - NWT)

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
ENG 102	English Composition*°	3

Mathematics 3-4 credits
MAT 142	College Mathematics*°‡ or higher (3-4 credits)	3

Liberal Arts 6 credits
PSY 101	Introduction to Psychology*°	3
	Liberal arts	3

Technology Literacy 3 credits
CIS 120	Introduction to Information Systems*°	3

CORE CURRICULUM 47 CREDITS

CYB 101	Introduction to Cybersecurity‡°	3
CIS 128	Linux Operating System°‡	4
CIS 140	Introduction to Operating Systems°‡	3
CIS 150	Essentials of Networking°‡	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
CIS 294	Field Experience in Computer Information Systems	3

TOTAL DEGREE REQUIREMENTS 65-66 CREDITS

Virtual Reality

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.

Degree Map

CORE CURRICULUM 16 CREDITS

Courses
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.

Courses
VRD 294	Virtual Reality Co-operative Internship	1

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

VIRTUAL REALITY TECHNOLOGIST CERTIFICATE (MAJOR CODE - VRTC)

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

Courses

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

FIRST RESPONDERS

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
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡ or higher (3-4 credits)	3

Liberal Arts 6 credits

SOC 160	Sociology of Race and Ethnicity*°~	3
COM 102	Essentials of Communication*° OR	3
COM 204/AJS 204	Elements of Intercultural Communication°~	3

Technology Literacy 3 credits

CIS 116	Computer Essentials° OR	3
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	2

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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

(Note: the first visible line at top left reads "Enforcement" continuing LEO from previous page)

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

Degree Map
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 within six months of program completion.

TOTAL CERTIFICATE REQUIREMENTS 21 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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map
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

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.

Degree Map
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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

| 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

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 19 CREDITS

Composition 6 credits

| ENG 101 | Composition*° | 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 Systems*°	3

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

HEALTH SCIENCES

Allied Health

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 35 CREDITS

Composition 6 credits

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 142	College Mathematics*°‡	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. See www.cochise.edu/AGEC.

BIO 202	Human Anatomy and Physiology II*‡°	4

CORE CURRICULUM 17 CREDITS

Courses

BIO 156	Introductory Biology for Allied Health‡° OR	4
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	Update on Pharmacology°	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.

TOTAL DEGREE REQUIREMENTS 60 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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-A) 35 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

MAT 142	College Mathematics*°‡	3
MAT 151	Precalculus Algebra*°‡ or higher (3-5 credits)	4

Laboratory Sciences 8 credits

BIO 156	Introductory Biology for Allied Health‡° OR	4
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. See www.cochise.edu/AGEC.
Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. See www.cochise.edu/AGEC.

LANGUAGE REQUIREMENT 0-16 CREDITS

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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 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

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.

Degree Map

CORE CURRICULUM 6 CREDITS

Courses

| 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.

Degree Map

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.

Degree Map

CORE CURRICULUM 27 CREDITS

Courses

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	10
CIS 116	Computer Essentials°	3

See course descriptions for prerequisites and other requirements.

TOTAL CERTIFICATE REQUIREMENTS 27 CREDITS

Nursing

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.

Degree Map

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

NURSING - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - NUR)

Accredited by the Accreditation Commission for Education and Nursing and approved by the Arizona State Board of Nursing, the Nursing Associate of Applied Science degree teaches about common physical and psychosocial health needs and problems throughout the human lifespan, the body's responses to stressors, alterations in growth and development, and nursing interventions. Concepts include use of the framework for effective communication, philosophies of human development, and the utilization of the nursing process with emphasis on intervention and evaluation. The 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. Students are required to complete program prerequisites prior to admission and must complete courses in the order outlined in the program.

Upon completion of the program, students are eligible to take the National Council Licensure Examination (NCLEX-RN) to be licensed by the State Board of Nursing as a registered nurse. Acceptance into the nursing program does not guarantee successful completion.

Class attendance and clinical experience, which involves travel to various locations in Cochise County and elsewhere, are required. Experience in multiple clinical agencies is essential for completion of the program. Any potential legal impediment to licensure must be made known to the Nursing Department before assignment to any clinical agency.

Completion of 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:

- Deliver safe, competent, and quality patient-centered nursing care.
- Integrate biopsychosocial and scientific principles when providing technically competent care to groups of individuals and families in a variety of healthcare settings.
- Implement the nursing process, quality care, safety, caring, the wellness continuum, and lifespan diversity in providing care.
- Collaborate as a healthcare team member to manage the care of groups of individuals and families in a variety of healthcare settings.
- Delegate activities appropriately to manage the care of groups of individuals and families in a variety of healthcare settings.
- Utilize critical thinking, evidence-based practice, teamwork, and informatics to manage care.
- Demonstrate culturally sensitive, professional values, and behaviors in legal and ethical situations.
- Exhibit accountability, lifelong learning, and dedication to the roles and responsibilities of the nursing profession.

Degree Map

YEAR 1 GENERAL EDUCATION AND CORE 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
MAT 142	College Mathematics*°‡	3
NUR 203	Update on Pharmacology°	3

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

BIO 201, BIO 202, BIO 205, and MAT 142, all with Grade B or better.
PSY 101 and PSY 240, both with Grade C or better.

YEAR 2 FRESHMAN:

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 PLACEMENT PATHWAY STUDENTS ONLY:

SUMMER BRIDGE 6 CREDITS

NUR 121A	Medication Math I°	2
NUR 130	LPN to Professional Nurse I‡°	4

PREREQUISITE

HESI A2 Nursing Entrance Examination score of 80% or higher in English Composite and Mathematics categories, or HESI LPN to ADN Entrance Examination of 900 or higher.

PSY 101	Introduction to Psychology*°	3

YEAR 3 SOPHOMORE:

FALL SEMESTER 14 CREDITS

NUR 121B	Medication Math II°	2
NUR 232	Nursing III‡	10

SPRING SEMESTER 12 CREDITS

NUR 233	Nursing IV‡	10

TOTAL DEGREE REQUIREMENTS 79-83 CREDITS

NOTES:

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 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 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.

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.

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map

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 114	Practical Nursing II‡	9
NUR 115	Practical Nursing III‡	3
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 111: Possession of a current American Heart Association CPR 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 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 automotive technicians. It benefits both students seeking marketable skills and experienced automotive technicians looking to upgrade their proficiency and obtain industry certification in light vehicle repair. 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: Automobile and Light Truck Certification tests and Automobile Parts Specialist Certification test.

Degree Map Daytime Program
Degree Map Evening Program

GENERAL EDUCATION REQUIREMENT 15-16 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*° OR	3
COM 102	Essentials of Communication*° OR	3
CIS 179	Applied Technical Writing°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

Liberal Arts 3 credits
Technology Literacy 3 credits

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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 108	Automotive Parts Specialist	3
AUT 112	Light Vehicle Diesel Engine Repair‡	3
AUT 116	Light Vehicle Diesel Engine Intake and Exhaust Systems‡	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‡ OR	3
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:

- Demonstrate the ability to select and use the proper hand tools for a variety of specific automotive repair tasks.
- Demonstrate the ability to use diagnostic equipment to analyze engine controls and other subsystems.
- Demonstrate the ability to use diagnostic charts, schematics, and meters to analyze faults.

Degree Map

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 201	Automotive Electrical Systems and Equipment‡	
AUT 204	Automatic Transmission/Transaxle Diagnostics and Rebuilding‡	3
AUT 206	Engine Performance‡	3

TOTAL CERTIFICATE REQUIREMENTS 24 CREDITS

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.

Degree Map

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

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.

Degree Map
CORE CURRICULUM 15 CREDITS

Courses

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

Building and Construction

BUILDING CONSTRUCTION TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - BCT)

*The Building and Construction Technology Associate of Applied Science degree is inactive and students are not currently being admitted to the program. Because this program was changed to the Residential Construction Technology (RTC) Associate of Applied Science degree, there is no teach-out for this program.
The Building Construction Technology Associate of Applied Science degree is intended for experienced construction workers looking to upgrade their skills and for students seeking employment as construction workers, supervisors, and estimators in the field. It gives students the skills required for the appropriate National Center for Construction Education and Research (NCCER) certification and for most construction apprenticeships.

Learning Outcomes
Students who successfully complete this program will be able to do the following:
- Apply industry-recognized competency in various construction skills.
- Demonstrate the ability to follow a blueprint to estimate and build from foundation to finish using carpentry, electrical, plumbing, and HVAC skills.
- Demonstrate the ability to understand and incorporate sustainable (green) practices in the construction field.

Degree Map
GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

Liberal Arts 6 credits
Technology Literacy 3 credits

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

CORE CURRICULUM 37 CREDITS

BCT 100	Technical Mathematics I	3
BCT 102	Carpentry Fundamentals‡	4
BCT 103	International Residential Building Code	3
BCT 104	Electric I‡	4
BCT 108	Basics in Construction	2
BCT 109	Construction Safety‡	3
BCT 110	Cabinetmaking‡	3

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

BCT 111	Plumbing I‡	4
BCT 127	Blueprint Reading and Estimating‡	3
BCT 201	Carpentry Framing and Finishing‡	4
BCT 202	Carpentry Forms‡	4

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

CARPENTRY TECHNOLOGY - CERTIFICATE (MAJOR CODE - CTC)

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.

Degree Map
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

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.

Degree Map Day
Degree Map Evening
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

HVAC Refrigeration - Certificate (Major Code - REFR)

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.

Degree Map

CORE CURRICULUM 20 CREDITS

Courses

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

Residential Construction Fundamentals - Certificate (Major Code - RCTF)

The Residential Construction Fundamentals certificate (RCTF) 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.

Degree Map

CORE CURRICULUM 14-16 CREDITS

Students will be allowed to choose four (4) courses from the following list of courses:

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

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
ENG 102	English Composition*°	3

Mathematics 3-4 credits

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

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.

