

embracing our past *celebrating our future*

**COCHISE COLLEGE**  
**2010 • 2011**  
**CATALOG**



# Welcome to Cochise College



Dear Students,

Welcome to Cochise College! I joined Cochise College on July 1, 2009 but my heart drew me here many months prior to that. Like many of you, I researched the college intensely prior to my arrival and am pleased to report that it is very well-regarded in higher education circles. The college's reputation is what first drew my attention, and you and I are extremely fortunate to be here.

Much has changed at the college over the past few years. We completed a number of improvements to the Douglas and Sierra Vista Campuses, and a new Willcox Center will open this year. We also launched a new Web site and student portal providing quick access to vital information about academics and college services. These changes are certain to enhance your Cochise College learning experience, whether it's in the classroom or through the many valuable services and extracurricular activities that are available to you. However, some things have not changed. Students and their learning continue to be our highest priority. We are dedicated to helping you get from where you are to where you want to be.

From the person who helps you in the computer lab to the chair of the Governing Board, all of us at Cochise College are committed to helping you achieve your goals. If you can't find the information you need, I encourage you to ask. We stand ready to assist you on your learning journey. We are striving to provide educational opportunities that lead to constructive citizenship, meaningful careers, and lifelong learning. Thank you for taking the time to learn more about us, and welcome to Cochise College!

Sincerely,

A handwritten signature in black ink, appearing to read "J.D. Rottweiler".

J.D. Rottweiler, Ph.D.  
College President



# Cochise College

## Douglas Campus

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

## Sierra Vista Campus

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

## Willcox Center

1110 West Fremont Street  
Willcox, Arizona 85643-1500  
(520) 384-4502

## Benson Center

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

## Fort Huachuca

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

## Nogales/Santa Cruz Center

Santa Cruz Historic Courthouse  
21 E. Court St.  
Nogales, Arizona 85621  
(520) 287-5583

## Online Campus

901 North Colombo Avenue  
Sierra Vista, Arizona 85635-2317  
(520) 515-5305

## Douglas Prison

ASPC-Douglas  
6911 North BDI Boulevard  
Douglas, Arizona 85607  
(520) 364-7521, Extension 34130

## Governing Board

Mrs. Jan Guy, Chair  
Mrs. Jane Carol Strain, Secretary  
Mr. David DiPeso, Member  
Dr. John Eaton, Member  
Mr. Donald Hudgins, Member

## President

J.D. Rottweiler, Ph.D.



**COCHISE COLLEGE**

**Toll Free: (800) 966-7943**

**[www.cochise.edu](http://www.cochise.edu)**

Regular hours: 8 a.m. - 4:30 p.m. Monday - Friday

Student Services hours: 7:30 a.m. - 5 p.m. Monday - Thursday; 8 a.m. - 1 p.m. Friday

Summer hours: May 17, 2010 - Aug. 12, 2010, 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: April 2010

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

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# Telephone Directory

The area code for all telephone numbers is 520.

Toll-free long-distance numbers are (800) 593-9567 and (800) 966-7943.

	<b>DC</b>	<b>SVC</b>		<b>DC</b>	<b>SVC</b>
Admissions/Registration .....	.417-4046	515-5336	Instructional Media .....	.417-4083	515-5481
		(800)593-9567	International Student Office .....	.417-4038	515-5451
Advising/Counseling .....	.417-4038	515-5483	Library .....	.417-4082	515-5320
Adult Education .....	.364-3736	515-5456	Math Lab .....		515-5403
Athletics .....	.417-4095		Nursing/Allied Health .....	.417-4016	515-5309
Aviation .....	.417-4029		One Stop .....	.417-4046	
Bookstore .....	.364-9294	458-0262	Online Counselor .....		515-5366
Cafeteria .....	.417-4089	515-5352	Post Office .....	.417-4026	
Campus Dean .....	.417-4060	515-5491	President's Office .....	.417-4056	515-5401
Career Services Center .....	.417-4752	515-5457	Public Information Office .....	.417-4148	
Cashier .....	.417-4076	515-5416	Security .....	.417-4022	515-5470
Center for Economic Research .....		515-5486	Student Development Center .....	.417-4038	515-5483
Center for Teacher Education .....		515-5439	Student Government .....	.417-4088	515-5484
Chiricahua Hall .....	.417-4405		Student Services .....	.417-4050	515-5415
Computer Labs .....	.417-4037	515-5326	Student Union .....	.417-4472	515-5484
Counselors .....	.417-4038	515-5483	Tech Prep .....		515-5347
Cultural Events .....		515-5440	Testing and Tutoring .....	.417-4091	515-5447
Disability Services .....	.417-4023	515-5337	Transcripts .....	.417-4005	515-5351
Extended Learning and Workforce Development Dean		515-5362	TRiO/Student Support Services .....	.417-4036	
Family Literacy (Adult Ed) .....	.805-1611		Veterans Affairs .....	.417-4035	515-5462
Financial Aid .....	.417-4045	515-5417	Writing Lab .....		515-5342
Foundation /Scholarships .....	.417-4100		<b>Douglas Campus .....</b>	<b>364-7943</b>	
Housing/Student Life .....	.417-4062		<b>Benson Center .....</b>	<b>586-1981</b>	
Huachuca Hall .....	.417-4403		<b>Fort Huachuca Center.....</b>	<b>533-2391</b>	
Human Resources .....	.417-4727	515-5308	<b>Nogales/Santa Cruz Center.....</b>	<b>287-5583</b>	
Information Technologies .....	.417-4119		<b>Online Campus .....</b>	<b>515-5305</b>	
			<b>Sierra Vista Campus .....</b>	<b>515-0500</b>	

**DC** - Douglas Campus

**SVC** - Sierra Vista Campus





# Academic Calendar 2010-2011

## SUMMER SEMESTER 2010

### EIGHT-WEEK SESSION

Registration .....	April 19 – May 26
Summer hours begin .....	May 17
Memorial Day Holiday .....	May 31
Classes begin .....	May 24
Last day to add classes .....	May 25
Last day to change subject level .....	June 1
Last day to change to audit status.....	June 2
Independence Day Holiday .....	July 5
Priority deadline for August graduation filing .....	July 21
Last day to drop without academic penalty .....	July 14
Classes end .....	July 19
Grades due by noon.....	July 22
Last day to file for August graduation.....	August 9

### FIRST FIVE-WEEK SESSION

Registration .....	April 19 - May 25
Classes begin .....	May 24
Last day to add classes.....	May 25
Last day to change subject level .....	June 1
Last day to change to audit status.....	June 2
Last day to drop without academic penalty .....	June 23
Classes end June 28	
Grades due by noon.....	July 1

### SECOND FIVE-WEEK SESSION

Registration .....	April 19- July 7
Classes begin.....	July 6
Last day to add.....	July 7
Last day to change subject level.....	July 12
Last day to change to audit status .....	July 15
Last day to drop without academic penalty August 4	
Classes end .....	August 9
Grades due by 4:30 p.m.....	August 12

### ENGLISH IMMERSION 2010.....July 6 -August 12

### SPANISH IMMERSION 2010

First session .....	June 7-28
Second session .....	June 29 –July 21

## FALL SEMESTER 2010

### FULL-SEMESTER CLASSES

Registration .....	April 19 – August 24
Last day of summer hours.....	August 12
Faculty return.....	August 16
Convocation.....	August 16
New student orientation – DC.....	August 20
New student orientation – SVC.....	August 21
Residence halls open.....	August 21
Saturday registration.....	August 21
Classes begin .....	August 23
Last day to add classes/last day to use e-cashier .....	August 30
Last day to change subject level.....	August 30
Labor Day Holiday.....	September 6
FTSE count day .....	October 6
Columbus Day Holiday.....	October 11
Last day to change to audit status.....	October 22
Veterans Day Holiday .....	November 11
Priority deadline for December graduation filing .....	November 24
Thanksgiving Recess .....	November 25-27
Last day to drop without academic penalty.....	December 2
Finals.....	December 9 - 15
Semester ends.....	December 15
Last day to file for December graduation .....	December 16
Grades due by noon .....	December 17
Winter break.....	December 18 -January 2

### FIRST EIGHT-WEEK SESSION

Registration .....	April 19 – August 24
Classes begin .....	August 23
Last day to add classes .....	August 25
Last day to change subject level.....	August 30
Last day to change to audit status .....	September 13
Last day to drop without academic penalty.....	October 13
Classes end .....	October 18

### SECOND EIGHT-WEEK SESSION

Registration .....	April 19 –October 21
Classes begin .....	October 20
Last day to add classes.....	October 22
Last day to change subject level.....	October 27
Last day to change to audit status.....	November 8
Last day to drop without academic penalty.....	December 2
Grades due by noon .....	December 17

**SPRING SEMESTER 2011****FULL-SEMESTER CLASSES**

Registration .....	November 22-December 17; January 3-10
Faculty return .....	January 3
New-student orientation – DC .....	January 7
New-student orientation – SVC .....	January 8
Saturday registration .....	January 8
Residence halls open .....	January 8
Classes begin .....	January 10
Martin Luther King Holiday .....	January 17
Last day to add classes/last day to use e-cashier .....	January 18
Last day to change subject level January .....	28
Faculty and Staff Development Day .....	February 15
Presidents' Day Holiday .....	February 21
FTSE count day .....	February 23
Last day to change to audit status .....	March 11
Spring break .....	March 14-18
Priority deadline for May graduation filing .....	April 20
Last day to drop without academic penalty .....	April 28
Final exams (including Saturday) .....	May 5-11
Semester ends .....	May 11
Last day to file for May graduation .....	May 12
Grades due by noon .....	May 13
Commencement .....	May 13

**FIRST EIGHT-WEEK SESSION**

Registration .....	November 22-December 17; January 3-10
Classes begin .....	January 10
Last day to add classes .....	January 12
Last day to change subject level .....	January 18
Last day to change to audit status .....	January 31
Last day to drop without academic penalty .....	March 3
Classes end .....	March 8

**SECOND EIGHT-WEEK SESSION**

Registration .....	November 22-December 17; January 3-March 10
Classes begin .....	March 10
Last day to add .....	March 21
Last day to change subject level .....	March 23
Last day to change to audit status .....	March 29
Last day to drop without academic penalty .....	April 28
Grades due by noon .....	May 13

**SUMMER SESSION 2011****EIGHT-WEEK SESSION**

Registration .....	April 18-May 13; May 16-23
Summer hours begin .....	May 16
Memorial Day Holiday .....	May 30
Classes begin .....	May 23
Last day to add classes .....	May 25
Last day to change subject level .....	May 31
Last day to change to audit status .....	June 7

**FIRST FIVE-WEEK SESSION**

Registration .....	April 18-May 13; May 16-23
Classes begin .....	May 23
Last day to add classes .....	May 24
Last day to change subject level .....	May 31
Last day to change to audit status .....	June 1
Last day to drop without academic penalty .....	June 22
Session ends .....	June 27

**SECOND FIVE-WEEK SESSION**

Registration .....	April 18-May 13; May 23- July 5
Classes begin .....	July 5

**SPANISH IMMERSION 2011**

First session .....	June 6-27
Second session .....	June 28-July 20

**FALL SESSION 2011**

Registration begins .....	April 18
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**AVIATION CALENDAR**

Professional pilot ends .....	June 11, 2010
AVT 4 ends .....	June 17, 2010
AVT 1 begins .....	July 6, 2010
Professional pilot classes begin .....	July 26, 2010
AVT 1 ends .....	September 23, 2010
AVT 2 begins .....	September 27, 2010
AVT 2 ends .....	December 16, 2010
Professional pilot ends .....	December 17, 2010
AVT 3 begins .....	January 3, 2011
Professional pilot begins .....	January 10, 2011
AVT 3 ends .....	March 24, 2011
AVT 4 begins .....	March 28, 2011
Professional pilot classes end .....	June 10, 2011
AVT 4 ends .....	June 16, 2011



# General Information

## COCHISE COLLEGE 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 first housed in the Gadsden Hotel, in Douglas. From the first semester, the college has been committed to serving citizens throughout the county. In October 2003, the college extended its service area to neighboring Santa Cruz County, through an agreement with the Santa Cruz County Board of Supervisors. Cochise College is Arizona's largest rural community college, serving approximately 14,000 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 growth of population at 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 Willcox Center, located in a historic ranching and farming area in northeastern Cochise County, offers classes to residents of the area under the supervision of Extended Learning and Workforce Development. The Center provides a variety of programs and services throughout the county and region.

The Benson Center, which opened in the fall of 2000, is located in the northwestern part of Cochise County. The Center serves the learning needs of this rapidly growing and vital area.

The development of community-directed college programs and services has included the Center for Lifelong Learning, the Small Business Development Center, the Career Services Center, the Online Campus, the Correctional Education Division, Adult Education, and the Center for Economic Research.

As the college rapidly approaches a half-century of service to area residents, it has experienced rapid growth and development in many ways. As Cochise College expanded its partnership with the region's largest employer, Fort Huachuca, it has experienced significant growth in the number of students enrolled and credit hours taken by students. The college has increased its offering of programs while also expanding partnerships with local K-12, university and industry partners, such as local healthcare providers. Cochise College provides a rich array of opportunities for students of all ages to visit its campuses and centers for education, training, or enjoyment or to find similar opportunities online.

In 2007, College Governing Board approved significant facility renewal projects across the district, including construction of a new Willcox Center. On both its Douglas and Sierra Vista campuses, new construction coupled with major renovations reflects space more appropriate to meeting the needs of the 21st century learner and teacher. In addition, the college has made major technology investment in its classrooms, faculty and support areas.

Cochise College is on the move as it 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, including online classes, interactive television/distance learning course delivery, collaborative learning classes, interactive webcast, and blended learning delivery.

## ACCREDITATION AND AFFILIATION

Cochise College is accredited by the Higher Learning Commission of the North Central Association. In 2006, the college received the maximum accreditation of 10 years; the next focused re-accreditation visit will be in 2015-2016. The college holds memberships in the Council of North Central Two-Year Colleges, the American Association of Community Colleges, the Council for Higher Education Accreditation, the Hispanic Association of Colleges and Universities (HACU) and the Association of Community College Trustees.

The Higher Learning Commission  
of the North Central Association  
30 N. LaSalle Street, Suite 2400  
Chicago, IL 60602-2504  
(800) 621-7440; (312) 263-0456  
Fax: (312) 263-7462  
[www.ncahlc.org](http://www.ncahlc.org)

The college also holds Federal Aviation Administration certification for its professional pilot and aviation maintenance programs and Arizona Department of Health Services/ Emergency Medical Services certification for its paramedicine and emergency medical technology programs. The nursing program is accredited by the Arizona State Board of Nursing and the National League for Nursing Accrediting Commission.



gency Medical Services certification for its paramedicine and emergency medical technology programs. The nursing program is accredited by the Arizona State Board of Nursing and the National League for Nursing Accrediting Commission.