Degree Map

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

Computer-Aided Drafting

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.

Degree Map

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

TOTAL CERTIFICATE REQUIREMENTS 26 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map

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

Culinary Arts

CHEF PATISSIER – BAKER'S APPRENTICE - CERTIFICATE (MAJOR CODE - BKRA)

The Chef Patissier – Baker's Apprentice Certificate provides training in the principles of professional baking, food and beverage control, and restaurant sanitation. It is intended for those with a background in cooking who wish to become an assistant baker and work in a bakery.

Learning Outcomes

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

- Identify and employ equipment and utensils used in baking and discuss their proper use and care.
- Demonstrate the proper selection of equipment and utensils for specific baking applications.
- Identify baking ingredients and describe their functions.
- Demonstrate proper scaling and measurement techniques.
- Apply basic mathematics skills to recipe conversions.

Degree Map

CORE CURRICULUM 24 CREDITS

CUL 105	Nutrition in Food Service	3
CUL 107	Restaurant Sanitation‡	3
CUL 204	Food Service Purchasing and Control	3
Baking Specialty		
CUL 101	Cake Decorating‡	3
CUL 220	Breads and Baking Theory‡	3
CUL 221	Pastry Basics‡	3
CUL 222	Advanced Confections and Pastries I‡	3
CUL 223	Advanced Confections and Pastries II‡	3

TOTAL CERTIFICATE REQUIREMENTS 24 CREDITS

CULINARY ARTS - ASSOCIATE OF APPLIED SCIENCE (MAJOR CODE - CUL)

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.

Degree Map

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

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.

Degree Map

CORE CURRICULUM 7 CREDITS

Courses

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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map

CORE CURRICULUM 16 CREDITS

Courses

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

SOUS CHEF APPRENTICE - CERTIFICATE (MAJOR CODE - SCCA)

The Sous Chef Apprentice Certificate provides training in all areas of professional cooking including food and beverage control, restaurant sanitation, meat cutting, gourmet preparations, baking, and garde manger. It also provides field experience in restaurant and dining-service operations.

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.

Degree Map

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

TOTAL CERTIFICATE REQUIREMENTS 40-43 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:

- Perform entry-level welding skills required in aerospace and automotive 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 metals based on the American Welding Society (AWS) D17.1 codebook.
- Determine corrective practices to repair defects in the weld.
- Establish foundational soft skills relevant to the industry.

Degree Map

CORE CURRICULUM 19 CREDITS

WLD 105	Oxyacetylene Welding‡	3
WLD 201	Welding Code Interpretation of D17.1	1
WLD 202	Welding Survey	4
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 19 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.

Degree Map

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 228	Advanced Gas Metal Arc Welding‡	2

TOTAL CERTIFICATE REQUIREMENTS 19 CREDITS

WELDING D1.1 FCAW/GMAW - CERTIFICATE (MAJOR CODE - WFGM)

The Welding D1.1 FCAW/GMAW Flux Cored Arc Welding and Gas Metal Arc Welding 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.

Degree Map

CORE CURRICULUM 15 CREDITS

Courses

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 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.

Degree Map

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 228	Advanced Gas Metal 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.

Degree Map

CORE CURRICULUM 22 CREDITS

Courses

AUT 101	Introduction to Automotive Technology‡	3
WLD 105	Oxyacetylene Welding‡	3
WLD 201	Welding Code Interpretation of D17.1	1
WLD 202	Welding Survey	4
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 22 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.

Degree Map

CORE CURRICULUM 23 CREDITS

Courses

WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3
WLD 202	Welding Survey	4
WLD 203	Print Interpretation	4
WLD 210	Pipe Welding I‡	3
WLD 211	Pipe Welding II‡	3
WLD 217	Introduction to Pipe Welding‡	3

TOTAL CERTIFICATE REQUIREMENTS 23 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.

Degree Map

CORE CURRICULUM 17 CREDITS

Courses

WLD 105	Oxyacetylene Welding‡	3
WLD 106	Basic Shield Metal Arc Welding‡	3
WLD 200	Welding Code Interpretation of D1.1	1
WLD 202	Welding Survey	4
WLD 203	Print Interpretation	4
WLD 227	Advanced Shield Metal Arc Welding ‡	2

TOTAL CERTIFICATE REQUIREMENTS 17 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 metal 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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 15-16 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*° OR	3
COM 102	Essentials of Communication*° OR	3
CIS 179	Applied Technical Writing°	3

Mathematics 3 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

Liberal Arts 3 credits
Technology Literacy 3 credits

CIS 116	Computer Essentials° OR	3
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 45 CREDITS

DFT 150	Fundamentals of AutoCAD	3
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 201	Welding Code Interpretation of D17.1	1
WLD 202	Welding Survey	4
WLD 203	Print Interpretation	4
WLD 209	Gas Tungsten Arc Welding‡	3
WLD 210	Pipe Welding I‡	3
WLD 211	Pipe Welding II‡	3
WLD 215	Welding Design and Fabrication‡	3
WLD 217	Introduction to Pipe Welding‡	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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 treats that face the U.S. Intelligence Communities.

Note: Depending upon area of concentration, additional learning outcomes may apply.
Degree Map
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° OR	3
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.

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 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:
- Apply the techniques required to effectively employ and retrieve an unmanned aerial vehicle (UAV) in modern operational environments.
- Demonstrate an understanding of aviation regulations and communications, and of the UAV's aerodynamic characteristics, special features, and major components.
- Apply the knowledge and skills required to safely operate the aircraft.
- Perform reconnaissance, surveillance, and target acquisition in support of ground forces.
- Demonstrate the skills required to interpret UAV electro-optical and infrared video, and provide rapid feedback on target identification and activities.

Degree Map
GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits
ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits
MAT 132	Applied Mathematics°	3

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 34 CREDITS

PFT 101	Private Pilot Ground School°‡	5
PFT 271	Unmanned Aerial Vehicle (UAV) Operator	29

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

- Demonstrate the knowledge and skills required to use specialty tools and to perform maintenance inspections, assembly, disassembly, and fault isolation of aircraft systems.
- Perform required maintenance on launch and recovery equipment and the power plant, and on the fuel system, flight control system, electrical system, and arresting gear and landing system.
- Apply the skills required to maintain, troubleshoot, and repair launch and recovery equipment, and support equipment.

- Apply the skills required to maintain, troubleshoot, and repair the ground control station and the ground data terminal, as well as aircraft avionics and mission payloads.
- Demonstrate the skills required in the emplacement and displacement of Shadow Unmanned Aircraft Systems (UAS).

Degree Map
GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

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 21 CREDITS

AMT 212	Unmanned Aircraft Systems Mechanical Maintenance	14
AVT 211	Unmanned Aircraft Systems Avionics	7

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

SCIENCE, TECHNOLOGY, ENGINEERING & MATH

AGEC-S and General Requirements

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 35-39 CREDITS

Composition 6 credits
ENG 101	Composition*°	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)*‡° AND	4
BIO 182	General Biology II*‡ OR	4
CHM 151	General Chemistry I*‡° AND	4
CHM 152	General Chemistry II*‡° OR	4
PHY 230	Physics with Calculus I*‡ AND	4
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. See www.cochise.edu/AGEC. 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

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 35-39 CREDITS

Composition 6 credits
ENG 101	Composition*°	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)*‡° AND	4
BIO 182	General Biology II*‡ OR	4
CHM 151	General Chemistry I*‡° AND	4
CHM 152	General Chemistry II*‡° OR	4
PHY 230	Physics with Calculus I*‡ AND	4
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. See www.cochise.edu/AGEC.

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

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits

MAT 132	Applied Mathematics° or higher (3-4 credits)	3

Liberal Arts 6 credits

COM 102	Essentials of Communication*°	3
PSY 101	Introduction to Psychology*°	3

Technology Literacy 3 credits

CIS 116	Computer Essentials° OR	3
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‡ OR	4
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.

Degree Map

CORE CURRICULUM 16 CREDITS

Courses

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‡ OR	4
AGR 243	Livestock Production and Management°	3

TOTAL CERTIFICATE REQUIREMENTS 16 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

Degree Map
GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

Composition 6 credits
ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-4 credits
MAT 132	Applied Mathematics° or higher (3-4 credits)	3

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.

Degree Map
CORE CURRICULUM 17 CREDITS

Courses
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

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

HEMP SCIENCE - CERTIFICATE (MAJOR CODE - HSC)

The Industrial Hemp Certificate examines all aspects of industrial hemp production. The certificate analyzes the various methods used to process hemp, the multiple industrial uses of hemp, the industrial economics of hemp production, and regulations governing hemp production. This certificate provides students with a foundation for agronomy and agricultural economics careers in the industrial hemp field.

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

- Apply knowledge of plant growth principles, processes, functions, reproduction, and environmental influences for improving industrial hemp growth.
- Integrate knowledge of insects, disease, and weed pests and their control measures including the components of a successful pest management system.
- Assess methods for determining soil fertility, plant nutrient deficiencies, water availability and the application of irrigation techniques.
- Evaluate methods for determining soil moisture, water availability and the application of irrigation techniques appropriate for hemp production in the arid southwest.
- Articulate legislative regulations governing hemp production.
- Assess the various industrial uses of hemp and the economics of hemp production, processing, and utilization.

Degree Map

CORE CURRICULUM 17 CREDITS

Courses

AGR 121	Industrial Hemp Production	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.

Degree Map

CORE CURRICULUM 17 CREDITS

Courses

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, Chemistry, and Physics

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

Biological Sciences Concentration Degree Map
Human Biology Concentration Degree Map
Ecology and Evolutionary Biology Concentration Degree Map
Microbiology Concentration Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	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*‡° AND	4
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. See www.cochise.edu/AGEC.

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	3
ENG 102	English Composition*°	3

Mathematics 3-5 credits

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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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. See www.cochise.edu/AGEC.

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

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.

Degree Map Astronomy Concentration
Degree Map Physical Science Concentration
Degree Map Physics Concentration

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

| ENG 101 | Composition*° | 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. See www.cochise.edu/AGEC.

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 |

CORE CURRICULUM 12-14 CREDITS

| PHY 230 | Physics with Calculus I*‡ | 4 |
| PHY 231 | Physics with 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 CREDITS

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

Engineering

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 38 CREDITS

Composition 6 credits

ENG 101	Composition*°	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. See www.cochise.edu/AGEC.

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

Mathematics

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.

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 35-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	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. See www.cochise.edu/AGEC.

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All prerequisite coursework must be completed with a grade of C or better.

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

Technology

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).

Degree Map

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 37-39 CREDITS

Composition 6 credits

ENG 101	Composition*°	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 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. See www.cochise.edu/AGEC.

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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

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 language acquisition for nonnative speakers

Classes are held at Cochise College locations in Sierra Vista, Douglas, Benson, and Willcox. Fees are based on household income on a sliding scale. For more information visit www.cochise.edu/adulteducation/.

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.

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.

COURSE LIST

ESL 010	ESL Grammar I‡	3
ESL 012	ESL Reading I‡	3
ESL 014	ESL Writing I‡	3
ESL 016	ESL Oral Communication I‡	3
ESL 017	ESL Intensive Reading and Writing I	3
ESL 018	ESL Intensive Grammar, Listening, and Speaking I	3
ESL 020	ESL Grammar II‡	3
ESL 022	ESL Reading II‡	3
ESL 024	ESL Writing II‡	3
ESL 026	ESL Oral Communication II‡	3
ESL 027	ESL Intensive Reading and Writing II	3
ESL 028	ESL Intensive Grammar, Listening, and Speaking II	3
ESL 030	ESL Grammar III‡	3
ESL 032	ESL Reading III‡	3
ESL 034	ESL Writing III‡	3
ESL 036	ESL Oral Communication III‡	3
ESL 037	ESL Intensive Reading and Writing III	3
ESL 038	ESL Intensive Grammar, Listening, and Speaking III	3
ESL 040	ESL Grammar IV	3
ESL 042	ESL Reading IV	3
ESL 044	ESL Writing IV	3
ESL 046	ESL Oral Communication IV	3
ESL 047	ESL Intensive Reading and Writing IV	3
ESL 048	ESL Intensive Grammar, Listening, and Speaking IV	3
ESL 049	ESL Transitions	3
ESL 070	ESL for Professionals I	6
ESL 072	ESL for Professionals II	6
ESL 074	ESL for Professionals III	6
ESL 076	ESL for Professionals IV	6

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 121 - Industrial Hemp Production (3)

Industrial Hemp Production analyzes the various methods used to process hemp, the multiple industrial uses of hemp, the industrial economics of hemp production, and regulations governing hemp production.
3 hours lecture.
Prerequisite(s): None.

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 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 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 permission of instructor. Cross-Listed as: COM 204.

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, 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, 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, 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, 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 - Society and Culture (3) °

A theoretical and practical introduction to cultural anthropology, which studies the cultural forces affecting the human way of life. Examines the history of Western culture as well as contemporary issues related to human culture. Topics include material culture, technology, religion, language, and social, political, and economic systems.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

ANT 110 - Exploring Archaeology (3) °

An archaeological exploration tracing human cultural development from the earliest cultures using stone tools to the initial civilizations of the Old and New Worlds.
3 hours lecture.
Prerequisite(s): RDG 092 or exemption.

ANT 235 - Principles of Archaeology (3) °, ~

An introduction to the methods used in archaeological research and its interpretation, and to the theories used to reconstruct human prehistory. Emphasis is on the practical aspects of archaeology, including excavation techniques, and data analysis and interpretation.
3 hours lecture.
Prerequisite(s): ENG 101, and 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 completion of or concurrent enrollment in ENG 102 or ENG 102H, and RDG 092 or RDG 122 or exemption.

ANT 287 - Archaeology of the Southwest (3) °, ~

A study of the prehistoric peoples of the American Southwest from the late Pleistocene period to the Spanish Conquest. Emphasis is on the use of archaeological methods to trace the development of prehistoric cultures within key regions of the Southwest.
3 hours lecture.
Prerequisite(s): ENG 101, 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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 130 - Painting for Personal Development I (2) ‡

An introduction to the techniques of either oil or acrylic painting, with an emphasis on materials and composition. For those interested in art as a career, or for personal growth and self-expression.
1 hour lecture, 3 hours studio.
Prerequisite(s): None. Recommended Preparation: ART 103.

ART 131 - Painting for Personal Development II (2) ‡

A continued study of either oil or acrylic painting, with emphasis on developing unique, expressive pictorial skills. For those interested in art as a career, or for personal growth and self-expression.
1 hour lecture, 3 hours studio.
Prerequisite(s): ART 130 or permission of instructor.

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 a 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 - Advanced Topics in Art (0.5-4) ‡, °

A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student needs and interests. Cochise College elective credit only unless otherwise designated in degree programs. For students interested in art for career opportunities as well as personal growth and self-expression.
Prerequisite(s): None.

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 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 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.

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.

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 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 and MAT 081.

BIO 181 - General Biology I (for majors) (4) *, ‡, °

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) *, ‡

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 (1-4)

Designed to supplement general study in the various fields of biology. Entails research in specific topics determined by student needs and interests.
Prerequisite(s): None.

BIO 201 - Human Anatomy and Physiology I (4) *, ‡, °

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) *, ‡, °

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) *, ‡, °

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 and MAT 081.

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, 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 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.

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 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 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 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 151. 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 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 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; 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) °

Studies the components and practices of electronic commerce. Addresses advertising and marketing on the World Wide Web, as well as legal and ethical issues related to ecommerce. Examines security and payment systems for online transactions.
3 hours lecture.
Prerequisite(s): CIS 116, CIS 120, or CIS 185.

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) *, °, ‡

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) *, ‡, °

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) *, ‡

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) *, ‡

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.

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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) °, ‡

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. For those interested in Linux as well as those interested in pursuing the CompTIA Linux+ certification.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 120.

CIS 129 - Introduction to Programming Logic (1) °

An introduction to programming concepts for students interested in visual or scripting languages. Topics include notations, expressions, data types, sequence, selection, repetition, and modularization.
1 hour lecture.
Prerequisite(s): None.

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 150 - Essentials of Networking (3) °, ‡

Provides students with knowledge of networking technologies and prepares them to take the CompTIA Network+ certification examination. Topics include networking basics, Ethernet, implementation, wireless networking, security, and network management.
3 hours lecture.
Prerequisite(s): None.

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, CIS 150, and CIS 160; or permission of instructor.

CIS 164 - Introduction to Scripting Using Python (4) °, ‡

An introduction to scripting using Python. Topics include basic data types, control structures, decision constructs, regular expressions, input and output techniques, and textual analysis.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CIS 120.

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) °

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

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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) °

A survey of the internet that covers browser capabilities and management, real-time and mass communications, and social networks. Also covers email management, ecommerce, online security, and other internet services; and teaches the basics of HTML.
3 hours lecture.
Prerequisite(s): CIS 116 or concurrent enrollment.

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) °, ‡

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 129 or concurrent enrollment, or CIS 130.

CIS 218 - Visual Basic Programming (4) °, ‡

A study of the fundamentals of computer programming within the Windows environment. Emphasis is on the use of Visual

Basic objects, events, and projects to create Windows programs.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 129 or concurrent enrollment, or 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 129 or 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.

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

CIS 232 - Digital Communications and Network Hardware (4) °, ‡

Course topics include binary and hex number systems, Boolean algebra, circuit optimization, switches, routers, firewall configuration and installations. Students will implement network management.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CNT 140 or CIS 150, and CIS 128 or CIS 236.

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 either CNT 140 or CIS 150.

CIS 242 - World Wide Web Programming (3)

This capstone course for the Web Developer Certificate provides an advanced study of web programming. Emphasis is on server-side scripting and the use of databases on web sites. Also covers web design and ecommerce issues.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): CIS 129 or CIS 130, and CIS 287.
Recommended Preparation: CIS 244.

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 255 - Microsoft PowerShell Scripting (4) °, ‡

A study of the fundamentals of the Microsoft PowerShell scripting language, which is used to automate various tasks on Windows-based systems. Emphasis is on Windows PowerShell command-line features and techniques.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CIS 164.

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) ‡

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): CIS 140.

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.

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

CIS 263 - Network Defense (4) °, ‡

An advanced course in cybersecurity principles and techniques. Topics include the tools and tactics used in assessing the security posture of computer networks; the steps involved in a penetration testing methodology-network footprinting and discovery, service enumeration, attack vector evaluation, and vulnerability assessments; and the legal and ethical issues raised by penetration testing.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 128, CIS 161, CIS 236, and CIS 255.

CIS 264 - Ruby Programming (4) ‡

A study of the fundamentals of the Ruby programming language. Emphasis is on the proper development of Ruby programs, on the language's syntax and semantics, and on appropriate debugging techniques for the language.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CIS 164.

CIS 267 - Mobile Security (3) ‡

A survey of mobile security as it relates to mobile computing devices such as smart phones and tablets. Focus is on the technologies, policies, and procedures used to secure these devices and on the security of their wireless transmissions.
3 hours lecture.
Prerequisite(s): CIS 160. Recommended Preparation: CIS 120.