National League for Nursing Accrediting Commission  
61 Broadway  
New York, NY 10006  
(212) 363-5555, ext. 153  
<http://www.nlnac.org>

Arizona State Board of Nursing  
4747 N. 7th St., Suite 200  
Phoenix, AZ 85014  
(602) 889-5150  
Fax: (602) 889-5155  
<http://www.azbn.gov>

## GOVERNANCE

The college district is governed by a five-member governing board elected from precincts in Cochise County. The college is financed by legislative appropriation, a countywide tax levy and student tuition.

## MISSION

Cochise College provides accessible educational opportunities that are responsive to a diverse population and lead to constructive citizenship, meaningful careers, and lifelong learning.

## PHILOSOPHY

Cochise College provides post-secondary education and educational support services to students interested in and capable of benefiting from programs of higher education. The College prepares students for a successful life beyond the college by promoting the principles of general education as set forth in the college's general education mission statement. Students should leave Cochise College with varied learning experiences and an understanding of the diversity of life.

The college makes students aware of their ethical responsibilities to the community, the environment and their fellow human beings.

The college provides educational opportunities, resources and programs tailored to changing social, economic and technological needs.

## VISION

Cochise College strives to be a learning community held in high esteem by members of its communities, providing high-quality learning opportunities for its citizens.

### A learning community

- Places its highest priority, resources and energy on learning.
- Creates an environment and experiences, real or virtual, that encourage students to be active members of the learning community.
- Makes learning possible not only in the classroom but outside, through a myriad of activities and experiences, using any number of tools to enhance learning.
- Extends learning not only to students but to all members of the college community so that a feeling of collegiality abounds.
- Empowers students, faculty and staff to create a personally meaningful learning environment, where each accepts responsibility for contributing to the same.

## CORE VALUES

In all that we do – in teaching, learning and serving – we value quality, integrity, and diversity.

**QUALITY** – We commit to a quest for excellence and strive to achieve our highest potential.

**INTEGRITY** – We base our decisions and interactions on honesty, trust, respect, responsibility, accountability, and ethical behavior.

**DIVERSITY** – We respect differences between and among members of the community by embracing and encouraging the expression of ideas, opinions, and thoughts exchanged freely, respectfully, and civilly.

## GENERAL EDUCATION STATEMENTS

<http://www.cochise.edu/AGEC>

### Mission Statement

General education at Cochise College provides students with an intellectual and cultural foundation for understanding and contributing to the local and global communities of the future. To improve the quality of life, Cochise College students, faculty, and staff seek knowledge, skills, understanding, and values.

### Values Statement

In the delivery of its general education curriculum, Cochise College reaffirms its core values of quality, integrity, and diversity, as it strives to instill a sense of interconnection and wholeness to the learning process. The college provides students the opportunity to acquire knowledge, values, and understanding as well as information, skills, and habits of mind, all essential for lifelong success. We value learning as a life-long process. We value effective communication through writing and speaking; critical, analytical, and creative thinking; both independent and cooperative learning; integrity, ethics, and responsible social behavior; personal wellness; and respect for diversity. Our values are reflected in our general education outcomes.

## COMMUNITY SERVICES

Cochise College extends its educational services to meet the needs of the entire county. Community services are those phases of the educational program that provide educational, cultural and recreational services beyond formalized classroom instruction. Among these services are free lectures; a program of public events and cultural activities including lectures and forums, art exhibits, film series and non-credit courses; community use of the college libraries and other facilities; workshops to meet special needs of business, industry and the professions; economic research; community recreation; campus tours; public information; and a variety of conferences.

## COCHISE COLLEGE FOUNDATION

The Cochise College Foundation is a private, community-based nonprofit organization that is fiscally and organizationally separate from Cochise College. Its mission is to promote student success, facilities development and program support for Cochise College. The Foundation was established on March 20, 1967, and is recognized as a 501(C)(3) non-profit organization (income tax-deductible) by the Internal Revenue Service and the Arizona Corporation Commission.

The Foundation board of directors has a county-wide membership. The Foundation provides more than \$400,000 in scholarships to Cochise College students each year and has assisted the college with several capital projects. The Foundation accepts monetary gifts, property, gifts-in-kind or other items of value bequeathed or donated for the benefit of Cochise College. The Cochise College Foundation can be reached at (520) 417-4100, or by email at [foundation@cochise.edu](mailto:foundation@cochise.edu).

## COLLEGE LOCATIONS

### Douglas Campus

The Douglas Campus serves approximately 1,000 students each semester with a diverse curriculum of general education, liberal arts, and direct employment programs. The campus includes residence halls for men and women, an on-campus airport, and athletic facilities.

### Douglas Adult Education Center

Adult Education and family literacy classes are provided at the Douglas Adult Education Center at 1132 12th Street. This center offers day and evening classes in GED preparation, English Language Acquisition for Adults, and reading, math, and computer skills for adults 16 years of age and older. Family literacy classes are offered four days a week for adult family members of children enrolled in preschool to third grade classes in schools in the Douglas area.

### Sierra Vista Campus

The Sierra Vista Campus is located just off Charleston Road 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 approximately 3,000 students each semester in the greater Sierra Vista/Fort Huachuca area with a diverse curriculum of general education, transfer and direct employment programs, as well as adult education classes in GED preparation and English Language Acquisition for adults.

### Fort Huachuca

The Cochise College office on Fort Huachuca is located in the Army Education Center, Building 52104. This office provides full advising services to military students and their families. Military students may have their military education evaluated for college credit in accordance with American Council of Education recommendations. The Cochise College office provides assistance in sending for transcripts from other colleges and universities, CLEP and USAFI/DANTES exams. Classes meet in Building 52104 and Building 21112. Classes are offered on post each semester, usually in eight-week sessions, to meet the needs of military students.

### Extended Learning and Workforce Development

Extended Learning provides many of the college's programs and services in communities throughout Cochise and Santa Cruz counties and beyond. Courses and services are scheduled through the Adult Education program, the Benson Center, the Correctional Education Division, the Nogales/Santa Cruz Center, Online Campus, the Small Business Development Center, the Tech Prep program, the Willcox Center, and the Center for Lifelong Learning. Extended Learning utilizes facilities in public schools, at businesses, and in public-sector agencies.

### **Willcox Center**

The Cochise College Willcox Center is located at 1110 W. Fremont Street, adjacent to the Willcox Unified School District offices. The Center, serving approximately 200 students with day and evening classes, currently has five classrooms, a computer lab, a library, and interactive television capabilities. Full-time staff assist students with admissions, registration, placement testing and financial aid. Newly constructed Willcox Center facilities will open in 2010-2011.

### **Benson Center**

The Cochise College Benson Center is located at 1025 State Route 90. The 13,000-square-foot facility includes five classrooms, two computer labs, a learning center and interactive television capabilities. Traditional, developmental, GED, ESOL and personal interest classes are offered in the day and evening to meet student needs and schedules. Full-time staff assist students with admissions, registration, placement and GED testing, and financial aid.

### **Nogales/Santa Cruz Center**

Cochise College began offering classes in two Santa Cruz County locations in October 2003 and in December 2006 relocated to the Santa Cruz Historic Courthouse, 21 E. Court Street, Nogales. Full-time staff assist students with admissions, registration, placement and GED testing, and financial aid. Classes also meet at the education center, Nogales High School, Rio Rico High School, Patagonia Union High School, and Santa Cruz Alternative High School.

### **Online Campus**

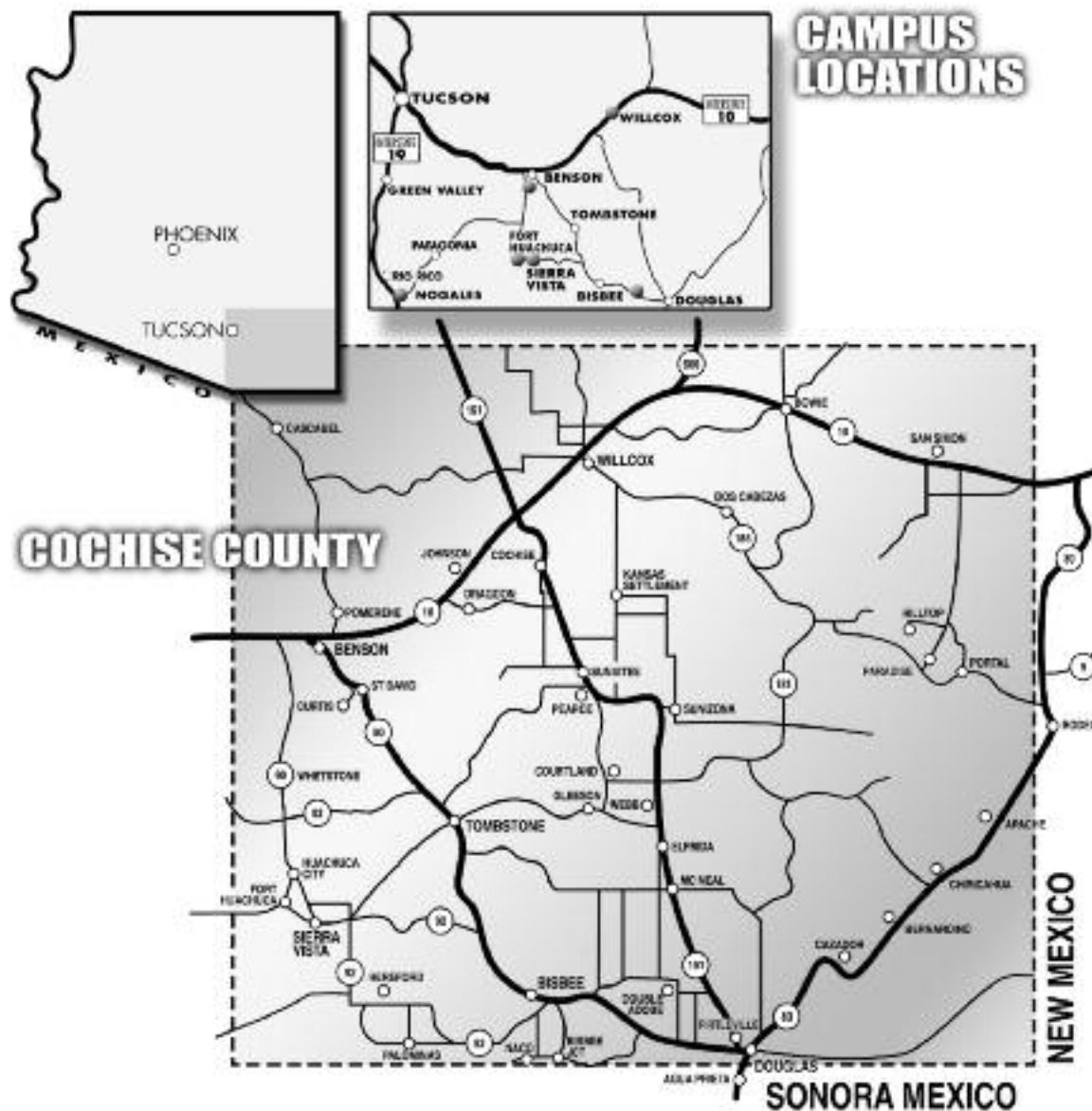
Cochise College has a growing educational presence on the World Wide Web. The institution offers an expanding array of courses on the web, and students can pursue online degrees and certificates. These courses meet the same criteria as traditional classes. They use the resources of the Internet to enrich the educational experience.

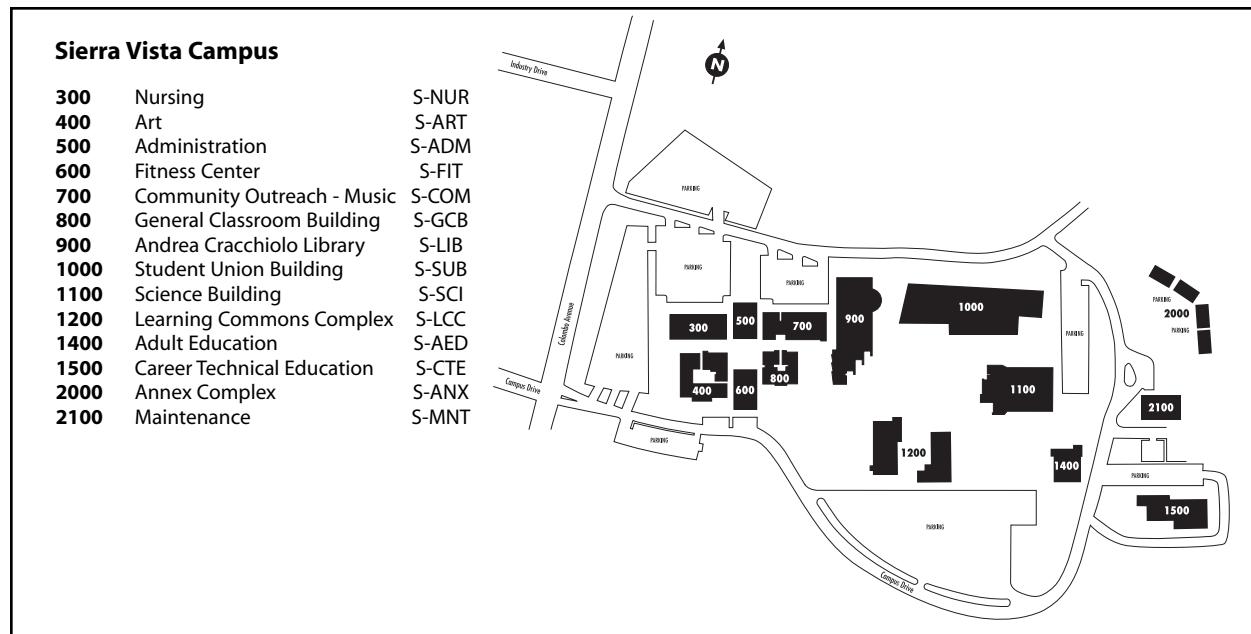
Through the Online Campus, students can design their own class schedule to meet personal needs. Visit the Online Campus at [www.cochise.edu](http://www.cochise.edu) to find information about courses, tuition and financial aid. Prospective students can also take an online assessment to see if online classes meet their needs.

### **Douglas Correctional Education Division**

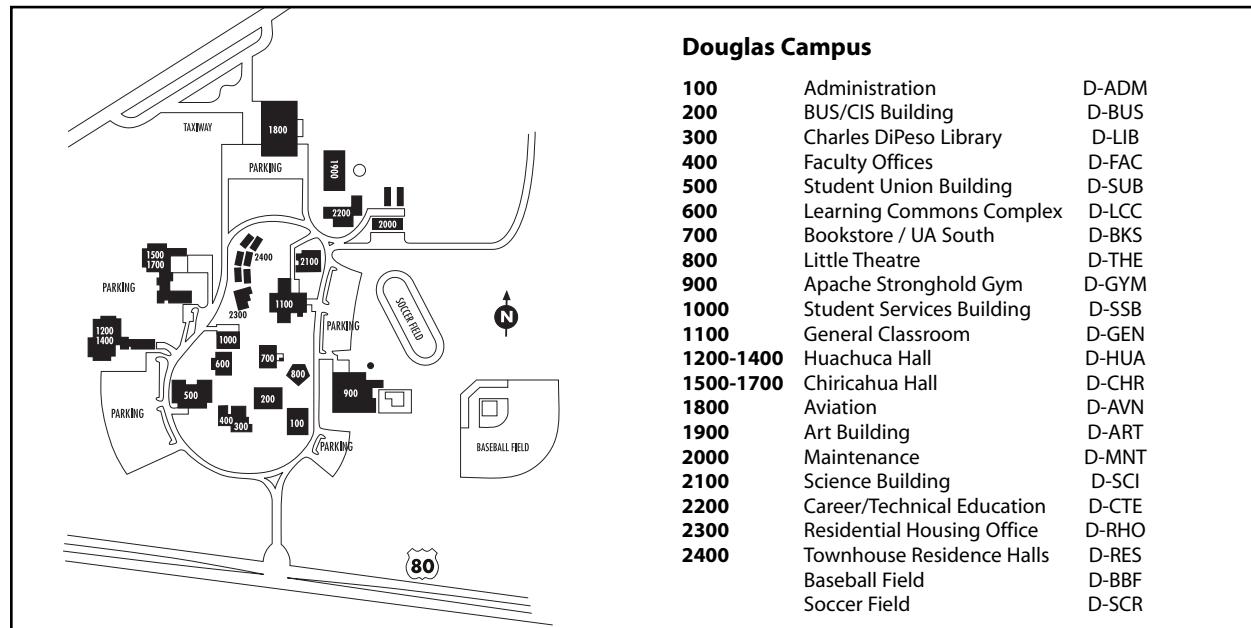
This program located at the Arizona State Prison in Douglas offers a wide range of vocational and work-based education courses and programs to meet the diverse needs of inmate students. All credit courses are selected from the college catalog and taught by certified faculty.

# Area and Campus Maps



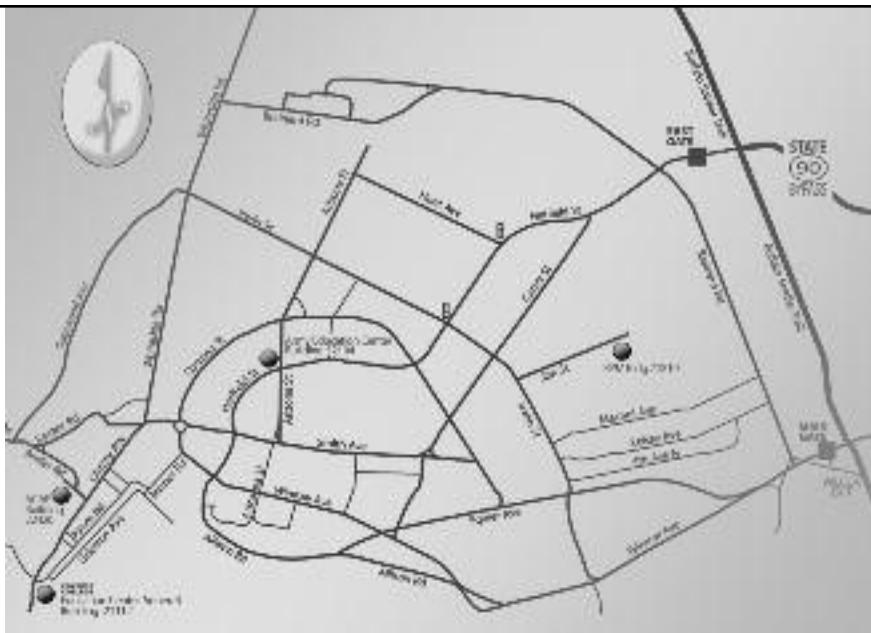


Some services and classes may be relocated to alternative facilities on campus as the college proceeds with construction and renovation projects.



## Fort Huachuca

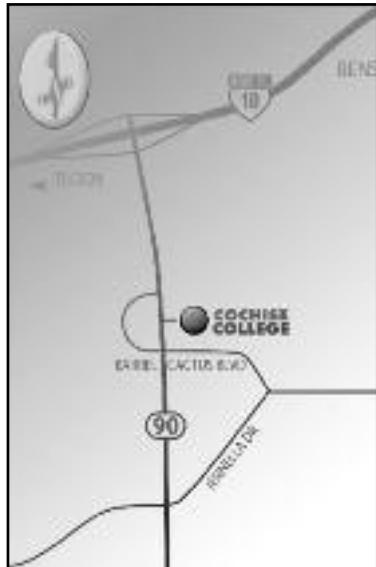
For information contact:  
my Education Center, 533-3010  
College Fort Huachuca Representative,  
533-2391



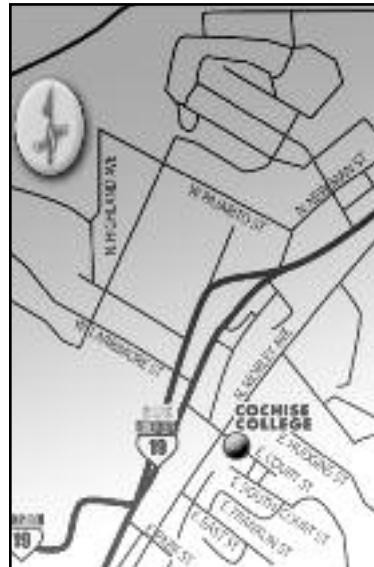
## Willcox Center



## Benson Center



## **Nogales/Santa Cruz Center**



# Getting Started

## CAMPUS VISITS

Cochise College welcomes students to visit our sites prior to deciding which college to attend. Please call the Admissions Office at (520) 417-4046, (520) 515-5336 or (800) 593-9567 to set up an individual or group tour of the campus.

The admissions staff will be happy to arrange class visits and introduce you to faculty from your area of interest. A student leader will give you a campus tour and share a student's perspective on the college.

Student information pertaining to advising, class schedules, course descriptions, tuition and fees, and financial aid can be found online at [www.cochise.edu](http://www.cochise.edu).

## ADMISSION

Admission is a simple process. Any person 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. hold a high school certificate of equivalency, such as a GED;



3. 18 years of age or older on or before the first day of classes for which application is being made;
4. a transfer student in good standing from another college or university;
5. additional admission criteria is required for international, aviation, nursing, transfer, and concurrent high school students.

## STUDENTS UNDER 18 YEARS OF AGE

If you are under 18 years of age, you are asked to contact the Admissions Office for admission information.

## RE-ADMISSION

If you have been absent from Cochise College four semesters or longer, you can apply for readmission prior to the opening of the semester for which you desire to enroll.

## GENERAL ADMISSION PROCEDURES

You will be admitted to Cochise College after the Admissions Office has received and approved:

1. An application for admission;
2. An application fee for those classified as border commuters or international students for tuition purposes;
3. High school transcripts - All applicants under the age of 18 are requested to submit either an official high school transcript or GED certificate with test scores before registration will be permitted. Final high school transcripts or GED certificate are requested of all students who apply for any financial aid program offered through Cochise College. High school transcripts should be sent directly by the sending institution to the transcript office. Official transcripts carried by the applicant cannot be accepted if previously opened;
4. Student health record: Part II - This self-appraisal form must to be completed by all applicants applying for admission to the aviation or nursing programs, those participat-

ing in athletics, or those who wish to live in the residence halls at the Douglas Campus. The college reserves the right to require a physical examination or immunizations when deemed necessary by a particular college instructional program;

5. Out-of-county affidavits - Students residing in Apache, Gila, Greenlee or Santa Cruz counties attending classes in Cochise County are asked to submit affidavits of residency before registration each semester. Your county of residence will pay out-of-county tuition. The in-state tuition is your responsibility. Forms are available at the Admissions Office.

## TRANSFER TO COCHISE COLLEGE

The college asks prospective students who have attended other regionally accredited colleges and universities to have official copies of their academic records sent to the Registration Office.

The college asks prospective students who have attended other regionally accredited colleges and universities to have official copies of their academic records sent to the 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).

If you are requesting an evaluation of transcripts for the purpose of seeking a Cochise College degree, you should be currently enrolled.

The following regulations govern your admission if you have attended another college:

1. Courses for which you have earned a grade of D or F cannot be accepted for credit.
2. You may be admitted on academic probation if you have earned a GPA below 2.0.
3. If you have been academically dismissed from another college, you 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 he/she completes 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 GPAs earned at Cochise College.
6. College transcripts must be mailed directly by the sending institution to the Registration Office. Official sealed transcripts carried by the applicant are acceptable.

## 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 (3) years and has completed twelve (12) or more credits with a minimum GPA of 2.00 following re-enrollment is eligible to pursue academic renewal/forgiveness.

## STUDENT IDENTIFICATION NUMBER

Disclosure of social security numbers to Cochise College is voluntary and not required by either statute or regulation.

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 you will receive in the mail or by e-mail when you apply for admission, shall be used to obtain all services provided by the college. To access online services, you can use your student ID number or social security number along with your personal ID pin number (your birth date in MMDDYY format). Your social security number may still be

required for some services, such as financial aid and reporting education tax credit information to the federal government.

Disclosure and use of 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.

## ADMISSION OF HIGH SCHOOL STUDENTS

If you are a junior or senior-level high school student who would like to enroll in one or two classes, you may do so by submitting the following:

- Application for admission.
- A Concurrent Enrollment Form. This form requires written approval from the designated school official, parental or guardian approval, as well as student permission to release grades to their high school.
- You must take the appropriate Cochise College placement tests.

High school students taking eligible occupational courses can complete a COMPACT program registration packet and save up to 50 percent on the cost of each course. Packets are available at the Student Development Center, Admissions Office, and Tech Prep Office, (520) 515-5347.

## ADMISSION TO THE AVIATION PROGRAM

If you are seeking admission to the Professional Pilot or Avionics programs, contact the Aviation Department well in advance of your planned entry date. The department will arrange a pre-entry conference. If you plan to obtain a degree, you will be required to take a placement test. Admission to Cochise College does not guarantee acceptance into the aviation program.

## ADMISSION TO THE NURSING PROGRAM

Admission to Cochise College does not guarantee acceptance into the college's nursing program, as enrollment is limited and frequently there are more applicants than can be accepted.

You must apply for admission to the nursing program and take the HESI entrance exam. The deadline for submitting an application to the nursing program for the fall semester usually falls in January and is available in the Nursing Office. The HESI should be taken prior to the fall semester of expected admission.

Contact the Nursing / Allied Health Department for additional information regarding criteria for regular admission, for special admission to enter second semester freshman courses, for admission by LPNs (licensed practical nurses) and LVNs (licensed vocational nurses).

The Arizona State Board of Nursing denies licensure to individuals with a felony conviction who have not been fully discharged five years prior to applying for a license. Drug screening and fingerprint clearance cards are required for enrollment in the nursing program. Contact the Nursing / Allied Health Department or the Arizona State Board of Nursing for information regarding this regulation.

## ADMISSION OF INTERNATIONAL STUDENTS

All international students must have a high school equivalency or be at least 18 years of age at the time of registration. All full-time international students need to attend on an F-1 Visa.

The International Student Office will issue a letter of admission and a SEVIS I-20 after receiving and approving the following documents:

1. Application for admission (downloadable from [www.cochise.edu](http://www.cochise.edu)).
2. Application fee in bank draft or US check, payable to Cochise College.
3. Student health record.
4. Official high school transcripts.
5. Statement of financial guarantee for \$16,400 or the actual annual cost of the program (whichever is greater).
6. A housing application and deposit is necessary only if College housing is desired.

## Border Commuter Students

Border commuter students from Mexico are permitted to attend part-time and must also apply for a visa to study. These students must pursue a major that leads to a degree and will be issued a one-semester I-20 after submitting the following:

1. Application for admission.
2. Application fee in bank draft or U.S. check, payable to Cochise College.
3. Bank guarantee form  
Full-time student: \$8,030 in U.S. dollars\*  
Part-time student: \$725 in U.S. dollars\*
4. Student health form.
5. Final high school and college transcripts, certificate or diploma.

A packet of these materials for F-1 international students is available by calling (520) 417-4038 or by contacting the International Student Office at [international@cochise.edu](mailto:international@cochise.edu) or the Cochise College Web site at [www.cochise.edu](http://www.cochise.edu).

## Health Insurance

All F-1 students who have an I-20 issued by Cochise College and who are living in the United States are required to have the approved health insurance plan. The plan currently in use by Cochise College is the HTH Worldwide plan. For more information, contact the International Student Office.

## TOEFL

Students whose primary language is not English are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 61 for the Internet-based test, 173 for the computer-based test, or 500 for the paper-based test. All TOEFL scores must be submitted directly from the testing agency to the International Student Office. The college code for all programs of study at Cochise College is 409700. Questions about the TOEFL should be directed to the Educational Testing Services at the following address: TOEFL Services, PO Box 6155, Princeton, NJ, 08541-6155 or [www.ets.org](http://www.ets.org).

\*These amounts are current at time of publication and are subject to change.

## OFFICE OF DISABILITY SERVICES

You may request special disability assistance by visiting one of the Offices of Disability Services or by calling (520) 515-5337 or (520) 417-4023 to make an appointment. Students who need accommodations for placement testing should contact one of the Offices of Disability Services prior to testing.

## STUDENT E-MAIL

Cochise College's e-mail system is recognized as an official mode of communication between the college and students. Student email accounts are free and provide students with a way to receive college news and other notifications. Login and register by visiting [www.cochise.edu](http://www.cochise.edu).

## RESIDENCY REQUIREMENTS AND REGULATIONS

### Prop. 300/Tuition Assessment

Cochise College has revised its registration procedure for credit classes to comply with requirements of Proposition 300. Approved by Arizona voters in November 2006, Prop. 300 requires verification of eligibility for in-state tuition rates for U.S. citizens and qualifying legal immigrants.

Students will need to complete the new tuition assessment process only once. The process applies to students registering for any class beginning after spring session 2007.

It is important to know that the new law does not prevent anyone from enrolling at Cochise College. However, the law 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 printable Tuition Assessment Form, instructions for completing the form, and a list of qualifying documents to verify eligibility for in-state tuition are available online. Go to [www.cochise.edu](http://www.cochise.edu) and search for Prop. 300.

Documentation can be returned to any of the college's Admissions and Registration Offices. All documentation should be faxed to the attention of the registrar at (520) 515-5452 or e-mailed to [admissions@cochise.edu](mailto:admissions@cochise.edu) or [registration@cochise.edu](mailto:registration@cochise.edu).