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 275 - Computer Forensics (4) ‡

Fundamentals of computer forensics. Topics include forensic evidence preservation, computer forensic tools, evidence analysis, chain of custody, and data retrieval from computer hardware and software applications using both Windows and Linux operating systems. Explores the role of the computer forensics examiner and offers hands-on application of various computer forensic tools, evidence preservation techniques, and documentation.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 236. Recommended Preparation: CIS 120.

CIS 281 - Advanced Computer Applications (3) °

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)

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 291 - Practical Applications in Cybersecurity (4) ‡

Examines the combination of technical, management, and presentation skills needed by cybersecurity professionals. Integrates the planning, implementation, maintenance, and defense of organizational networks, using a variety of tools and techniques. Provides extensive hands-on exercises to reinforce key course concepts.
3 hours lecture, 3 hours laboratory.
Prerequisite(s): CIS 161, CIS 236, and CIS 267.

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 150, 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 150, CIS 160, or 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 permission of instructor. Cross-Listed as: AJS 204.

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.

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.

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 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 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) ‡, °

CYB 101 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) ‡, °

Networking Foundations 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): CYB 101.

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): CYB 101 and CYB 102.

CYB 110 - Intermediate Operating Systems (4) ‡

The Intermediate Operating Systems 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) ‡

An introductory course to introduce students to scripting concepts using common scripting languages in support of automation and auditing tasks.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 103.

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) ‡

In this course students will apply 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 201 or concurrent enrollment.

CYB 220 - Digital Forensics and Incident Response (4) ‡

CYB 220 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 201, CYB 210, or concurrent enrollment.

CYB 260 - Introduction to Cloud Technologies (4) ‡

CYB 260 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 220.

CYB 275 - Applied Cyber Operations (4) ‡, °

In this course, students will 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 penetration testing plans in accordance with industry standards.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): CYB 260, or concurrent enrollment.

CYB 290 - Operational Cybersecurity (5) ‡

The Operational Cybersecurity course 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 260 and CYB 275, or concurrent enrollment.

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 Imaging I (3) °, ‡

An introduction to the creation, manipulation, and enhancement of digital images. Using appropriate software, students apply fundamental composition and image-preparation techniques to create basic digital images and to resolve simple image problems.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): Concurrent enrollment in CIS 116, CIS 120, or permission of instructor.

DMA 111 - Computer Animation I (3) °, ‡

A study of the beginning and intermediate features of animation software developed through the practical application of basic computer animation skills.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): None.

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 Imaging II (3) °, ‡

An advanced study of the creation, manipulation, and enhancement of digital images. Using appropriate software, students apply advanced composition and image-preparation techniques to create complex digital images and to resolve difficult image problems.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): DMA 110. Recommended Preparation: ART 103 or ART 106.

DMA 211 - Computer Animation II (3) °, ‡

A study of the advanced and multifaceted features of animation software as they are developed through the practical application of advanced computer animation skills.
3 hours lecture, 1 hour laboratory.
Prerequisite(s): DMA 111. Recommended Preparation: ART 103 or ART 106.

DMA 214 - Creating Multimedia Presentations (4) ‡

This course is the capstone course in the 2D animation and imagery series. This course will produce multimedia presentations encompassing techniques learned in all the prerequisite courses. This course is taught in a hands-on environment.
4 hours lecture.
Prerequisite(s): DMA 110, DMA 111, DMA 210, and DMA 211.

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.

ECE - EARLY CHILDHOOD EDUCATION

ECE 150 - Introduction to Early Childhood Care and Education (3) °

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 - Observation, Behavior, and Guidance (3) °

An introductory course in communication skills, concepts, and techniques for observing and recording child characteristics and behaviors in the early childhood setting. Areas of focus are objective observation techniques, guidance, behavior modification techniques, listening skills, and classroom management. Meaningful two-way communication is emphasized.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in Cooperative Education in an early childhood care or education facility.

ECE 155 - Children's Language Development (3) °

An overview of the development of language from birth to age five. 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 child-care and preschool 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) °

An overview of the process by which children become literate, with emphasis on language and literacy development from birth to age five. 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 child-care and preschool 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, and socialization from infancy to middle childhood, with implications for childcare providers and primary school teachers. Topics covered also include health, safety, and nutrition.
3 hours lecture.
Prerequisite(s): None. Recommended Preparation: Concurrent employment in an early childhood care or education facility, or concurrent enrollment in Cooperative Education in an early childhood care or education facility.

ECE 161 - Understanding Families, Community, and Diversity (3) °

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 170 - Curriculum Development for Early Childhood Education (3) °

A study of the methods used to select and present developmentally appropriate curricular practices and activities that enhance optimal growth from infancy to age eight. Emphasis is on planning, developing, implementing, and evaluating activities used in child-care 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 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) °

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.

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.

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)

An overview of public education: the education profession, educational institutions, and educational systems within American society. Includes the study of current educational issues and of educators' roles, responsibilities, and qualifications; and offers the opportunity to apply educational theories and methodologies during 32 hours of supervised classroom observations in public school settings. Requires appropriate Department of Public Safety fingerprint clearance and related fees.
2 hours lecture, 2 hours laboratory.
Prerequisite(s): ENG 101 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 - Structured English Immersion (SEI) (3) °

A study of the theories and methodologies used to plan, develop, and evaluate lesson plans in all content areas as they relate to Structured English Immersion (SEI) and English Language Learner (ELL) standards. Emphasis is on curriculum content, teaching strategies, SEI foundations, assessment and data analysis, and the role of culture in learning. Meets the Arizona Department of Education's requirements for SEI endorsement.
3 hours lecture.
Prerequisite(s): EDU 201, EDU 222, and EDU 230.
Recommended Preparation: Arizona Teaching and/or Administrative certification. .

EDU 222 - Introduction to Special Education (3) °

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.

EDU 224 - Field Experience in 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 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, and ECE 150 or EDU 201.

EDU 226 - Cultural Diversity in Education (3) °

An analysis of the correlation between children's cultural values and the formation of their self-concepts and learning styles. Examines the impact of prejudice, stereotyping, and cultural differences on the educational process. Emphasis is on training future teachers to be culturally sensitive to students of all racial and ethnic backgrounds.
3 hours lecture.
Prerequisite(s): EDU 201 or concurrent enrollment.
Recommended Preparation: ENG 102 or concurrent enrollment.

EDU 230 - Classroom Relationships (3) °

A study of the fundamentals of classroom management and of communication techniques. Deals with creating a positive learning environment, accommodating cultural diversity and various learning styles, and applying effective communication strategies and classroom discipline techniques.
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 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.

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-

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 exemption. Students taking this course for state or national certification 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) *, °

A study of and practice in 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 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.

ENG 102H - 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 with a grade of A, recommendation of ENG 101 instructor, minimum 3.5 GPA, completion of 12 Cochise College transfer credits, or permission of instructor.

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) °, ~

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) °, ~

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) °, ~

A survey of myths and folktales from classical to present times. Covers the basic concepts of myths and the approaches to understanding them. 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, 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. 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.

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, 2 hours laboratory.
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, 2 hours laboratory.
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, 2 hours laboratory.
Prerequisite(s): Appropriate placement measurement.

ESL 017 - ESL Intensive Reading and Writing I (3)

An introduction to basic reading and writing skills for beginning to high-beginning students whose native language is not English, with emphasis on vocabulary, reading comprehension, paragraph development, and writing mechanics.
3 hours lecture.
Prerequisite(s): Appropriate placement measurement.

ESL 018 - ESL Intensive Grammar, Listening, and Speaking I (3)

An introduction to basic grammar and oral communication skills for beginning to high-beginning students whose native language is not English, with emphasis on syntax and structure, 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, 2 hours laboratory.
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, 2 hours laboratory.
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, 2 hours laboratory.
Prerequisite(s): ESL 016 or appropriate placement measurement.

ESL 027 - ESL Intensive Reading and Writing II (3)

A continuation of basic reading and writing skills and strategies for high-beginning to low-intermediate students whose native language is not English, with emphasis on additional vocabulary, reading comprehension, paragraph development, and writing mechanics.
3 hours lecture.
Prerequisite(s): Either ESL 012 and ESL 014, ESL 017, or appropriate placement measurement.

ESL 028 - ESL Intensive Grammar, Listening, and Speaking II (3)

A continuation of basic grammar and oral communication skills and strategies for high-beginning to low-intermediate students whose native language is not English, with emphasis

on syntax and structure, pronunciation, and listening and speaking skills in controlled situations.
3 hours lecture.
Prerequisite(s): ESL 010 and ESL 016, ESL 018, 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, 2 hours laboratory.
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, 2 hours laboratory.
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, 2 hours laboratory.
Prerequisite(s): ESL 026 or appropriate placement measurement.

ESL 037 - ESL Intensive Reading and Writing III (3)

A review of reading and writing skills and strategies for low-intermediate to intermediate students whose native language is not English, with emphasis on more advanced vocabulary, reading comprehension, paragraph development, and writing mechanics.
3 hours lecture.
Prerequisite(s): ESL 022 and ESL 024, ESL 027, or appropriate placement measurement.

ESL 038 - ESL Intensive Grammar, Listening, and Speaking III (3)

A review of grammar and oral communication skills and strategies for low-intermediate to intermediate students whose native language is not English, with emphasis on advanced sentence structure, and listening and speaking skills in various situations.
3 hours lecture.
Prerequisite(s): ESL 020 and ESL 026, ESL 028, 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 042 - ESL Reading IV (3)

A review of reading skills and strategies for intermediate to high-intermediate students whose native language is not English. Focus is on expanding vocabulary, increasing comprehension and the understanding of structure, and improving study skills.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): ESL 032 or appropriate placement measurement.

ESL 044 - ESL Writing IV (3)

A review of English writing skills and strategies for intermediate to high-intermediate students whose native language is not English. Focus is on improved writing mechanics leading to coherent essays and well developed academic discourse.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): ESL 034 or appropriate placement measurement.