You can check your student verification for Prop. 300 on the Cochise College Web site using the following directions:

- Go to [www.cochise.edu](http://www.cochise.edu) and click on My CC Account.
- Click on the secure area and log in your personal information.
- Click on Student Services and Financial Aid.
- Click on Registration.
- Click on Check Your Registration Status.
- Select the term of your current class registration and click submit.

Your Prop. 300 status is displayed.

Each applicant shall have legal residency determined prior to the time of registration and payment of fees. It is your 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.

Published below are the Arizona Revised Statutes (ARS 15-1801 et seq.) and Cochise College policy definitions, which determine classification for tuition purposes.

## DEFINITIONS

**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 (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)

## IN-STATE STUDENT 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, except that a person whose domicile is in this state is entitled to classification as an in-state student if he/she meets one of the following requirements:

1. His/her parent's domicile is in this state for no 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 attendance.
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, is entitled to classification as an in-state student. 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 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, is entitled to classification as an in-state student.

#### **CONCURRENT ENROLLMENT: NON-RESIDENT TUITION**

A. It is unlawful for any non-resident 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 non-resident tuition at one of such institutions.

B. Any non-resident 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 non-resident tuition at any of such institutions shall pay the non-resident tuition at the institution of his/her choice. The amount will be equivalent to non-resident tuition at such institution for the combined total of semester hours for which the non-resident student is concurrently enrolled. (ARS 15-1807)

#### **PROOF OF RESIDENCY: IN-STATE**

A domicile affidavit needs to be filed 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 (checking or savings) from an Arizona banking institution.
7. Source of support (employer).
8. Dependency as indicated on federal income tax declaration for dependents.

#### **REGISTRATION INFORMATION**

New and returning students in good academic standing can register for classes during early registration as well as regular registration periods. Late registration is allowed, and deadlines are listed on the academic calendar.

#### **ENROLLMENT VERIFICATION**

Students requesting verification of their enrollment for any purpose (life insurance, loan deferment, etc.) 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](http://www.degreeverify.org).

## **FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT**

Cochise College shall not permit the disclosure of information from educational records or personally identifiable information contained therein other than directory information of students without the written consent of the student 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 or research, or support staff position (including law enforcement unit 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, weight and height of members of athletic teams, dates of attendance, degrees and awards received, most recent previous school attended, and photograph. 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.



# Money Matters

## TUITION AND FEES

All fees may change as approved by the Cochise College Governing Board. Please consult the Admissions Office, the Business Office, or the college Web site at [www.cochise.edu](http://www.cochise.edu).

All students must have sufficient funds to defray their immediate expenses at the time of registration. All fees are payable as the final step in the registration process. Cochise College accepts checks or credit card payments for the total amount due for tuition and fees.

Past due accounts may be turned over to a collection agency. You, as a delinquent student, will be liable for any collection/attorney fees incurred.

Please consult the class schedule for specific registration and payment dates. In the event a check is returned unpaid by your bank, you may be assessed a service fee and dropped from all classes. You may also be dropped from all classes if fees are not paid in full on or before dates indicated. All remaining charges must be paid in full prior to any future registration.

A textbook voucher system is available for students in vocational rehabilitation, veterans' vocational education and other qualified veterans.

Note to Financial Aid Students: When financial aid has been approved and applied to your account, any credit balance will be refunded to you. Any amount unpaid after the financial aid has been applied will be due and payable by the student.

## STUDENT FEES FOR 2010/2011 FISCAL YEAR

### I. Tuition-Effective July 1, 2010 to June 30, 2011

Fees subject to change.

Registration fee (per each fall, spring, or summer semester, non-refundable).....\$20 per student

Technology fee (per each fall, spring, or summer semester, non-refundable).....\$15 per student

No registration or technology fee for recipients of military tuition assistance.

Border commuter application fee.....\$20

International student application fee.....\$50

International student illness/accident insurance .....TBD

Tuition Payment Plan Fee.....\$35

Credentialing fee .....To be determined per contract

## FALL/SPRING/SUMMER TUITION

In-state .....	\$54 per credit
Out-of-state (1-6 credits) .....	\$81 per credit
over 6 credits (retroactive to first credit).....	\$290 per credit
Online Campus .....	\$81 per credit
Aviation (resident).....	\$65 per credit
Co-op education courses (per credit hour) .....	\$27
Western Undergraduate Tuition Waiver .....	\$81
New Mexico Tuition Waiver .....	\$54

## Senior "Golden Apache" Tuition

(60 years or older, resident of Cochise County or adjacent unorganized counties)	
50% of eligible tuition	
One-time application fee .....	\$5

## MISCELLANEOUS FEES

Credit by examination (nonrefundable) per credit .....	\$54
(may require additional special lab fee)	
CLEP general and subject examination	
(current cost per test) .....	plus \$20 proctor fee
Accuplacer testing per retest .....	\$15
General Education Development (GED) .....	\$65
Other Testing Services .....	\$10
Transcripts (official).....	\$10
Transcripts (faxed).....	\$10
Returned check fee (for each returned) .....	\$50
Graduation fee .....	\$25
Liability insurance (nursing, NA, MA, EMT, paramedicine).....	\$40
Drug screen (nursing, EMT, paramedicine).....	\$60
Background check (MA and PM) .....	\$50
Nursing testing fee (HESI).....	\$70
EMT/paramedicine certification testing fee.....	\$50
Replacement of ID card or meal card.....	\$10

**DEPOSITS**

Residence hall housing.....	\$100*
Family housing apartments.....	\$150*
* Required with housing application (does not apply toward room and board fees).	
Professional pilot.....	\$90*
Avionics technology.....	\$90*
* A non-refundable deposit that will be applied to aviation tuition and/or fees. The deposit will be refunded if the student is not accepted into the program by the Aviation Department.	
Spanish Immersion field trip to Mexico-(summer I).....	\$175
Spanish Immersion field trip to Mexico-(summer II).....	\$35

**MISCELLANEOUS FEES FOR NON-STUDENTS**

Accuplacer testing .....	\$15
Proctor fee .....	\$25

**ON-CAMPUS LIVING**

Chiricahua and Huachuca Hall - Single Occupancy  
 Desert View Townhouses - Double Occupancy

**Regular Student – 17-week semester**

19-meal plan .....	\$1,750
Room rate .....	\$850

**Combined Rate**

19-meal plan with 16 or more credit hours of enrollment .....	\$1,750
19-meal plan with 12-15 credit hours of enrollment .....	\$2,175

**Professional Pilot – 21-week semester**

19-meal plan .....	\$2,150
Room rate .....	\$1,050

**Combined Rate**

19-meal plan with 16 or more credit hours of enrollment .....	\$2,150
19-meal plan with 12-15 credit hours of enrollment .....	\$2,675

**II. Residence Hall Fees (DOUGLAS CAMPUS)**

If you live in a residence hall, you must participate in the board program. One-bedroom apartments are available for students with families; apartment residents do not need to purchase a meal plan. Single rooms and apartments have special requirements. Please call the Housing Office at (520) 417-4062 for further information. Room and board is due at registration or by the last day to add classes in a term. Apartments are \$350 per month, payable in advance.

**Room**

If you are a full-time student, you have the option of living on campus. The college has completed construction of new townhouse-style residences which opened for occupancy in the spring 2010 semester. The college also has existing residence halls and family housing apartments. The residence halls are single- and double-occupancy, suite-style rooms. The family housing apartments have one bedroom each and are partially furnished. Internet access is available 24 hours a day for residents. Laundry facilities, free cable and local telephone services are also available for all residents.





### **Board**

You may choose between a 19-meal and a 14-meal plan when classes are in session. If you leave the residence halls, you will be charged for meals through Saturday of the week in which you formally withdraw. If you depart during the last two weeks of the semester, you will be charged the full semester rate for meals.

### **Apartment and Room Deposits**

Deposits are required as indicated above to reserve your room or apartment. The deposit will be refunded according to the conditions of the residence hall and family housing contracts less any amounts due to the college for damages or other charges.

### **TUITION WAIVER PROGRAMS**

#### **New Mexico Waiver**

A special tuition agreement exists for full-time students between Cochise College and Western New Mexico University. If you are interested, please contact the Admissions Office for more information.

#### **Western Undergraduate Exchange (WUE) Waiver**

Cochise College is a member of the Western Undergraduate Exchange (WUE) program. If you are a resident of Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington or Wyoming, contact the Admissions Office to see if you are eligible for this waiver for full-time students.

#### **Arizona-Sonora Agreement**

Tuition waivers are available to students from Sonora through an agreement between the Arizona-Mexico Commission and the Comisión Sonora-Arizona. Qualifying students from Sonora who are studying in Arizona may pay in-state tuition for a maximum of two years. Students from Arizona who wish to study in Sonora have a series of educational and living options available. For more information, visit [www.iesa.gob.mx](http://www.iesa.gob.mx) or contact the Douglas Campus One Stop at (520) 417-4038 or (520) 417-4042.

#### **Senior Citizen Tuition Waiver**

If you are 60 years or older, you may apply for a "Golden Apache" tuition waiver as an Arizona resident who lives in Cochise County or an adjacent unorganized county (Apache, Gila, Greenlee, and Santa Cruz). This waiver allows a 50 percent tuition discount of the regular in-state tuition rate. Registration fees, lab fees, bookstore charges, avionics, flight tuition and fees, and non-credit courses are not included in this discount. You have to meet in-state residency requirements for tuition purposes. Waivers cannot be accepted retroactively. Applications for the waiver may be picked up at the Admissions Office.

## GRADUATION FEES

Every candidate applying for an associate degree is required to pay a graduation fee at the Cashier's Office.

## FLIGHT TRAINING FEES

Please consult the Aviation Department for current flight fees. All flight fees are subject to change without notice. Please see the refund section for refunds of unused flight fees.

## LABORATORY FEES

Lab fees are charged for those classes requiring special equipment, facilities, etc. Lab fees range from \$10 to several hundred dollars. Please consult the current lab fee schedule for courses charging lab fees and the amount. All student lab fees are due at the time of registration.

## REFUNDS

All refunds for tuition, fees and deposits that may be due to a student will be first applied to any encumbrances owed to the college. Please consult the appropriate semester class schedule for specific dates and percentage of refund.

The refund schedule begins with the first day of classes and applies to Monday through Friday. Sufficient time must be allowed for final clearance of fee payment checks before refunds will be made.

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 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.

Refund of meal plan fees will be prorated based on the first day of the month following a student's withdrawal from the meal plan. No refunds of meal plan fees will be granted for withdrawal after the first Monday in November for the fall semester or the first Monday in April for the spring semester.

If a class or classes are canceled by the college, you will receive a full refund for all tuition and fees for cancellations. Refunds will be issued for canceled classes within three weeks after the end of registration. In the case of such cancellations, the student may opt to enroll in alternative classes and apply

the tuition and fees from the cancelled class(es) to the newly enrolled class(es).

## Federal Title IV Financial Aid Refunds

Students who receive federal financial aid funds are subject to the federal refund policy. 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.

Pell grants, SEOG and ACG (Academic Competitiveness Grant) 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. 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
- For the student who does not begin the school's withdrawal process or notify the school of the intent to withdraw, the midpoint of the payment period or period of enrollment for which Title IV assistance was disbursed (unless the institution can document a later date).

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.

For additional policy and regulatory information, contact the Financial Aid Office.



# Financial Aid, Scholarships & Grants

Students applying for financial aid at Cochise College must be admitted into an eligible program of study leading to a degree or certificate and must meet the other eligibility requirements for each program. All new financial aid recipients must attend a financial aid orientation session before receiving any federal funds.

Official academic transcripts will be required of all transfer students who appear in the National Student Loan Database System (NSLDS) as having attended previous institution(s) and/or having substantial student loan debt. Transcripts will be evaluated and restricted enrollment enforced when applicable. Students who have not met our academic standards (2.0 GPA and completion of 75% of classes attempted) at the prior institution(s) will be evaluated with the same probation and sus-

pension standards currently in place for Cochise College students. Students who consistently have received W and F grades will be required to complete a minimum of six credit hours with a 2.0 or higher GPA using their own resources before federal aid will be approved.

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). The FAFSA is completed online at [www.FAFSA.gov](http://www.FAFSA.gov). The FAFSA worksheet to assist you in completing the online application can be found online or in the Financial Aid Office. Priority consideration for some grants is given to applications received in the Financial Aid Office by May 1.



## FEDERAL AID PROGRAMS

### **Pell Grants**

A federal Pell Grant, unlike a loan, does not have to be repaid. It is generally 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 the actual enrollment status.

### **Supplemental Education Opportunity Grants (SEOG)**

The SEOG program awards grants to undergraduate students who demonstrate exceptional financial need. The Financial Aid Office determines the recipients, and priority is given to on-time applications.

### **LEAP (Arizona Grant)**

The LEAP grant assists Arizona residents who demonstrate need. Recipients must be permanent residents of the State of

Arizona. Recipients are determined by the Financial Aid Office, and priority is given to on-time applications.

#### **ACG (Academic Competitiveness Grant)**

This grant is available to students who have completed a rigorous secondary school program of study after January 1, 2006. An official high school academic transcript must be submitted to the Financial Aid Office to verify eligibility.

#### **Federal Family Educational Loan Program**

##### **(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 will automatically be offered to students who indicate interest in receiving a loan on the FAFSA. Loans can also be obtained by students who do not demonstrate a need. A student must complete both the loan entrance counseling and the loan acceptance form before a student loan will be certified.

#### **COLLEGE WORK-STUDY**

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 to qualify for these jobs. Work-study jobs are available both on and off campus. If you are interested in student employment, check the available jobs at the Career Services Center.

#### **VETERANS AFFAIRS**

The Veterans Affairs Office is located within the Financial Aid Office on the Sierra Vista Campus. A representative is also available in the Financial Aid Office on the Douglas Campus. Information concerning attendance, benefits and procedures is available. All veterans are advised to maintain close contact with the college's certifying official.

If you are a veteran receiving VA benefits, you are required to immediately report to the college's certifying official when

you drop a course or withdraw from college. If you fail to report a reduction in credits or withdrawal from the college, you may be required to repay all the money you received during that semester/term.

Veterans must register and pay for their classes before enrollment will be certified to the Veterans Administration. A one-time exception is made for the first term. New VA students are eligible to sign a promissory note to cover tuition and books. Payment is deferred until benefit checks are received.

#### **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 are some of the eligibility requirements. The scholarship application and a list of scholarships can be accessed on the college Web site at [www.cochise.edu](http://www.cochise.edu). Select the scholarship link.

Notices of other scholarships are received periodically. The notices, applications and/or instructions for these scholarships are posted in the scholarship notebooks located in the Financial Aid Offices.





# Services for Students

## LIBRARIES /INSTRUCTIONAL MEDIA SERVICES

The Cochise College library/IMS system consists of the Charles Di Peso Library on the Douglas Campus and the Andrea Cracchiolo Library on the Sierra Vista Campus. Many services and resources are also available online at [www.cochise.edu](http://www.cochise.edu).

The libraries have more than 300 periodical subscriptions and house more than 66,000 books and 2,400 videos/DVDs/audio books. The libraries provide access to various online databases most of which provide the full text of periodical/newspaper articles and literary criticism. Both libraries have computers, laptops, digital cameras, and photocopiers for students to use.

The Instructional Media Services (IMS) department provides a wide range of instructional media equipment and software for classroom use and for college events. IMS offers a wide range of in-house media production services to the college community and manages the interactive instructional television (ITV) classrooms and satellite teleconferencing for the district.

The library/IMS staff is dedicated to enhancing learning opportunities, increasing information literacy, and meeting the educational needs of Cochise College students, faculty and staff. The libraries combine traditional library services with information technologies, providing access to both print and non-print resources to assist students in successfully navigating the expanding world of information and in fulfilling their learning goals.

## BOOKSTORE

Barnes and Noble bookstores are located on both the Douglas and Sierra Vista campuses. A bookstore representative also visits the Benson, Willcox and Nogales/Santa Cruz Centers at the beginning of each semester. Students can find textbooks, collegiate clothing, reference and trade books, classroom supplies and other items. Student book buy-backs are held each semester during finals week if there is a demand for the books the following year. Graduation gowns also may be ordered in February for May graduates.

## STUDENT DEVELOPMENT CENTER

The Student Development Centers (SDC) located on the Douglas and Sierra Vista campuses coordinate several key services designed to support your learning: academic advising, counseling, testing, tutoring, and career information.

The mission of the counseling and advising component of the SDC is to assist our student population in defining, planning, and achieving success. This collaborative effort results in the students' taking responsibility for the attainment of their educational, personal, social and career goals.

The Cochise College counseling staff is available in the SDC to assist you in developing decision-making skills and personal strengths that allow you to help yourself. Problems of adjustment related to academic, personal or social areas are not unusual. Counselors are available to assist you during daytime and certain evening hours. Counselors and advisors can assist you in defining your educational and career goals; planning a program of study for transfer and/or direct employment that incorporates your interests, abilities, and career objectives; and can direct you to other college resources.

A coordinated effort by Cochise College counselors and advisors provides all students with assistance throughout their academic experience. You are encouraged to visit the SDC throughout the semester to ensure you receive academic support prior to having problems with class work or schedules.

### Learning Support (Tutoring)

Cochise College provides free tutoring for you in most academic areas. Para-professionals, faculty and staff work with students individually and in small groups to facilitate learning. Computerized tutorials are also available. You are welcome to drop by the tutoring labs with or without an appointment.

### Placement Assessment (Accuplacer)

Initial placement assessments are free to students during the year on a regularly scheduled basis. Consult the schedule of classes published each semester for scheduled times or call the Student Development Center.



The purpose of the Cochise College assessment process is to:

1. Help correctly identify existing skills and knowledge in reading, English, mathematics, and computer skills.
2. Recommend a course(s) of study in which you may reasonably expect to achieve academic success.

The college requires students to take the placement assessment using the Accuplacer test in the areas of English, reading, computers and mathematics prior to meeting with an advisor and registering. You should test if you are:

- Planning to register for a course with an English or mathematics prerequisite
- Seeking a degree and have completed seven or more credits at Cochise.

Placement assessment may be waived under the following conditions:

- if you provide a transcript or diploma showing completion of an accredited associate or higher degree
- if you are a transfer student whose official transcripts show completed coursework in a corresponding subject with a grade of C or higher.

The faculty advisor will use information (e.g., transcripts, assessment results and other evaluative data) to place you in courses consistent with your level of preparation. If you are a student studying at a distance, please contact your academic advisor to arrange to take the test online.

If you would like to enter a course for which you do not meet the established academic skill prerequisites, you may request a waiver from the campus dean or vice president for instruction/provost designee.

## OFFICE OF DISABILITY SERVICES

You may request special disability assistance by visiting the Disability Services office or by calling (520) 515-5337 or (520) 417-4023 to make an appointment. Students who need accommodations for placement testing should contact this office prior to testing.

## TRiO STUDENT SUPPORT SERVICES

TRiO is a federally-funded Department of Education program designed to keep students in school, graduate, and assist those who wish to transfer to a four-year institution. Services are provided at no cost to the students. To qualify, students must be: enrolled or accepted for enrollment at Cochise College; U.S. citizens and/or legal/permanent residents (meet federal financial aid residency requirements); and have a need for academic support and meet at least one of the following guidelines:

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

### Students are eligible to:

- Attend cultural events on and off campus at reduced or no cost to the student
- Receive tutoring on an individual basis from professional and/or peer tutors
- Check out a laptop computer
- Borrow textbooks
- Apply for a one-year TRiO scholarship
- Visit four-year colleges



- Attend TRiO workshops on goal-setting, career planning, test anxiety, research, time management and more
- Receive monthly newsletters and weekly e-mails
- Participate in a mentoring program

For more information, visit the Web site at [www.cochise.edu](http://www.cochise.edu) or call the TRiO Student Support Services office on the Douglas Campus.

## CAREER SERVICES CENTER

The Career Services Center offices on the Douglas and Sierra Vista campuses consists of several separate but closely related services: cooperative education/internship experiences, career exploration and information, referrals for full- and part-time jobs (both on and off campus), job search skills training, and career placement assistance for graduates.

### Cooperative Education/Internship Experiences

The cooperative education (co-op) program provides opportunities to supplement coursework with practical work experience related to your career objectives. You can earn credit for working part time in an area directly related to your program of study. Co-op is an educational process that integrates college coursework with related work experience in business, industry and government settings and is coordinated by college staff. Students establish learning goals in conjunction with

their work supervisor and an assigned faculty advisor. The co-op student earns college credit to apply toward program completion requirements or to document experience on transcripts sent with university applications. Any Cochise College student enrolled for credit may elect to participate.

In addition, Cochise College participates in the Disney College Program, where students can complete a semester-long paid internship at either the Florida or California theme park while earning college credit. On-campus student interviews are conducted each semester, with announcements provided in advance.

### Student Job Placement/Graduate Placement Assistance Services

Career Services Center staff regularly receive announcements of job openings for both full- and part-time jobs from employers throughout the state. The center prepares job listing updates on a regular basis and posts them at convenient locations on campus, as well as in the center.

A career resource library with print, video, and computer software resources is also available, as are workshops on selected job search skills topics as announced. Resume writing assistance is available by appointment.

### Career Exploration/Career Information

Students seeking information on various careers or jobs, or those desiring to take an inventory of their interests in order to establish career goals, can meet one on one with a career advisor. In addition, a variety of software and print resources are available to students for information on hiring outlook, salary data, required training, and more pertaining to career fields of interest.

### CTEPS/Career Technical Education Program

The CTEPS program offers a variety of support services to students enrolled in career and technical education programs. Specific certificate and transfer degree programs are supported and services include academic advising, advocacy, career counseling, limited fuel assistance, referrals, scholarships, and workshops. To find out more visit the CTEPS on the Douglas or Sierra Vista campuses

## **FIRST YEAR EXPERIENCE (FYE)**

The college has developed a First Year Experience (FYE) program for incoming freshmen. Contact the Student Development Centers or the Douglas Campus Dean's office for more information.

## **STUDENT ACTIVITIES**

The college encourages your participation in extracurricular activities and campus organizations to promote leadership, student relationships and social development. Most campus activities are the responsibility of student clubs and organizations. A full schedule of activities is planned for the student body by the student government and various clubs and organizations.

### **Student Government**

You are encouraged to take an active part in your student government. Weekly meetings are open to all students. Student Government is comprised of five appointed officers: president, vice president, secretary, treasurer, and social events coordinator who are selected based on an application process each spring. Student government plans, coordinates, promotes and finances a varied program of student activities and services for the entire student body.

### **Clubs and Organizations**

Student clubs and organizations attempt to meet special student needs and interests. Students with similar interests may form a club in which fellow students can participate in specialized activities. For more information on Cochise College clubs and organizations, visit [www.cochise.edu](http://www.cochise.edu).

### **Athletics: Douglas Campus**

Hundreds of student athletes have gotten their start at Cochise College. The institution serves as a springboard for those who wish to compete, obtain a quality education and transfer to a four-year program. Athletes compete in baseball, men's and women's basketball, men's and women's rodeo and women's soccer.

Cochise is located in a place where the warm, dry climate is ideal for both practice and performance. The athletic programs reside on the Douglas Campus, where several acres are dedicated to athletic facilities, and residence halls are available to students.

The general coaching philosophy incorporates both athletic and academic success. Small classes and one-on-one student/teacher interaction assures students a great educational start. Tutoring is available for students who need assistance. Some scholarships are available. Cochise is a Division 1 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 Apache. The center for intercollegiate is the Apache Stronghold Gymnasium. The school mascot and gymnasium are named for legendary chief Cochise of the Chiricahua Apaches.

## **RESIDENCE HALLS, DOUGLAS CAMPUS**

### **Housing and Dining**

The on-campus living program is designed to encourage personal growth and development. The standards of behavior established by the department of housing and student life are intended to comply with and help maintain the academic environment of the college. All full-time, unmarried students are encouraged to reside on campus.

Housing and dining services are combined and all residential students are automatically on the meal plan.

The 19-meal dining plan includes three meals each day, Monday through Friday, and two meals each on Saturday, Sunday, and holidays. A 14-meal plan is also available. Meals are taken either in the cafeteria or the Qué Pas snack bar.

## Regulations

Each resident must sign a residence hall contract agreeing to all the terms and conditions of occupancy. On-campus residents are expected to comply with applicable rules and regulations as they appear in the residence hall and married housing contracts and the student handbook as well as local, state and federal laws.

## Apartments

The college offers a limited number of furnished, one-bedroom married-housing units. Prospective occupants must provide proof of marriage before applications will be considered.

## Housing Applications

If you are interested in on-campus housing, you are encouraged to apply early, preferably at least 60 to 90 days before the academic term begins. Housing applications cannot be processed unless you have applied for admission to the college. Interested applicants may contact the Housing Office, Cochise College, 4190 W. Hwy. 80, Douglas, AZ 85607-6190, or call (520) 417-4062.

## Campus Crime Report/Alcohol-Free Workplace

According to federal statute and regulations, colleges and universities are required to prepare and distribute each year an annual security report. 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/or 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](http://www.cochise.edu).

## College Smoking Policy #5005

Smoking is not permitted in any building or classroom at Cochise College.

## Alcohol and Drug Abuse Policy #5003

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 thoroughly 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 on any campus of the college. A detailed description of these laws and regulations is available from the appropriate dean.

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.



## **Sexual Harassment Policy #611**

Cochise College expressly forbids sexual harassment of its employees and students by supervisors, other employees, students or the general public. Behaviors considered to be sexual harassment include: unwanted physical touching (beyond normal greeting); sexual molesting; verbal insults; and sexually explicit suggestions or rumors designed to cause emotional distress, place an individual in bad light, substantially interfere with an individual's work or study performance, or create an intimidating, hostile, or offensive work or study environment.

Any persons who feel that they have been victims of sexual harassment may make a formal complaint to an immediate supervisor, the executive director of human resources and affirmative action, or the director of student development. All such complaints will be treated in a confidential manner and will be investigated thoroughly and promptly. If the complaints are not resolved, persons believing themselves victimized by such alleged sexual harassment are free to pursue other administrative or judicial remedies available, including the pursuit of their rights under Title IX of the Civil Rights Act of 1965, through the executive director of human resources and affirmative action or the director of student development.

## **SPECIAL PROGRAMS**

### **The Center for Lifelong Learning**

Non-traditional training and outreach are an important part of the Cochise College mission, and the Center for Lifelong Learning (CLL) was created to expand and enrich these offerings to the community. The center combines the efforts of the former departments of Workforce Training and Community Education and the Center for Southwest Studies.

CLL offers a wide variety of training services to individuals and organizations locally and internationally. Both credit and non-credit courses are offered in the classroom, off campus, and online. Topics include a wide variety of professional development courses, personal enrichment and local interest classes and computer workshops. Customized classes on nearly any topic can be contracted to support area businesses and organizations. CLL publishes a quarterly schedule of

offerings and a complete listing of courses can be found on the college Web site.

The southeast Arizona region offers a unique combination of historical and natural attractions. Its border location makes Cochise College the logical setting for a center dedicated to exploring, disseminating and protecting cultural and natural resources and contributing to the economic development of the area. CLL will continue its mission of establishing the college as a leader in border-related studies, training and research and a strong partner to existing organizations in resource availability and procurement.

CLL works with its partners to identify and implement entrepreneurial activities related to the rich historical, cultural and geographic characteristics of southeast Arizona and the border area and to meet the training and educational needs of the community. For further information, call (520) 515-5492 or e-mail [training@cochise.edu](mailto:training@cochise.edu).

### **Honors Program**

An Honors Program is available for academically exceptional students. It encourages students to question, research, discover and debate ideas in various curricular areas. The insights gained through individual projects broaden students' awareness in a variety of areas. The scholarly inquiries begun in this program will provide a strong base for a lifelong quest for knowledge and excellence. You may apply to the Honors Program if you have completed 12 credits in courses from the general education curriculum, are enrolled in a degree program and have at least a 3.5 grade point average. Please contact the Student Development Center or the college Web site for Honors Program information.

### **Education for Underprepared Students**

The college serves students by providing courses that help them attain their full potential. All new students should take the college placement test prior to registration in order to determine their skill levels in reading, writing, computers and mathematics. Students will receive assistance from an advisor in selecting the courses needed to prepare them for college-level work.

If your placement scores indicate the need to enhance your skills in the areas of reading, writing, computers and mathematics, you will be placed in the appropriate college prep courses. Students with gaps in their academic backgrounds or who have grown rusty in one or more of these areas will find the college prep courses are designed to bring basic skills up to the necessary level for optimum college performance.

College prep courses are numbered 099 and below. Although these courses count toward meeting full-time status for financial aid purposes, college prep courses cannot be used to meet graduation requirements. The college offers a variety of services to help students, including tutoring, career planning and counseling. Students can visit the Student Development Center for more information.

### **Learning Communities**

Learning communities are a prime example of an innovation in teaching and learning. Instructors involved in these communities restructure their curriculum thematically to link courses with an instructor from another discipline. These classes foster community, coherence and connections among courses. Learning communities increase student engagement and motivation, increase intellectual development, increase course completion rates and contribute to faculty and staff development.