ESL 046 - ESL Oral Communication IV (3)

A review of oral communication skills and strategies for intermediate to high-intermediate students whose native language is not English. Focus is on expanding vocabulary, improving pronunciation, and developing academic listening and speaking skills.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): ESL 036 or appropriate placement measurement.

ESL 047 - ESL Intensive Reading and Writing IV (3)

A review of fundamentals and an introduction to more complex reading and writing skills and strategies for intermediate to high-intermediate students whose native language is not English. Focus is on increasing vocabulary

and on improving reading comprehension and writing mechanics.
3 hours lecture.
Prerequisite(s): ESL 032 and ESL 034, ESL 037, or appropriate placement measurement.

ESL 048 - ESL Intensive Grammar, Listening, and Speaking IV (3)

A review of fundamentals and an introduction to more complex grammar and oral communication skills and strategies for intermediate to high-intermediate students whose native language is not English. Focus is on improving sentence structure, and on improving listening and speaking skills in various situations.
3 hours lecture.
Prerequisite(s): ESL 030 and ESL 036, ESL 038, 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.

ESL 070 - ESL for Professionals I (6)

An introduction to basic grammar and oral communication skills for students with little or no knowledge of English. Emphasis is on basic vocabulary, pronunciation, and listening and speaking skills used in daily activities.
6 hours lecture.
Prerequisite(s): Appropriate placement measurement.

ESL 072 - ESL for Professionals II (6)

A continuation of basic grammar and oral communication skills for high-beginning students whose native language is not English. Emphasis is on vocabulary, pronunciation, and listening and speaking skills used in daily activities and professional communications.
6 hours lecture.
Prerequisite(s): ESL 070 or appropriate placement measurement.

ESL 074 - ESL for Professionals III (6)

A review of grammar and oral communication skills and strategies for low-intermediate students whose native language is not English. Focus is on advanced sentence structure and on listening and speaking skills used to express personal views and to voice professional communications.
6 hours lecture.
Prerequisite(s): ESL 072 or appropriate placement measurement.

ESL 076 - ESL for Professionals IV (6)

A review of grammar and oral communication skills and strategies for high-intermediate students whose native language is not English. Emphasis is on expanding vocabulary, improving sentence structure, and developing advanced listening and speaking skills for professional communications.
6 hours lecture.
Prerequisite(s): ESL 074 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.

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) °

An exploration of major world geographical regions with emphasis upon human cultural adaptation to the physical habitat.
3 hours lecture.
Prerequisite(s): ENG 101 or concurrent enrollment, and 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.

GTC 121 - Painting and Finishing Techniques (3)

Student preparation for proficiency in patching, repainting, and maintaining painted surfaces on the interior and exterior of building and structures with an emphasis on surface preparation, the selection of paints, their application and the safe and proper storage of all painting materials and tools. This course is offered only at the Arizona Department of Corrections in Douglas.
2 hours lecture, 4 hours laboratory.
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 201 - History of Women in the United States (3) ~

The history of women in United States society from colonial times to the present with an emphasis on female leadership; the social, political, and economic roles of women; and the impact of women on the United States' historical evolution.
3 hours lecture.
Prerequisite(s): ENG 101, and RDG 092 or exemption.

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, 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, 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, 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, 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 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 placement in RDG 020 or RDG 092 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 (10)

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): BIO 160, HLT 101, HLT 160 AND completion of or concurrent enrollment in CIS 116. .
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 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. Recommended Preparation: ENG 102H.

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.

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 a 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 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 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 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 permission of instructor.

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.

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 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. 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 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 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 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 Media Technology (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 media technology; and COM 102, DMA 110, or JRN 101. Cross-Listed as: ENG 257 Literary Magazine Production and Design.

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 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.

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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.

MAT - MATHEMATICS

MAT 080A - Technical Math Support (1) °

MAT 080A is a supplementary course taken concurrently with MAT 132 Applied Mathematics. The course offers academic support and covers foundational topics, including fractions, exponents, algebraic properties, geometry, and formula evaluation. MAT 080A may be taken in place of the prerequisite MAT 081 Beginning Algebra course.
1 hour lecture.
Recommended Preparation: Corequisite to MAT 132 AND Placement into MAT 081.

MAT 080B - College Math Support (1) °

MAT 080B is a supplementary course taken concurrently with MAT 142 College Mathematics. This course offers academic support and covers foundational topics, including arithmetic review, algebraic properties, coordinate geometry, expressions, and equations. MAT 080B may be taken in place of the prerequisite MAT 081 Beginning Algebra course.
1 hour lecture.
Recommended Preparation: Corequisite to MAT 142 AND Placement into MAT 081.

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 090 - Precalculus Algebra Support (2)

A supplementary course taken concurrently with MAT 151 Precalculus Algebra. This course is an option taken in place of the prerequisite MAT 091 Intermediate Algebra. Topics include equations, inequalities, polynomials, exponents, radicals, and graphing.
2 hours lecture.
Recommended Preparation: Corequisite to MAT 151 AND Placement into MAT 091.

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 focuses on 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, OR concurrent enrollment in MAT 080A.

MAT 142 - College Mathematics (3) *, °, ‡

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 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, OR concurrent enrollment in MAT 090.

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 151.

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 151.

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, MAT 151, 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 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 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 both MAT 151 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 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.

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 109 - Orchestra I (1)

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 at a beginning level. Includes public performances at college and community events.
2 hours rehearsal/performance.
Prerequisite(s): Audition.

MUS 109A - Orchestra II (1)

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 at an intermediate level. Includes public performances at college and community events.
2 hours rehearsal/performance.
Prerequisite(s): MUS 109 and audition.

MUS 110 - Chorus I (1)

The study and performance of various pieces of the choral literature from different musical periods. Emphasis is on beginning vocal and choral techniques as applied through the rehearsal of repertoire. Includes public performances at college and community events.
3 hours rehearsal/performance.
Prerequisite(s): Audition. Recommended Preparation: Previous choral experience.

MUS 110A - Chorus II (1)

The continued study and performance of various pieces of the choral literature from different musical periods. Emphasis is on intermediate vocal and choral techniques as applied through the rehearsal of repertoire. Includes public performances at college and community events.
3 hours rehearsal/performance.
Prerequisite(s): MUS 110 and audition.

MUS 111 - Band I (1)

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 at a beginning level. Includes public performances at college and community events.
2 hours rehearsal/performance.
Prerequisite(s): Audition.

MUS 111A - Band II (1)

The continued 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 at an intermediate level. Includes public performances at college and community events.
2 hours rehearsal/performance.
Prerequisite(s): MUS 111 and audition.

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)

The study and performance of music written or arranged for small ensembles. Emphasis is on performance techniques for small vocal and/or instrumental groups.
2 hours rehearsal/performance.
MUS 201A Voice Ensemble (laboratory fee)
MUS 201D Percussion Ensemble (laboratory fee)
MUS 201F Guitar Ensemble (laboratory fee)
MUS 201G Jazz Ensemble
Prerequisite(s): Audition.

MUS 201A - Voice Ensemble (1) ‡

Development of vocal performance skills including breathing, diction and pronunciation, tone quality, phrasing, and intonation.

2 hours rehearsal/performance.
Prerequisite(s): Audition.

MUS 201D - Percussion Ensemble (1) ‡

Development of performance skills for percussion instruments.
2 hours rehearsal/performance.
Prerequisite(s): Audition.

MUS 201F - Guitar Ensemble (1) ‡

Development of acoustic and/or classical guitar skills.
2 hours rehearsal/performance.
Prerequisite(s): Audition.

MUS 201G - Jazz Ensemble (1) °

Development of improvisational and jazz-related styles used in all instrumental sections of the ensemble, including keyboard, wind, horn, and rhythm sections.
2 hours rehearsal/performance.
Prerequisite(s): Audition.

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.
1 hour lecture, 3 hours rehearsal/performance.
Prerequisite(s): Audition or permission of instructor.

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) ‡

An introduction to the fundamental concepts and skills necessary to provide basic nursing care to clients in a variety of settings. Focus is on 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 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.
10 hours lecture, 2 hours laboratory.
Prerequisite(s): BIO 201, BIO 202, and NUR 203, all with a grade of B or better; ENG 101, MAT 142, 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, 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 - Update on Pharmacology (3) °

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, 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 (10) ‡

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), NUR 130 (for LPN to RN advanced placement pathway students); PSY 240 (Corequisite for LPN to RN pathway students.

NUR 233 - Nursing IV (10) ‡

In this fourth-semester course in the nursing program, the focus is on the complex problems and the physical and psychosocial health needs of critically-ill adult clients. During their nursing preceptorship, students work intensively with a registered nurse in their transition from student to nurse. Upon successful completion of this course, students are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).
6 hours lecture, 12 hours laboratory.
Prerequisite(s): NUR 121B and NUR 232, both with a grade of B better.

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.

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.

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.

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.

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.

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.
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 meet the following requirements: 1) current certification as an EMT (Arizona or National Registry), 2) score of 75% or higher on computer-based entrance exam, 3) proof of vaccinations, to include negative tuberculin (TB) skin test, measles, mumps, rubella (MMR), varicella, and hepatitis B series, and 4) acceptance into the paramedicine program. Once enrolled, the following are required: 5) drug screen and 6) background check.

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.

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* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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, 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, 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, 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) °, ~

A study of the basic concepts, theories, and research pertaining to human interaction. Topics include attribution, attitude formation and change, interpersonal interaction, altruism and aggression, environmental psychology, and group structure and processes.
3 hours lecture.
Prerequisite(s): ENG 101 and PSY 101.

PSY 231 - Human Sexuality (3) °

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. Cross-Listed as: SOC 230.

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 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, MAT 142, and PSY 101.

PSY 270 - Abnormal Psychology (3) °, ~

An examination of various psychological disorders. Includes theoretical, clinical, and experimental perspectives on the study of abnormal psychology. Emphasis is on terminology, classification, etiology, assessment of symptoms, and therapeutic techniques for the treatment of the major disorders.
3 hours lecture.
Prerequisite(s): ENG 101 and PSY 101.

PSY 290 - Research Methods (3) °, ~, *

A review and analysis of the scientific literature, with specific attention to experimental research designs. Students design psychological studies, collect and analyze data, and interpret and report research results.
3 hours lecture.
Prerequisite(s): ENG 101, PSY 101, and PSY 250.

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.

* indicates SUN course. ‡ indicates lab fees. ° indicates online. ~ indicates intensive writing.
All prerequisite coursework must be completed with a grade of C or better.

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 160 - Sociology of Race and Ethnicity (3) *, °, ~

An exploration of the social construction of race and ethnicity and how it shapes social interactions and institutions. 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, and RDG 092 or exemption.
Recommended Preparation: SOC 101.

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 and SOC 101. Recommended Preparation: SOC 160, SOC 202, or SOC 212.

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, 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, and RDG 092 or exemption. Recommended Preparation: SOC 101.

SOC 230 - Human Sexuality (3) °

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. Cross-Listed as: PSY 231.

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)

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)

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)

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)

An intermediate conversational experience in Spanish through which students continue to build their oral proficiency while further increasing their awareness of Hispanic culture.
3 hours lecture.
Prerequisite(s): SPA 201, SPA 215, or permission of instructor.

SSV - SOCIAL SERVICES

SSV 224 - Field Experience in Social Services (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 social services 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, ENG 101, and SOC 101.

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.

VRD - Virtual Reality Content Developer

VRD 100

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 130 .

VRD 200

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 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 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 202 - 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.
3 hours lecture, 2 hours laboratory.
Prerequisite(s): None.

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 210 - Pipe Welding I (3) ‡

This course is a closer look at 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 217.

WLD 211 - 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 106, WLD 210, and WLD 217.

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, WLD 105, WLD 106, WLD 128, and WLD 203.

WLD 217 - 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 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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Northern Arizona University, B.A., M.A.T.
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Hope Struse; Instructor, Welding (2019)
Cochise College, A.A.S.

Virginia Thompson; Instructor, Art (2012)
Hardin-Simmons University, B.S.
Rochester Institute of Technology, M.F.A.

Jay Treiber; Instructor, English (1996)
Northern Arizona University, B.S.
University of Montana, M.F.A.

Teresa Vernon; Instructor, CAN/Program Coordinator (2006)
Cochise College, A.A., A.A.S., A.G.S.
Western New Mexico University, B.S.

Iztac Villanueva; Instructor, Professional Flight (2019)
Cochise College, A.A.S

Linda Vincent; LPN Coordinator/Instructor, Nursing (2019)
Excelsior College, B.S.
Rutgers, State University of New Jersey, M.S.

Dr. Ellen Vujasinovic; Instructor, Education (2018)
University of Iowa, B.A.
St. Mary's University of Minnesota, M.Ed.
University of Arizona, Ph.D.

Jeremy Wagner; Instructor, Administration of Justice (2019)
Central Wyoming College, A.S.
University of Wyoming, B.A., M.S.

Anne Walker; Instructor, Certified Nursing Assistant/Medical Assistant (2020)
University of Arizona, B.S.

Carlos Zeisel; Instructor of Sociology (2021)
Austin College, B.A.
University of Kansas, M.A

JenMarie Zelznak; Instructor of Art (2019)
Cleveland Institute of Art, B.F.A.
Savannah College of Art and Design, M.F.A.

Cindy Ziegler; Instructor, Nursing (2013)
Lansing Business Institute, A.A.
University of North Dakota, B.S.N.
Grand Valley State University, M.S.N.
Gabriela Zubiate; Instructor, Aviation Pathways (2021)

ADULT EDUCATION

Dr. Lance Baxter; Adult Education Instructor (2022)
University of North Florida, M.Ed., Ed.D.

Andy Edgington; Adult Education Instructor/IET Coordinator (2022)
Franklin University, B.S.
Capella University, M.S.

Nancy Potenza; Adult Education Instructor (2008)
University of Arizona, 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.

Jason Hopkins; Assistant Coach, Men's Basketball (2021)
Lipscomb University, B.A.

Todd Inglehart; Head Coach, Baseball (1999)

Saddleback College, A.A.
University of Wyoming, B.A., M.S.

Austin Nelson; Assistant Coach, Baseball (2021)
University of Nevada, Las Vegas, B.A.

Bethany College, B.A.
Fort Hays State University, M.S.
Lynn Smith; Assistant Coach, Rodeo (2012)

Diego Suarez; Assistant Coach, Rodeo – Temporary (2022)
Sul Ross State University, B.S., M.S.

Monique Whaley-Briggs; Assistant Coach, Women's Basketball (2021)

North Carolina Central University, B.S.
Texas Tech University, M.S.

ASSOCIATE FACULTY

Abston, Marcus (B.A., M.S.)
Agatucci, Jacob (B.A., M.A.)
Allen, Mindy (B.S., M.S.)
Altamirano, David (A.A., B.F.A., M.A.)
Ambrose, Mary (A.A., B.S.)
Anderson, Alan (B.S)
Angel, Lou (A.A., B.A., B.S., M.A.)
Ashraf, Tasneem (B.S., M.S., M.S.)
Baker, Joy (B.S., M.S.)
Barbro, Kevin (B.F.A., M.F.A.)
Benjamin, Aixa (A.A.S.)
Berry, Cindy (B.S., M.A.)
Biami, Tanya (M.A.)
Bigio Benitez, Dr. Dalila (B.A., M.A., Ph.D.)
Borgeson, Tonya (B.F.A., M.F.A.)
Boutte, Lawrence
Bradberry, David (M.A.)
Britto, Randall (M.S., B.S.)
Brooks, Landon
Buchness, Lauren (B.F.A., M.F.A.)
Bullock, Kathleen (B.S., M.P.A., D.B.A.)
Calvillo, Francisco
Campos, Judy (B.A., M.A.)
Cantrell-Briggs, Loree
Cantwell, Veronica (B.S.)
Carbajal, Ian (A.A., B.S., M.A.)
Castineira, Anthony (A.A)
Chang, Perry Dr. (B.A, M.A., Ph.D.)
Clamon, Ben (A.A.S.)
Clarke, Jay (M.S.)
Conroy, Samantha (A.S., B.S.N., M.S.)
Contreras, Abraham (A.A.S.)
Coppi, Matt (B.S., M.Ed., M.S.)
Corbit, Jacqueline (B.A., M.Ed.)
Cox, Brian E. (B.S., M.A.)
Cox, Dawn (B.A., M.S.)
Crenshaw, Sharen (B.S., M.S.)
Culberson, Paul (B.A.)
Curtis, Shaulee (B.S., M.Ed., M.A.)
Dahn, Danyell (B.A., M.Ed.)
Daines, Carly (B.A., M.A.)
Davila, Louie
Davis, James (B.A., M.Ed., Ed.S.)
Davis, Katherine (M.A., B.A.)
Denney, Kurtis
Deutsch, Cynthia (B.A., M.A, Ph.D.)
Dever, Bradley
Dolifka, Dave (A.A., B.S.M., M.IS, M.Ed., M.S.)
Domenic, Mark (M.A., M.S., B.A.)
Dominguez, Virginia (B.S., M.B.A.)

Donecker, Joshua
Donovan, Janet
Downey, J.S.
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
Ellis, Dr. April (A.G.S., B.S., J.D.)
Ellsworth, Josephine
Farmer, Elnora (B.S., M.B.A.)
Fick, Susan (B.S., M.A.)
Fitzpatrick, Jamie (A.A.S., B.S.)
Fleming Alvarez, Maria (B.A., M.A., M.A.)
Franco, Mirna (M.S.N.)
Gago, William
Galvez, Mara (B.S., M.A.)
Garber-Pearson, Erin (B.F.A., M.F.A.)
Garza, Debra (B.A., M.A., M.S.)
Giacomino, Joni (B.A., M.S.)
Gilles Brown, Candace (B.A.)
Glessner, William (A.A.S.)
Green, Dr. Laura (M.A., Ph.D.)
Greeno, Beatriz
Hall, Dr. Richard (A.G.S., B.S., M.Ed, Ph.D.)
Haros, Jared
Henley, Elizabeth (M.F.A.)
Henley, Jeffrey (A.A., B.F.A., M.A.)
Hergesheimer, Joan (M.A.)
Hernandez, Alexa (M.A.)
Hislop, Allan (B.A., M.A.)
Holm, Anid
Hughitt, William (B.S., M.S.)
Hutchison, Callie (B.M, M.M.)
Hyde, Ronald (A.A.S.)
Jarvis, Christina (B.A., M.M.)
Johnson, Dr. Patrick (B.A., M.A., M.S., Ph.D.)
Jones Martinez, Laura (B.S., B.A.)
Kaiser, Micheal (A.D.N., B.S.N.)
Kattke, Teresa (A.S., B.S., M.S.)
Katze, Prudence (B.F.A., M.U.P.)
Keele, Ricardo (B.S.)
Keith, Gloria (B.A., M.A., M.Ed.)
Kerr, Floramae (A.A., B.A., M.A.)
Ketcham, Timothy (A.A.S., B.S., M.S.)
Keyne, Dr. Lori (B.A., M.M., D.M.A.)
King, Vicky (M.S.)
Kirchofer, Desire (B.A., M.S.)
Knowles, Susan (R.N., D.N.P.)
Korfhage, Sherrie (B.S.)
Kovarcik, Amy (A.A., A.S., B.S.N., M.S.N.)
Kraus, April (B.F.A.)
Kuhn, Michael (B.M, M.M.)
Kurtz, Brenda (B.A., M.A., M.Ed.)
LaClair, Dr. Charles (Ph.D.)