### **Cultural Events**

Cochise College's Cultural Events Office brings concerts and artists to communities and schools throughout Cochise and Santa Cruz counties. Residencies coordinated at schools provide youths an opportunity to experience the arts and interact with performers of the highest caliber. Cultural Events also collaborates with various college departments and local organizations to bring artists on campus. Additionally, seminars, workshops, films and lectures on local history and various art topics are scheduled each semester.

### **Dual Enrollment**

High school students taking honors, advanced placement and vocational classes in high school can earn college credit. These courses count for credit at both the high school and at Cochise College. Contact your high school counselor for a list of courses that meet dual enrollment guidelines and for more information about this program.

### **Adult Education**

Adults 16 years of age and older can take free, non-credit classes at locations throughout the county in the areas of GED (high school equivalency), English language acquisition, computer skills, and academic skill development in reading, math, and writing. Classes are taught in accordance with the Arizona Adult Education Standards. Classes are offered in Benson, Douglas, Sierra Vista and Willcox. Online GED preparation classes are also offered in conjunction with the face-to-face classes upon request. Adult Education offers special assistance to students who transition to college credit programs.

### **Small Business Development Center**

The Small Business Development Center (SBDC) is a cooperative effort of Cochise College and the U.S. Small Business Administration. Its purpose is to help entrepreneurs and small-business owners in Cochise County manage and grow their businesses. The SBDC provides a variety of services, including one-on-one counseling on topics including marketing, financial and business planning, human resource management, government procurement, recordkeeping and more.

### **Center for Economic Research**

The Cochise College Center for Economic Research (CER), founded in 1995, is dedicated to analyzing and interpreting economic information and educating residents of Cochise County on the local, state, and national economy. The CER provides economic and demographic information, analysis, and forecasting to help community leaders in the public, private, and nonprofit sectors make informed decisions. The CER

hosts economic outlook luncheons each year in Benson, Bisbee, Douglas, and Sierra Vista. The center also produces four major publications annually as part of its Cochise County Economic Outlook Publication Series: Benson Economic Outlook, Bisbee Economic Outlook, Douglas Economic Outlook, and Sierra Vista Economic Outlook.

Throughout the year, the CER responds to a wide range of information requests from business and community leaders throughout Cochise County and across the state and region. The CER also provides personnel to serve on community projects, committees, and task forces. In these partnerships, the CER provides technical expertise in research methodology and serves as a source of economic and demographic information, analysis, and forecasting. As an extension of Cochise College's educational mission, the CER prepares weekly press releases that are published in newspapers countywide and provide insight into economic issues affecting Cochise County. The CER's quarterly newsletter, The Indicator, provides updates on the local economy and CER activities. The CER also produces the Cochise County Economic Update, a biweekly compilation of links to online newspaper articles relevant to the Cochise County economy, which is e-mailed to everyone on the CER's distribution list.

The CER is a member of the Association for University Business and Economic Research (AUBER), one of only two community college organizations in the nation holding membership. In addition, the CER is a state data center affiliate, receiving and disseminating U.S. Census Bureau data to local governments and non-governmental data users at no charge or on a cost-recovery or reimbursable basis. The CER's Web site at [www.cochise.edu](http://www.cochise.edu) provides updated economic news, information, analyses, forecasts, and studies.

### **Arizona Tech Prep**

Tech Prep is a national initiative that combines academics with high-tech skills training in a coherent sequence of courses. Beginning with the last two years of high school and continuing through completion of a two-year degree or certificate in college, Tech Prep programs connect students to successful futures.

The COMPACT program allows high school students interested in a skilled occupation the opportunity to continue their education at Cochise College while still in high school. Cochise County high school students participating in this program pay significantly less for tuition and fees. Contact your high school counselor for a registration packet or the Cochise College Tech Prep Office for more information.

### **Summer Spanish and English Immersion Programs: Douglas Campus**

The college offers summer Spanish and English (ESL) immersion programs that provide intensive, day-long instruction to non-native speakers of English or whose first language is not Spanish. These programs are designed to improve basic listening and speaking facility in the Spanish language, or to improve reading/writing and grammar/oral communication proficiency in English. Students receive four to eight transferable credits of first-year Spanish, or completion of one level of ESL. Classroom instruction is complemented by use of computer-assisted instruction, audio-visual materials, field trips and social activities.

### **Servicemember's Opportunity College (SOC)**

Cochise College is a member of Servicemembers Opportunity Colleges, a consortium of more than 1,500 colleges and universities that provide college-level educational opportunities for servicemembers and their families. As an SOC member, this institution:

- Recognizes the GED high school equivalency certificate/diploma;
- Recognizes learning gained from specialized training and experience in the military services;
- Establishes competency by nationally recognized means, such as standardized tests;
- Maintains a flexible transfer-of-credits policy for the mobile, active-duty servicemember;
- Publicizes alternative admissions procedures available to servicemembers and waives formal admission procedures

for those seeking enrollment in course work for transfer to another institution;

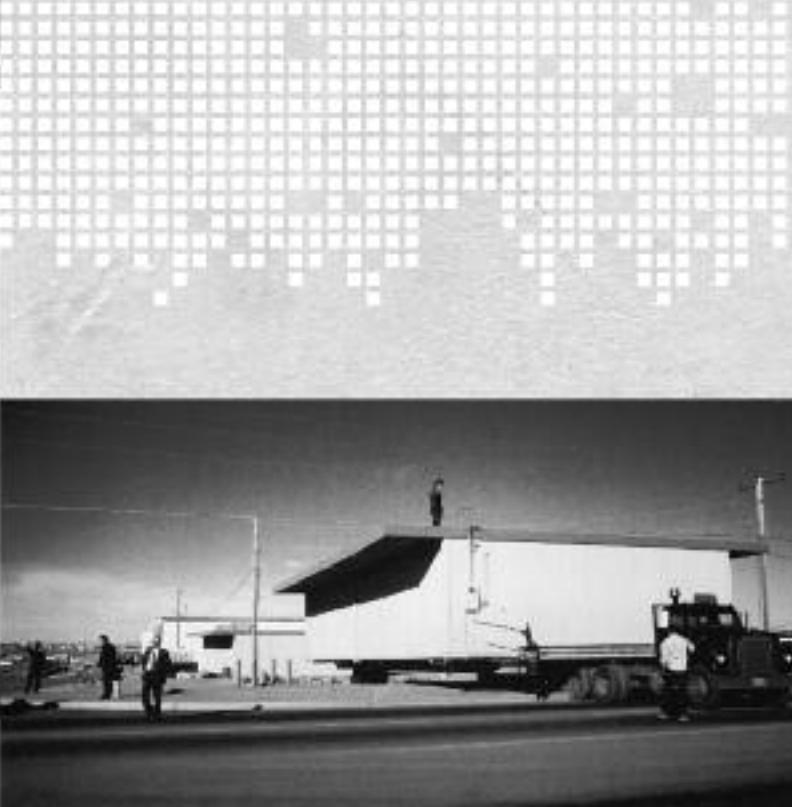
- Conducts a timely evaluation of the educational records and relevant experiences of servicemembers; and
- Completes a student agreement or degree completion plan for all degree-seeking servicemembers.

The Fort Huachuca office can prepare the Cochise College SOC contract for you or assist you in completing your contract requirements with other SOC school members.

The following kinds of special assistance are offered to Cochise College students who are members of the military service:

1. Advising, counseling and testing
2. Granting of credit for appropriate education experiences in the armed forces
3. Transfer and reverse transfer of credits
4. Contract for degree option
5. Repository of records

Contact the Sierra Vista Student Development Center or the Cochise College office at the Rascon Learning Center on Fort Huachuca for more information.



Soldiers of the 10th cavalry were called "Buffalo Soldiers" by the Indians. This was a reference to their hair and tenacity in battle. That name is now used to describe all four African-American regiments.

# Academic Procedures & Information

## CATALOG CHOICE

If you maintain continuous enrollment at any public Arizona community college or university, you may graduate according to the requirements of the catalog in effect at the time of your initial enrollment or according to the requirements of any single catalog in effect during subsequent terms of continuous enrollment.

A semester in which you earn course credit will be counted toward continuous enrollment. Non-credit courses, audited courses, general enrichment courses, or courses from which you withdraw do not count toward the determination of continuous enrollment for catalog purposes.

If you have not enrolled in any full or partial term at the college for three consecutive 16-week semesters, you must meet the requirements of the catalog in effect at the time of re-enrollment unless you have attended a summer term prior to the third consecutive semester of non-attendance.

## CLASSIFICATION OF STUDENTS

**Freshman:** Student with fewer than 28 passing credits of college credit

**Sophomore:** Student with 28 or more passing credits of college credit

**Full-time Student:** Student carrying 12 or more credits during a semester

**Part-time Student:** Student carrying fewer than 12 credits during a semester

## ACADEMIC STATUS

**Good Standing** - You are considered to be in good standing as long as your cumulative grade point average (GPA) is 2.0 or higher on a 4.0 scale.

**Probation** - Once you have attempted 13 or more credits, your academic status is reviewed after each semester. If your cumulative grade point average (GPA) is below a 2.0 (on a 4.0 scale), you will be notified that you have been placed on aca-

demic probation and a notation of your academic status will be placed on your transcript. While you are on probation, you will be permitted to enroll in 12 units or less for the semester.

**Suspension** - If you have two consecutive terms with a cumulative GPA below 2.0, you will be suspended from school and a notation of your academic status will be placed on your transcript. Note: If you are suspended following the spring semester, you may not attend classes the following summer and fall semesters. If you are suspended following the fall semester, you may not attend classes the following spring and summer semesters.

## GRADING SYSTEM

**Grade Definitions** - Grades are earned in each course and recorded on your permanent record. Grade definitions are as follows:

- A** The highest academic grade possible; an honor grade which is not automatically given to a student who ranks highest in the course, but is reserved for accomplishment that is truly distinctive and demonstrably outstanding.
- B** A grade that 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 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; meeting only the minimum requirements for passing the course. This grade will not transfer to another institution of higher education nor is it acceptable 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 Withdraw** – Indicates a withdrawal from the course up to five calendar days prior to the start of finals.

**I Incomplete** – Indicates that for a justifiable reason, such as a serious illness, you failed to complete all requirements for the course. The instructor has the option of issuing an I rather than an F. When this happens, the instructor submits an incomplete grade contract to the Registration Office. You must make up an incomplete during the succeeding semester (or other time frame if required by an outside agency) or the grade is changed from an I to an F on your permanent record unless there is a contract extension on file in the Registration Office. The grade of I is not computed in your GPA.

**AU Audit** – Registration and fee policies for auditing a course are the same as those for registering for college credit. However, the instructor will give priority to students registering in the course for credit. *Note:* You cannot audit a class that is designated as a pass/fail class. If you audit classes, you will not receive grades or credit. The instructor will not require audit students to take examinations or hand in assignments. If you register as an auditor, you may not change to a credit basis later than Friday of the second week of the semester. If you register for credit, you may change to audit up through the Friday of the ninth week of the semester. The drop/add procedure is used to effect such changes.

**IP In Progress** – Indicates that the course has not been completed at the time the grade rosters were issued.

**P Pass** – Indicates that you have done C or higher work in a class taken for pass-fail.

**X Fail** – Indicates that you have earned a D grade or failed 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

A three-credit course with a grade of A earns you 12 grade points. The total grade points accumulated are divided by the total of credits attempted (excluding W, I, and AU grades), to determine your cumulative grade point average (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 will not include credits and grade points earned at another college.



### Grade Reports

Cochise College has implemented a student grade report system via the Internet. You can view and print your grades at your convenience. See a schedule of classes for more information.

### 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 the appropriate instructional manager.

## ACADEMIC HONORS

If you complete 12 or more credits in one 16-week semester or phase at Cochise College and maintain a semester GPA of 3.9 or higher, you will be recognized as achieving high academic honors; if you complete 12 or more credits in one 16-week semester or phase at Cochise College and maintain a semester GPA of 3.5 to 3.899, you will be recognized as achieving academic honors.

## ATTENDANCE

Each of your instructors is responsible for establishing specific attendance criteria for each class and communicating the criteria to you in writing during the first week of the course. If you exceed the limit of absences established by the instructor, the instructor may drop you from the class. Note: If you are dropped from class by an instructor, you will not receive a refund on tuition and fees.

If you are on a college-sponsored trip, your absence may be excused. However, you are responsible for all assignments missed while excused.

## COURSE REPEATS

A course may be repeated six times for a grade. All courses will be listed on your transcript with the grade received. Only the last grade earned will be computed for graduation and cumulative grade point average. You do not have to repeat a course that you have failed unless it is a prerequisite for another course or is a course required for graduation or transfer.

## CREDIT LOAD LIMITATIONS

Cochise College believes that maximum educational benefits accrue when students enroll for a reasonable course load. The college has established the following maximum number of units for which a student may register:

1. **Concurrently enrolled high school students:** . . . 11 credits
2. **Beginning freshman:** . . . . . 18 credits  
(first-time college student)
3. **All other students:**

With a cumulative GPA greater than 2.49 . . . . . 19 credits

With a cumulative GPA of 2.00-2.49. . . . .	16 credits
With a cumulative GPA less than 2.00 . . . . .	12 credits

## NON-TRADITIONAL LEARNING

A maximum of 30 units shall be allowed for credit for non-traditional learning experiences, including up to 30 units of CLEP. Credit granted in this area shall not count toward Cochise College residency requirements.

## Advanced Placement

The Advanced Placement Program (AP) recognizes that some students are able to complete college-level courses while attending high school. Advanced Placement 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. Contact a Cochise College counselor to confirm course credit toward a specific program.

For more information about the AP program visit the college board Web site at [www.college-board.org](http://www.college-board.org).

## CLEP and DSST

### College Level Examination Program (CLEP)

### Defense Activity for Non-Traditional Education

### Support [DANTES] Standardized Subject Test (DSST)

Cochise College accepts both the general and the subject examinations of the CLEP/DSST for college credits provided satisfactory scores are attained. Scores of 50 or above on all general examinations will entitle you to six credits in each of the five general examinations: English composition (with essay), humanities, mathematics, natural sciences (not to include credit for laboratory science requirements) and social sciences. CLEP scores and credit for foreign languages are as follows:

COURSE	SPANISH	FRENCH	GERMAN	CREDIT
101	50	50	39	4
102	55	55	46	8
201	63	59	51	12
202	68	66	60	16



You must complete at least one Cochise College course before credit may be granted for CLEP/DSST. Credit earned under CLEP/DSST may not be used toward the 16 resident hours required for a degree. Three to 16 credits, depending upon the examination, may be earned by scores of 50 or higher on the subject examinations. Contact the Testing Center for a list of tests available and the corresponding number of credit hours.

If you take CLEP/DSST examinations, duplicate credit will not be awarded in subjects at the same level. You will not be awarded credit through CLEP/DSST for courses equivalent to, or at a lower level than, other courses you have already taken through formal course work. For further information refer to policy 3006.3 Non-Traditional Education Credit at [www.cochise.edu](http://www.cochise.edu).