LaClair, Dr. Claudia (B.S., Ed.D., M.Ed).
Langley, Dr. Carrie (B.S., M.S., Ph.D.)
Laura, Steven (B.S., M.S.)
Lee, Diane (A.A.)
Levine, Dakota (A.A., B.S.)
Lilley, Kenneth (B.S., M.B.A.)
Litz, Stephanie (B.S., M.A.)
Loucks, Sammy (A.A.S., B.S.)
Lucas, Dr. Wendi (B.A., M.A., J.D.)
Lyle, Judith (B.A., M.S.)
Mallik, Dr. Uma Prasad (M.S., Ph.D.)
Motola, Anna (B.S.N., M.S.N., D.N.P.)
Mapp, Dr. William (A.S., M.B.A., Ph.D.)
Maroney, Randall
Marquis, Jonathan (M.A., M.F.A)
Martin, Jason (B.S., M.S.)
Mayer, Rebecca(B.S., M.B.A)
McCabe, Melissa (B.A, M.S.)
McLain, Carolyn (B.S., B.S.)
McMicken, Patricia (B.A., M.A.)
McNeely, Alisa (M.S.)
Meigs, Susan (B.A., M.A.)
Merrell, Kara (A.A.S, B.S.N., M.S.N.)
Metz, Allan (B.A., M.A., M.L.S.)
Merkwan, Lauren (B.S., M.Ed.)
Mills, Bryan L.
Mitchell, Maurice (A.A., A.A.S., B.S., M.A.)
Moen, Marcus
Montigny, Cynthia (B.S., M.A.)
Moretz, Angela (A.A.S.)
Morgan, Miriam (M.A., M.T.S.)
Moyer, Angela
Moyers, Joseph (A.A., B.S., M.B.A.)
Myers, Andrew (B.A., M.F.A.)
Neeley, Jeannie (A.A.B., B.A., B.S., M.S.)
Newton, Melissa (M.A.)
Nix, Gary (B.S., M.A.)
Oberg, Doreen (B.A., M.M., M.Ed.)
O'Brien, Kevin J. (B.A., M.A., M.A.)
Olinger, Mary (B.S.N, M.S.N.)
Orozco, Beth (B.A., M.Ed.)
Orozco, Jessica
Ortiz, Hector (A.S., B.S.)
Overman, Andrea
Parry, David (B.S., M.S.)
Peralta, Nikole (A.D.N.)
Phillips, Dr. Julie (B.S., M.S., Ph.D.)
Pickett, Jason
Plazibat,Thomas (M.A.)
Quarto, Michael (A.A.S., B.A.)
Quiroz, Dagoberto (B.S.)
Rackers, Alicia (B.S., M.S.)
Rakestraw, Elizabeth (B.S.N.)
Ramirez, Oscar (A.A., B.S., M.S.)
Rauch, Christy (B.S.)

Ray, Anna (B.S.N.)
Reed, Erica (M.A.)
Reno, Susan (A.A., B.A., M.Ed.)
Renoult, Dr. Sophie (M.A., Ph.D.)
Richards, Ronald
Roberts, Amanda (B.A., M.A.)
Roe, Angela (A.S., B.S.)
Rottweiler, Melanie (B.A., M.A.)
Rubio, Amanda (B.S.)
Sage Midgorden, Lucinda (B.A., M.Ed.)
Sanchez, Mary Jenea (B.A., M.A.)
Sanders, Susana (B.S., M.S.)
Sandoval, Fernando (M.I.M.)
Schmidt, Jason (B.S., M.A.)
Schneeweis, Danielle (B.S.N., M.S.N.)
Searle, Brent
Sellman, Cristi (B.A.)
Shafi, Imran (B.A., M.F.A.)
Shaltout, Marina (B.F.A, M.F.A)
Shamieh, Mousa (M.B.A.)
Sizemore, Lori (B.A., M.A.)
Slarve, Alvin (B.S.)
Slinker, Kent (B.S., M.A.)
Smith, Sabrina (A.A.S., B.S.N.)
Sommerfield, Joanna (B.S., M.A.)
Sorenson, Hannah (A.A., B.A., M.F.A.)
Sowders, Daniel (A.A.S., B.A., M.S)
Stern, Annamay (M.S.)
Strebe, David (A.A., B.S., M.A.)
Suarez, Diego (A.A.S., B.S., M.S.)
Taylor, Roderick (A.A.S., B.S., M.S.)
Tenniswood, Lila
Tewes, Connie (A.S., B.S., M.B.A.)
Thompson, Pamela (B.A., M.A.)
Trent, Thomas (B.S., M.B.A.)
Van Bryce, Toby (B.A., M.F.A.)
Vazquez, Alfredo (M.M.)
von Destinon, Mark (B.A.)
Wachtel, Gabriel (A.G.S., A.A.S.)
Welch, Dr. Kristen (B.A., M.A., Ph.D.)
Wells, Kenzie (M.A.)
Westfall, Dr. Richard (B.A., M.A., Ph.D.)
Whalen, Salem (A.A., B.S., M.A.)
Whaley, Jerry (B.S., M.A.)
White, Andrea (A.A.S.)
Wilhelm, Kristian (A.A.S.)
Williams, John (A.G.S)
Williams, Patricia (B.S., M.S.)
Williams, Victoria (B.A., M.S.)
Wright, William
Wooten, Patricia (A.A., B.S., M.S., Ed.S., Ed.D.)
Zeller, William (B.A., B.S., M.A., M.S.)
Zamudio, Kelly (A.A.S., B.S., M.Ed.)

ADMINISTRATIVE STAFF

Rosalia Acuna; Systems Analyst (2000)
Cochise College, A.S.

Gabriela Amavizca; Director, Student Support Services/TRiO (2011)
Cochise College, A.A.
Western New Mexico University, B.B.A.

Travis Ambrose; Lead Research Data Analyst (2018)
University of Arizona, B.S.

Sally Aparicio; Director, Business Office/Bursar (2018)
Western Governors University, B.S.

Jesus Arrieta; Help Desk Manager (2019)
Community College of the Air Force, A.A.S.
New Mexico State University, B.A.

Dr. Wendy Ashby; Instructional Designer (2020)
Weber State University, B.A.
Bowling Green State University, M.A.
University of Arizona, M.S., Ph.D.

Mujahid Ashqer; Senior Research Data Analyst (2022)
An-Najah National University, B.E.
North Carolina A & T State University, M.S.

Melesa Ashline; Director, Nursing (2020)
Cochise College, A.A.
University of Phoenix, B.S.N., M.S.N

James Barrows; Director, Maintenance and Operations (2012)
University of Idaho, B.S.
Naval Postgraduate School, M.S.

Tammy Brewer; Director, Testing Services (2016)
Monterey Peninsula College, A.A.
Crown College, B.A.
Tarleton State University, B.B.A.
University of Oklahoma, M.H.R.

Dr. Eric Brooks; Executive Director of First Responders Academy (2022)
Northern Arizona University, B.S.
University of Arizona, M.A., Ph.D.

Amanda (Manda) Burkhart; Assistant Director, Housing (2022)
Graceland University, B.A.
University of South Dakota, M.A.

Belinda Burnett; Director of Aviation Programs (2020)
Cochise College, A.A.S
Embry Riddle Aeronautical University, B.S., M.S.

Marguerite Conners; Student Success Manager (1996)
Northern Arizona University, B.S.

Debbie Craig; Director of Finance/Controller (2020)
Cochise College, A.A.
Wayland Baptist University, B.S.

Karen Emmer; Director of Financial Aid (2010)
Weber State University, B.S.
Colorado State University, M.Ed.

Juan Espinoza; Student Activities Manager (2019)
Cochise College, A.A.
University of Arizona, B.A.S.
Northern Arizona University, M.Ed.

Joel Evans; MOS Credentialing Coordinator (2017)
Cochise College, A.G.S.
Wayland Baptist University, B.A.S.

Melissa Faglie; Degree Audit Systems Manager (2015)
Cochise College, A.A.
Sul Ross State University, B.A., M.Ed.

Alexandra Felton, Electronic Resources Librarian (2011)
California State University, B.A.
Simmons College, M.L.I.S.

Robert Gibbs; Chief Information Security Officer (2020)
United States Naval Academy, B.S.
Strayer University, MSIS

Karl Griffor; Assistant Dean of Workforce Development (2019)
University of Phoenix, B.S., M.I.S

Luis Grijalva Cota; Systems Analyst (2018)
Instituto Tecnológico de Agua Prieta, B.S.

Dr. Thomas Guetzloff; Dean of Mathematics and Sciences (2020)
St. Norbert Collete, B.S.
South Dakota State University, Ph.D.

Michelle Higgs; Director, Cybersecurity (2021)
University of Phoenix, B.S.
George Mason University, M.B.A.

Bethany Hill; Dean of Nursing and Allied Health (2020)
Cochise College, A.S.
University of Phoenix, B.S., M.S.

Peter Hooper; Director, Adult Education (2021)
Colorado Technical University, B.S.
Northern Arizona University, M.Ed.

Dr. Dana Horne; Executive Dean of Student Services (2021)
Washington State University, B.A.
Arizona State University, M.Ed.
Azusa Pacific University, Ed.D.

Denise Hoyos; Executive Director, Foundation/Advancement (2001)
Indiana University of Pennsylvania, B.A.
Western International University, M.B.A.

William Jackson; Building and Grounds Manager (2022)

Celia Jenkins; Director of Grants Management (2020)
University of Tennessee, B.S.

Hannah Jones; Science Lab Manager (2012)
Cochise College, A.A.
University of Arizona, B.S.