You may earn up to 30 credits of college credit by taking CLEP/DSST examinations. However, credit granted by Cochise College does not obligate any other college or university to accept such credit. Contact the Student Development Center for testing arrangements.

### Credit by Examination

Cochise College offers credit by exam for many courses. Credit by exam is useful when you wish to demonstrate your prior knowledge by testing out of a course. You must register for those courses in which you wish to establish credit by exam.

You must meet the following criteria to be eligible to request credit by exam:

1. Be currently enrolled at Cochise College
2. Have successfully completed 12 credits at Cochise College.
3. Have completed an application for credit by exam either at the registration desk or online.
4. Have obtained the approval of the campus dean and appropriate faculty member of the department
5. Have met required prerequisites, if any, established by the department
6. Have paid a non-refundable fee per credit. If consumable materials are used in the exam, an additional fee will be charged.

If you qualify, you will take the examination prior to the last day to add classes in a given semester or prior to an alternative date established by the department. To earn credit by exam, you must receive a grade of C or higher.

You may not make application for credit by exam if you have:

1. Received college credit in a higher-level course.
2. Previously challenged the course.
3. Previously enrolled in the course and received a failing grade.

You may challenge only those courses numbered 100 or above.

Credits and grades earned will be computed into your grade point average but may not be used to fulfill residency requirements or to meet VA or financial aid requirements for determining benefit status. Only full-time faculty or designee may administer credit by examination.

You may apply for credit by examination by obtaining an application form from the instructional department offering the course. Permission and signatures from the appropriate instructor and instructional administrator are required.



### **Military Service Schools/MOS**

Cochise College follows the credit recommendations of the American Council on Education for Military Service Schools. 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.

You must complete at least six credits at Cochise College before credit will be granted for military service courses. Credit earned for military service may not be used toward the 16 resident hours required for residency at Cochise College. A maxi-

mum of 30 credits may be used from non-traditional learning credit.

### **Independent Study**

Independent study may be provided for students on a case-by-case basis due to unique circumstances (e.g., the course is required for completion of a program of study and is not otherwise available or to accommodate other special student needs). An independent study contract between the student and the instructor must be completed in advance and approved by the instructional manager.

### **SCHEDULE CHANGES**

#### **Adding Classes**

For a full semester (16 weeks), you may late-enroll in a class up to seven calendar days after the start date of the term; for an eight-week term, you may late-enroll in a class up to the third calendar day after the start of the term; for a five-week term, you may late-enroll in a class up to the second calendar day after the start of the term.

This policy does not apply to programs operating under non-traditional calendar requirements or under open entry-open exit or short-term conditions.

#### **Dropping Classes**

You may drop classes up to five calendar days prior to the start of finals. If you drop the class prior to the FTSE date, there will be no record of the drop on your permanent record. If you drop classes after the FTSE date, and up to five calendar days prior to the start of finals, you will receive a "W" on your permanent record. After this time, you will receive a letter grade of A, B, C, D, or F.

#### **Changing Levels of Classes**

For a full semester (16 weeks), you may change subject level through the third week after the start of the semester; for an eight-week term, you may change subject level through the eighth calendar day after the beginning of the term; for a five-week term, you may change subject level through the fifth calendar day after the beginning of the term.

## 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 a final examination. Such projects must necessarily begin and end before the examination period. The class shall 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. You are expected to attend all final examinations as scheduled. If you do not attend, you may receive a failing course grade (at the discretion of the instructor).

## GRADUATION REQUIREMENTS

### Associate Degree

Cochise College is committed to maintaining and encouraging the highest academic standards, thereby enabling you to transfer to colleges and universities throughout the nation and to successfully enter the world of work. The following requirements have been established for graduation.

### Required Grades and GPA

All courses in an AA, AS, ABus or AAEE degree must be completed with a C or higher grade and must be transferable to all Arizona public universities.

All Cochise College associate degrees require a cumulative grade point average of 2.0 or higher.

For the AGS degree, composition and mathematics courses used to meet general education requirements must have a grade of C or higher. **A grade of D is allowed only for elective courses in the AGS degree.**

Some AAS degree programs require a 2.0 cumulative GPA or higher for all college credits in the area of emphasis.

### Minimum Reading Requirement

Students earning an associate's degree must meet one of the following criteria:

For native speakers of English:

1. Accuplacer reading score of 79 or higher
2. Complete RDG 122 with a grade of C or higher.
3. Earn a cumulative GPA of 3.0 for courses at the 100 level and above at the time of graduation.

For non-native speakers of English:

1. Any of the above, as stated for native speakers of English
2. A TOEFL score of 61 for the Internet-based test, 173 for the computer-based test, or 500 for the paper-based test, including a score of 50 on Section 3
3. Petition to a permanent standing committee.

### Residency Requirements

A minimum of 16 credits must be taken in residency at Cochise College to earn an associate degree. A minimum of 25 percent of the required credits must be taken in residency at Cochise College to earn a certificate. A minimum of eight of the required credits of the Arizona General Education Curriculum (AGEC) must be taken in residency at Cochise College to earn the AGEC. Coursework below college level and non-traditional credit courses may not be used to satisfy residency requirements.

### Additional Associate Degrees

You may earn additional associate degrees at Cochise College if you complete, for each additional degree:

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

## GRADUATION/COMPLETION APPLICATION PROCESS

### Associate Degree

1. Make an appointment with an SDC counselor for a graduation check.
2. Respond to the invitation to participate in the college's assessment of general education by taking a nationally-normed evaluation.
3. Complete the graduation application and submit it with the graduation fee to the business office.
4. Notify the Student Development Center of any change of address that occurs during this processing period.

**Note:** You must file your application by the deadline date listed in the academic calendar in the current schedule of classes. If you miss the deadline to file, your diploma will be delayed. Your diploma will be mailed to you after final grades are processed, records evaluated and degrees posted to your official transcript.

### Certificate

1. Make an appointment with an SDC counselor for a certificate check.
2. Complete the certificate application and return it to the counselor.
3. Notify the SDC of any change of address that occurs during this processing period.

**Note:** You may file an application at any time during the semester you are completing the requirements for the certificate. Certificates will be mailed to you after all courses have been completed, records evaluated and the certificate posted to your official transcript.

## TRANSCRIPTS

A transcript is a copy of your permanent academic record. You may request, in writing, for your official transcript to be sent to educational institutions or prospective employers. Transcripts to educational institutions will be sent directly by mail.

### Transcript Processing Time

Transcript processing time is normally five business days after receiving the request and payment. During peak periods, (December, January, May and August) it may take seven to 10 business days to process requests. Cochise College does not pay or process transcripts by Express Mail, UPS, Federal Express or any other special handling of transcripts. Transcripts are mailed via first-class mail.

### Transcript Request Instructions

Per federal law, transcript requests must be submitted in writing and include the student's signature; telephone requests cannot be honored. Cochise College will mail or fax official transcripts. If you wish to have transcripts faxed to an educational institution for transfer credits please confirm with the receiving institution that it will accept a faxed transcript as official. Cochise College transcript forms may be downloaded at [www.cochise.edu](http://www.cochise.edu). Complete the interactive form and send it by mail, fax, or e-mail to:

Cochise College  
Transcript Department  
901 N. Colombo Ave.  
Sierra Vista, AZ 85635  
Fax: (520) 515-5452  
[transcripts@cochise.edu](mailto:transcripts@cochise.edu)

Transcript fees must be paid at the time the transcript request is submitted. Payment may be made by check or money order payable to Cochise College, or a business office representative will accept your credit card payment at (520) 515-5416 or (520) 417-4076. We accept Visa, MasterCard, Discover and American Express. Transcripts will not be sent if you have an outstanding financial obligation with Cochise College.

## Unofficial Transcripts

Unofficial transcripts are strictly copies of the computerized records on file (after 1985) in the Student Information System. Follow these instructions to access your student account and view your transcripts:

- Go to [www.cochise.edu](http://www.cochise.edu)
- Click on My CC Account.
- At User Login, scroll to the bottom of the page.
- In the User ID box, enter your Student ID (it is a number that starts with C000...). You must use a capital C and zeros when entering your Student ID number or you can use your Social Security number.
- Next, enter your PIN number. If you are a first-time user, your PIN will be your six-digit date of birth using the MMD-DYY format.
- Once you are in the system, you will be prompted to change your pin to another six-digit number (if you are a first-time user).
- Then follow the prompts to view your transcript.

## Archived Transcripts

If you attended Cochise College prior to 1985, your academic records may be archived. Please forward requests for these transcripts to:

Cochise College  
Attn: Archived Transcripts  
901 North Colombo  
Sierra Vista, AZ 85635  
Fax: (520) 515-4514

## WITHDRAWAL FROM COCHISE COLLEGE

If you wish to withdraw from Cochise College, you can withdraw online at [www.cochise.edu](http://www.cochise.edu) through your CC account or obtain a college withdrawal form from the Registration Office or the Student Development Center.

If you fail to withdraw officially, you may jeopardize the receipt of any refunds due and may be assigned an F for all courses in which you are enrolled. It is your responsibility to withdraw from your classes.

## ACADEMIC DISHONESTY

Acts of academic dishonesty, including plagiarism and cheating, are regarded as very serious offenses. If academic dishonesty is discovered or believed to have occurred, each incident will be handled on an individual basis as deemed appropriate. Care will be taken that students' rights are not violated and that appropriate punitive measures are instituted only in cases where documentation of the offense(s) exist.

## STUDENT COMPLAINTS AND GRIEVANCES

If you have complaints, grievances, or personal concerns about a Cochise College course, instructor, or grade, you are encouraged to discuss the problem with your instructor first. If you feel uncomfortable about having a discussion with your instructor or you are dissatisfied after the discussion, you may contact the appropriate instructional manager.

### Student Complaint Log

While 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 ("Student Grievances and Due Process"), only formal, written student complaints, including those sent by e-mail, filed with the offices of the college president or the vice president for instruction/provost by current students are considered official complaints. Official complaints are documented, investigated, their resolution and/or disposition noted, with a record of such complaints maintained for no less than two years. Students and institutional personnel are hereby advised that information about these official 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 vice president for instruction/provost, who ascertains whether or not the complaints follow any particular pattern and whether or not special intervention, direction, and/or staff development may be in order to mitigate subsequent complaints or address problems with institutional quality.

# Degrees and Programs

## GENERAL EDUCATION 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, technology literacy, and an awareness of wellness.

- **Communication:** Students, using writing and other language skills both individually and collaboratively, will discover, organize, and communicate information, ideas, and arguments in a clear and effective manner appropriate to the audience and purpose.

- **Creativity:** Students will analyze, evaluate, and reflect on aesthetic experiences; seek innovative solutions to technical, scientific, social, or individual problems; and produce artifacts of self-expression.

- **Critical Thinking:** Students will employ logical, analytical, analogical, and reflective reasoning as well as scientific, mathematical, and artistic inquiry to solve problems effectively.

- **Diverse and Global Perspectives:** Students will discover and understand the diversity of human experience and the interdependent roles of cultural, historical, economic, social, physical, and ecological forces in shaping this experience.

- **Information Literacy:** Students will illustrate proficiency in information literacy by recognizing when information is needed and using both traditional sources and modern technologies to locate, evaluate, and effectively apply the needed information.

- **Technology Literacy:** Students will apply technological skills and processes to access, manage, and to present information effectively.

- **Wellness:** Students will acquire and demonstrate the knowledge and skills necessary to achieve health of mind, body, and spirit.

Cochise College uses a nationally-normed instrument to evaluate general education outcomes in order to improve student learning. When applying for graduation, students are invited to participate in this effort.

Cochise College is committed to continuous improvement in order to provide the best possible service. A key part of this commitment involves assessing student learning outcomes. Assessment, which occurs apart from the regular grading of student work, is conducted by faculty using tests, research papers, projects, presentations, or standardized examinations to discover how well students who have passed a course actually achieved the expected learning goals. Faculty members analyze the results so they can develop strategies to help improve student learning in the future. Faculty are also engaged in the assessment of general education outcomes embedded in their programs.

## TRANSFER

### Arizona Transfer Degrees

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 art majors; Associate of Arts Elementary Education (AAEE); Associate of Science (AS) for natural, physical and life science majors; and Associate of Business (ABUS) for business administration and computer information systems majors. These degrees are designed to transfer as a block of 64 credits to all Arizona public universities. A student may 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 each of these areas. Please consult with an advisor in the Student Development Center to ensure that the university you choose offers a degree in your area of study.

### Arizona Transfer Programs

A statewide agreement between Arizona public community colleges and universities guarantees students two ways to transfer: (1) using an associate degree or (2) completing a general education block called the Arizona General Education Curriculum (AGEC). The AGEC fulfills the lower-division gen-

eral education requirements at all Arizona public community colleges and universities.

For more specific information on transfer to the Arizona State University (ASU), Northern Arizona University (NAU), or University of Arizona (U of A), visit [www.aztransfer.com](http://www.aztransfer.com) or consult with a Cochise College advisor.

### Private Transfer Agreements

Cochise College also has private articulation agreements with the following institutions. For more information, check the websites or consult with a Cochise College advisor.

American Military University.....[www.amu.apus.edu](http://www.amu.apus.edu)  
Capella University.....[www.capella.edu](http://www.capella.edu)  
Charter Oak State College.....[www.charteroak.edu](http://www.charteroak.edu)  
Embry-Riddle Aeronautical University .....[www.erau.edu/ec](http://www.erau.edu/ec)  
Franklin University .....[www.franklin.edu](http://www.franklin.edu)  
Grand Canyon University .....[www.gcu.edu](http://www.gcu.edu)  
Kansas State University at Salina .....[www.sal.k-state.edu](http://www.sal.k-state.edu)  
Kaplan University.....[www.kaplan.edu](http://www.kaplan.edu)  
Northcentral University.....[www.ncu.edu](http://www.ncu.edu)  
University of Phoenix.....[www.phoenix.edu](http://www.phoenix.edu)  
Western International University .....[www.wintu.edu](http://www.wintu.edu)  
Western New Mexico University .....[www.wnmu.edu](http://www.wnmu.edu)

### COURSE APPLICABILITY SYSTEM

The Arizona course applicability system known as u.select (formerly CAS) allows students to access information online relating to course descriptions, the Course Equivalency Guide (CEG), and other student information.

Students also have direct online access to information about transfer in the state college and university system. For most majors, Cochise College recommends students transfer after having completed an AGEC or associate degree to ensure a seamless process.



### 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 similar 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 Degrees** - An extensive selection of programs is available to students to prepare for employment in a specific career through the Associate of Applied Studies (AAS) degrees. 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.

## CERTIFICATE PROGRAMS

Cochise College offers more than 65 certificate programs designed for direct employment in a wide variety of occupations. Many can be completed in as few as two semesters.