Kelly Juvera; Program Director EMS Programs (2020)
Cochise College, A.G.S., A.A.S.
Western New Mexico University, BSN

Irvan "Wick" Lewis; Executive Director, Human Resources (2018)
Eastern Arizona College, A.A.
Northern Arizona University, B.S.

Troy Lopes Sr.; Building and Grounds Manager (2018)

David Luna; Chief Information Officer (2019)
Northern Arizona University, B.S.E.D.

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)
Southern Utah University, B.S.
University of Phoenix, M.A.

Guy Meyer; Associate Athletic Director (2019)
Fort Lewis College, B.A.
New Mexico Highlands University, M.A.

Jessica Morgan-Tate; Director, Compliance/Title IX Coordinator (2022)
Friends University, B.B.A.
Emporia State University, M.A.
University of Kansas, J.D.

Jeffrey Mountjoy; Director, Procurement Services (2018)
Cochise College, A.A.
Northern Arizona University, B.A.

Ramu Muthiah; Director, Information Security Compliance (2020)
University of North Texas, B.A., M.B.A

Tracey Neese; IT Database Administrator (2018)
Cochise College, A.A.S., A.G.S.

Reveca Owens; Academic Career Counselor (2021)
California State University, Sacramento, B.A., M.S

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 of Business & Technology (2021)
Colorado State University, B.A., M.S., Ph.D.

Renee Rhodehamel; Learning Management System Manager (2018)
Arizona State University, B.A.
Capella University, M.S.

Barbara Richardson; Dean, Outreach (2010)
Wayland Baptist University, B.S.O.E., M.B.A.

Maria Rocio; Director of Disability Services (2020)
University of Arizona, B.A, B.S
Northern Arizona University, M.Ed.

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; Assistant Dean, Military Programs (2022)
Wayland Baptist University, B.S.O.E., M.P.A.

Karly Scarbrough; 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.

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.

Lynda Tilley; Curriculum Development Manager (2019)
Bellevue University, B.S.
Northern Arizona University, M.Ed.

Shelley Ulmer; Grants Accountant (2019)
Saint Leo University, A.A., B.A.

Abraham Villarreal; Campus Dean - Douglas Campus (2021)
Western New Mexico University, B.A., M.A.

Frank Villaseñor; Systems Administrator (1998)
Cochise College, A.A.
Phoenix Institute of Technology, A.A.
University of Phoenix, B.S.

Dr. Jennifer Wantz; Executive Dean of Community Engagement (2022)
SUNY University of Buffalo, B.A., M.Ed.
Northern Arizona University, E.D.D.

Amber Watson; Librarian Douglas Campus (2021)
East Tennessee State University, B.A., B.S.
University of Tennessee Knoxville, M.S

Resha Watts; Student Recruitment Manager (2021)
University of Arizona, B.S.
American InterContinental University, M.B.A.

Rebecca "Becky" Westby; Director, Testing Services (2021)
Cochise College, A.A.
University of Arizona, B.A.

Sierra Williams; Athletic Trainer (2017)
Graceland University, B.A.
Lindenwood University, M.E.A.

Benjamin "Ben" Wilson; Director, Risk Management (2022)
American Public University System, B.A.
Northern Arizona University, M.A.

Ronda Yost; Accounting Manager (2020)
Wayland Baptist University, B.A., M.B.A.

ADMINISTRATIVE SUPPORT

Berumen, Rose; Advancement Relations Coordinator (2019)
Biggs, Katja; Academic Career Advisor (2022)
Brandenburg, Norma; Academic/Career Advisor TRiO (2016)
Brown, Erin; CLL Coordinator (2022)
Bustamante, Angelita; Academic/Career Advisor TRiO (2014)
Canez, Alexandra; English Tutor/Instructor (2021)
Carr, Stephanie; Academic Advisor Military Programs (2022)
Castillo, Marie; Academic Career Advisor (2021)
Chacon, Arturo; Student Recruiter (2001)
Clay, Mandee; Academic Advisor Military Programs (2019)
Cook-General, Sharrina; Media Communications Coordinator (2018)
Crow, Teah; Academic Career Advisor (2021)
Farbo, Brenda; Center Coordinator, Willcox (2015)
Foti, Danielle; Graphic Designer (2021)
Gordon, Daniel; Web Content Manager (2018)
Gualtiere, Rebecca; English Tutor (2018)
Hannah, Devon; Benson Center Coordinator (2020)
Hess, Aleeya; Marketing Coordinator (2021)
Jackson, Claire; Academic Career Advisor (2022)
Koop, Wendy; Payroll/Benefits Coordinator (2020)
Lehman, Judith; College Success Navigator (2020)
Luna, Faye; Dual Enrollment Coordinator (2019)
McNeil, Jean; Scholarship Navigator (2021)
McPherson, Rosa; Student Recruiter/Running Start Program Specialist (2017)
Melendez, Sabrina; Math Tutor/Instructor (2021)
Moreno, Angela; CLL Youth Program Coordinator (2017)
Navarro, Erika; Credentials Evaluator (2022)
Nix, Cody; Academic Career Advisor (2022)
O'Brien, Brian; Facility Services Manager (2020)
Ortiz, Catalina; Technology Licensing/Training Coordinator (2021)
Parris, John; Financial Aid Data Analyst (2019)
Prince, Holly; Credentials Evaluator (2006)
Puente, Esmeralda; Accountant (2018)
Putz, Stacy; Credentials Evaluator (2015)
Ralls, Tommy; Technology Project Coordinator (2018)
Randolph, Tonya; Academic/Career Advisor CTEPS (2010)
Ratliff, Tina; Financial Aid Operations Manager (2018)
Salcedo DuPuis, Miriam; SBDC Business Analyst (2021)
Sherwood, Christopher "Jake"; Math Tutor (2018)
Villalvazo, Ana; Academic Career Advisor – Transfer (2020)
Wheeler, Crystal; Executive Assistant President/Governing Board (2017)
Yanez, Jesus; Systems Programmer (2021)

PROFESSIONAL STAFF

Andrea Alston; Events Management Specialist (2022)
Tiani Anang-Shimabukuro; Testing Services Specialist (2022)
Colette Andrews; Events Management Specialist (2021)
Bonnie Braley; Payroll/Benefits Specialist (2021)
Rhonda Buesgens; Human Resources Specialist (2019)
Janet Cramer; Facilities Office Supervisor (2019)
Heather Gijanto, Testing Services Specialist (2020)
Raisa Glasgow; Position Control Specialist (2016)
Casey Haller; Admissions Specialist (2022)
Patricia Hermansen; Accounts Payable Specialist (2017)
Erin Karvaski; Enrollment Management Specialist/Department Assistant (2022)
Sandra Leverty; Accounts Receivable Specialist (2018)
Dawn Rinehart; Testing Services Specialist (2018)
Routhieaux, Iris; Institutional Research Specialist (2020)
Dudley Smith; Aviation Maintenance Supervisor (2018)

CLASSIFIED STAFF

Manuel Acedo
Diana Acosta
Patrick Adams
Ernesto Alvarez
Tizoc Anaya
Erick Anderson
Shane Andrews
Javier Armenta
Bryan Armstrong
William Auchincloss
Vanessa Ayala
Vienna Baker
Eugene Bernal
Sandra Berry
Mark Berumen
Jodi Brock-Olivares
Marla Cardona
Tyler Carnival
Christine Carriero
Kathleen Carrillo
Nicholas Castellana
Melissa Cepero
Irma Cook
Maria Cook
Matthew Crabb
Steven DeFelice
Kathleen Denney
Erick Dorame
Duane Dugie
Craig Eastman
Karlo Favela
Ruth Fenchak
Hilary Fleming
Simon Floyd
Martin Fuentes

Tom Gomez
Denise Grandon-Keane
Joshua Groves
Scott Harper
Ryan Harris
Jonathan Heath
Crystal Hernandez
Sonia Hernandez
Yvette House
Ray Howard
Mario Ibarra
Angela Jackson
Amber Jordan
Sophia Kirkland
Angela Landis
Arian Lee
Sonia Leyva
Nick Louviere
Harim Manzanares
Joe Mejia
Toby Merrick
Kristian Miguel
Joy Miller
Martin Molina
Carmen Morales
Eddie Moreno
Sharron Nason
Cesar Noriega
Dawn Nuetzel
Amy O'Malley
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Yolanda Paez
Ricardo Parra
Miguel Perez
Teresa Perez
Leanne Perkins
Jack Petty
Phillip Quinonez
Baltazar Ramirez
Jennifer Ratkovich
Christopher Regert
Margaret Reilly
Ryan Richardson
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Brian Scarbrough
Tristan Schurman
Dustin Sherman
Martha Skinner
Morgan Smith
Tinesha Smith
Dion Spivey
J. Charles Sproule
Rebecca Sproule
Linda Sterling

Laurel Swanson
Robert Taylor
Paula Terry
Coleen Thrasher
Andres Valenzuela
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Darwin Waldron
Demetria Warren
Sonya Weeks
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 and 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 and/or the 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 Disability Services at 520-515-5337 and/or www.cochise.edu/disability.

Rocio Cruz , Director of Disability 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 Highway 80
Douglas, AZ 85607
Phone: (520) 417-4023

Jessica Morgan-Tate, JD (She/Her/Hers)
Director of Compliance & Title IX Coordinator
Cochise College
901 North Colombo Avenue
Human Resources Building, Room 324
Sierra Vista, AZ 85635
(520) 452-2683 (office)
(316) 880-5424 (cell)
www.cochise.edu/title-ix/

Also available by appointment:
Cochise College - Douglas Campus
Administration Building, Room 105

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 Discapacidad al 520-515-5337 y / o www.cochise.edu/disability.

Rocio Cruz, Directora de Servicios de Discapacidad
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Edificio de Administración, Salón 105

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