Please meet with an academic advisor for additional information and assistance in making effective choices.

## ARIZONA GENERAL EDUCATION REQUIREMENTS

### TRANSFERRING THE AGEC

By completing an AGEC at Cochise College, a student has completed all lower division general education requirements for the three state universities. Arizona residents who complete only an AGEC need to have a minimum cumulative 2.5 grade point average and a grade of C or higher 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 2.0 grade point average for assured admission.

The AGEC block at Cochise consists of 35-42 credits. Coursework should be chosen from the appropriate AGEC course list to meet specific degree requirements.

General AGEC 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 .....	3 credits
AGEC-A or AGEC-B: general education electives .....	1-3 credits
AGEC-S: additional math and/or laboratory sciences .....	6-8 credits
<b>TOTAL GENERAL EDUCATION REQUIREMENTS .....</b>	<b>35-42 CREDITS</b>

The three types of AGECs are:

AGEC-A meets the general education requirements for arts and liberal studies majors such as English, social science, fine art, and humanities in the Associate of Arts (AA) degree 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.

The following applies to all Cochise AGEC blocks:

- Courses included in the AGEC block must be completed with a grade of C or higher.
- A course may have dual use. It may be used to fulfill both an AGEC requirement and an elective in the associate degree. Total credits toward a degree remain the same.
- Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses. Courses listed below that contribute to this requirement are designated <sup>IV</sup>.
- A minimum of eight credits must be completed at Cochise College to meet residency requirements.
- Current lists of courses that fulfill general education requirements, including electives, are available at [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).
- Placement testing is required and prerequisites may apply.

## COCHISE COLLEGE GENERAL EDUCATION COURSES

### AA, AAEE, ABUS and AS Degrees

For the most current information, check the general education course list at [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

COMPOSITION	6 CREDITS
ENG 101 .....	Composition (3)
ENG 102 .....	English Composition or ENG 102H Honors (3)
MATHEMATICS	3-5 CREDITS
AGEC-A	
MAT 142 .....	Survey of College Mathematics (3)
MAT 151 .....	College 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 172 .....	Finite Mathematics (3)
MAT 182 .....	Plane Trigonometry (3)
MAT 187 .....	Precalculus (5)
MAT 212 .....	Calculus for Business (3)
MAT 220 .....	Calculus I (5)

MAT 227.....	Discrete Math (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 101 .....	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 128 .....	Forensic Chemistry (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)
GEO 101 .....	Physical Geography (4)
GLG 101.....	Introduction to Geology I (Physical) (4)
GLG 102.....	Introduction to Geology II (Historical) (4)
GLG 110 .....	Environmental Geology (4)
PHY 110 .....	Fundamentals of Physical Science (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 .....	Design Fundamentals (3)
ART 106 .....	Drawing I (3)
ART 107 .....	Survey of World Art: Prehistoric – Gothic (3)
ART 108 .....	Survey of World Art: Renaissance to the 20th Century (3)
ART 120.....	Appreciation of Visual Arts (3)
ART 216.....	Drawing II (3)
ART 220.....	Printmaking I (3)
ART 225 .....	Printmaking II (3)
ART 230.....	Color and Design (3)
ART 231 .....	Three Dimensional Design and Sculpture (3)
ART 245.....	Figure Drawing (3)
ART 270.....	Ceramics I (3)
ART 275 .....	Ceramics II (3)
ART 280.....	Painting I (3)
ART 281 .....	Painting II (3)
ART 285 .....	Beginning Photography (3)
ART 286.....	Intermediate Photography (3)
ART 290 .....	Sculpture (3)
ART 295 .....	Watercolor Painting I (3)
ART 296 .....	Watercolor Painting 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 <sup>IW</sup> .....	Creative Writing (3)
ENG 219 <sup>IW</sup> .....	Advanced Creative Writing (3)
HUM 200 <sup>IW</sup> .....	Film History (3)
HUM 205 <sup>IW</sup> .....	Major Ancient Cultures (3)
HUM 206 <sup>IW</sup> .....	European Culture (3)
JRN 201 .....	Essentials of Newspaper Publishing (3)
MUS 100 .....	Fundamentals of Music Notation (3)
MUS 101 .....	Introduction to Music (3)
MUS 102 .....	Introduction to Music (3)

MUS 109.....	Orchestra (1)
MUS 110 .....	Chorus (1)
MUS 111 .....	Band (1)
MUS 123 .....	American Popular Music (3)
MUS 132.....	Music Theory I (3)
MUS 133 .....	Music Theory II (3)
MUS 201.....	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)
THE 101 .....	Acting I (3)
THE 105.....	Theatre Dance (2)
THE 201.....	Acting II (3)
THE 203.....	Theatre Makeup (3)
THE 213.....	Stagecraft (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 20th Century (3)
ART 285 .....	Beginning Photography (3)
ART 286.....	Intermediate Photography (3)
BIO 250 <sup>W</sup> .....	Biomedical Ethics (3)
COM 102 .....	Essentials of Communication (3)
COM 110 .....	Public Speaking (3)
ENG 119 <sup>W</sup> .....	Creative Writing (3)
ENG 209 <sup>W</sup> .....	Introduction to Poetry (3)
ENG 210.....	The Bible as Literature (3)
ENG 212 <sup>W</sup> .....	Children's Literature (3)
ENG 219 <sup>W</sup> .....	Advanced Creative Writing (3)
ENG 220 <sup>W</sup> .....	British Literature I (3)
ENG 221 <sup>W</sup> .....	British Literature II (3)
ENG 222 <sup>W</sup> .....	Introduction to Shakespeare (3)
ENG 224 <sup>W</sup> .....	American Literature I (3)
ENG 225 <sup>W</sup> .....	American Literature II (3)
ENG 226 <sup>W</sup> .....	World Literature I (3)
ENG 227 <sup>W</sup> .....	World Literature II (3)
ENG 228 <sup>W</sup> .....	Mythology and Folklore (3)
ENG 230 <sup>W</sup> .....	Literature of the Southwest (3)
ENG 231 <sup>W</sup> .....	Native American Literature (3)
ENG 255 <sup>W</sup> .....	Introduction to the English Language (3)
ENG 260 <sup>W</sup> .....	Irish Literature (3)

ENG 265 <sup>W</sup> .....	Major American Writers (3)
ENG 273 <sup>W</sup> .....	Women and Literature (3)
HON 270 <sup>W</sup> .....	Honors History and Literature (3)
HUM 101 .....	Humanities in Contemporary Life (3)
HUM 110 .....	Introduction to Film (3)
HUM 115 .....	Cultural Heritage of the Southwest (3)
HUM 200 <sup>W</sup> .....	Film History (3)
HUM 205 <sup>W</sup> .....	Major Ancient Cultures (3)
HUM 206 <sup>W</sup> .....	European Culture (3)
HUM 207 <sup>W</sup> .....	The Modern World (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 102 .....	Introduction to Music (3)
MUS 232.....	Music Theory III (3)
MUS 233.....	Music Theory IV (3)
PHI 111 <sup>W</sup> .....	Introduction to Philosophy (3)
PHI 113.....	Introduction to Logic and Language (3)
PHI 130 <sup>W</sup> .....	Ethics (3)
PHI 201 <sup>W</sup> .....	Philosophies of the East (3)
PHI 202 <sup>W</sup> .....	Philosophy of Religion (3)
SPA 221 .....	Introduction to Spanish Literature II (3)
SPA 224 .....	Introduction to Mexican Literature I (3)
SPA 225 .....	Introduction to Mexican Literature II (3)
THE 103.....	Introduction to Theatre (3)

**SOCIAL AND BEHAVIORAL SCIENCES****6 CREDITS**

AJS 101 .....	Introduction to Administration of Justice (3)
ANT 101 .....	The Origin and Antiquity of Humankind (3)
ANT 102 .....	Society and Culture (3)
ANT 110 .....	Exploring Archaeology (3)
ANT 111 .....	Exploring Physical Anthropology (3)
ANT 138 .....	Archaeological Site Survey (3)
ANT 235 <sup>W</sup> .....	Principles of Archaeology (3)
ANT 285 <sup>W</sup> .....	Prehistoric Cultures of North America (3)
ANT 286 <sup>W</sup> .....	Historic Indian Tribes of North America (3)
ANT 288 <sup>W</sup> .....	Native Peoples of the Southwest (3)
ASL 200.....	Introduction to the Deaf Community (3)
BIO 250 <sup>W</sup> .....	Biomedical Ethics (3)
COM 204 <sup>W</sup> .....	Elements of Intercultural Communications (3)
ECN 201 <sup>W</sup> .....	Principles of Macroeconomics (3)
ECN 202 <sup>W</sup> .....	Principles of Microeconomics (3)

EDU 230 .....	Classroom Relationships (3)
GEO 102.....	Introduction to Human Geography (3)
GEO 104 .....	Political Geography (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 <sup>IW</sup> .....	History of Women in the United States (3)
HIS 229 <sup>IW</sup> .....	History of Mexico I (3)
HIS 230 <sup>IW</sup> .....	History of Mexico II (3)
HIS 240 <sup>IW</sup> .....	Survey of Western Civilization I (3)
HIS 241 <sup>IW</sup> .....	Survey of Western Civilization II (3)
HIS 242 <sup>IW</sup> .....	Survey of Western Civilization III (3)
HIS 260 <sup>IW</sup> .....	A History of Russia (3)
HON 270 <sup>IW</sup> .....	Honors History and Literature (3)
POS 110 .....	American National Government (3)
POS 220 <sup>IW</sup> .....	Federal and Arizona Constitution (3)
POS 230 <sup>IW</sup> .....	World Politics (3)
POS 240.....	Comparative Politics (3)
PSY 101 .....	Introduction to Psychology (3)
PSY 103.....	Personality and Adjustment (3)
PSY 210.....	Social Psychology (3)
PSY 230 <sup>IW</sup> .....	Personality Theories and Research (3)
PSY 240 <sup>IW</sup> .....	Developmental Psychology (3)
PSY 250 <sup>IW</sup> .....	Introduction to Psychological Research, Measurements and Statistics (3)
PSY 290 <sup>IW</sup> .....	Experimental Psychology (4)
SOC 101 .....	Introduction to Sociology (3)
SOC 160 <sup>IW</sup> .....	Ethnic Groups and Minorities (3)
SOC 202 <sup>IW</sup> .....	Social Problems (3)
SOC 210 <sup>IW</sup> .....	Marriage and the Family (3)
SOC 212 <sup>IW</sup> .....	Women and Men in a Changing Society (3)
SOC 230 .....	Human Sexuality and Gender Awareness (3)
SSV 273 .....	Determinants of Human Behavior (3)
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TECHNOLOGY LITERACY	3 CREDITS
CIS 116.....	Computer Essentials (3)
CIS 120.....	Introduction to Information Systems (3)
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GENERAL EDUCATION ELECTIVES	
AGEC-A or AGEC-B.....	1-3 credits

ADDITIONAL MATHEMATICS AND/OR LABORATORY SCIENCES  
 AGEC-S..... 6-8 credits  
 Based on major and using a transfer guide, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory sciences courses. See [www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa](http://www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa) for a complete list.

## COCHISE COLLEGE GENERAL EDUCATION COURSES

### AGS Degrees

For the most current information, check the general education course list at [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

<b>COMPOSITION</b>	<b>6 CREDITS</b>
ENG 101 .....	Composition (required) (3)
ENG 102 .....	English Composition (3)
ENG 109 .....	Written Communications and Reports (3)
ENG 167.....	Business Communications (3)
CIS/ENG 279 .....	Advanced Applied Technical Writing (3)

<b>MATHEMATICS</b>	<b>3-5 CREDITS</b>
MAT 122 .....	Intermediate Algebra (3)
MAT 142.....	Survey of College Mathematics (3)
MAT 151.....	College 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 187 .....	Precalculus (5)

<b>LABORATORY SCIENCES</b>	<b>4 CREDITS</b>
See list of acceptable courses for transfer degrees.	

<b>ARTS</b>	<b>3 CREDITS</b>
See list of acceptable courses for transfer degrees.	

<b>HUMANITIES</b>	<b>3 CREDITS</b>
See list of acceptable courses for transfer degrees.	

<b>SOCIAL AND BEHAVIORAL SCIENCES</b>	<b>6 CREDITS</b>
See list of acceptable courses for transfer degrees.	

<b>TECHNOLOGY LITERACY</b>	<b>3 CREDITS</b>
See list of acceptable courses for transfer degrees.	

## COCHISE COLLEGE GENERAL EDUCATION COURSES

**AAS Degrees**

For the most current information, check the general education course list at [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

**COMMUNICATION** 6 CREDITS

BUS/ENG 167.....	Business Communications (3)
BUS/CIS/ENG 179.....	Applied Technical Writing (3)
CIS/ENG 279.....	Advanced Applied Technical Writing (3)
COM 102 .....	Essentials of Communication (3)
COM 110 .....	Public Speaking (3)
COM 204 .....	Elements of Intercultural Communications (3)
ENG 101 .....	Composition (3)
ENG 102 .....	English Composition (3)
ENG 111 .....	Grammar, Usage and Punctuation (3)
JRN 201 .....	Essentials of Newspaper Publishing (3)
Intelligence Operation Studies only	
ENG 109 .....	Written Communications and Reports (3)
ENG 206 .....	Critical Writing (3)

**MATHEMATICS/LABORATORY SCIENCES** 3-4 CREDITS

MAT 122 .....	Intermediate Algebra (3)
MAT 142.....	Survey of College Mathematics (3)
MAT 151.....	College 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 187 .....	Precalculus (5)
MAT 212.....	Calculus for Business (3)
MAT 220 .....	Calculus I (5)
MAT 227 .....	Discrete Math (3)
MAT 231 .....	Calculus II (4)
MAT 241 .....	Calculus III (4)
MAT 252 .....	Introduction to Linear Algebra (3)
MAT 262 .....	Differential Equations (3)

Nursing only	
NUR 121A .....	Medication Math I (2)
NUR 121B .....	Medication Math II (2)

Paramedicine only	
CHM 130 .....	Fundamental Chemistry (4)
CHM 151.....	General Chemistry I (4)

<b>LIBERAL ARTS</b> <span style="float: right;">6 CREDITS</span>	
ANT 101 .....	The Origin and Antiquity of Humankind (3)
ANT 102 .....	Society and Culture (3)
ANT 110 .....	Exploring Archaeology (3)
ANT 111 .....	Exploring Physical Anthropology (3)
ANT 138 .....	Archaeological Site Survey (3)
ANT 235 .....	Principles of Archaeology (3)
ANT 285.....	Prehistoric Cultures of North America (3)
ANT 286 .....	Historic Indian Tribes of North America (3)
ANT 288 .....	Native Peoples of the Southwest (3)
ART 103 .....	Design Fundamentals (3)
ART 106 .....	Drawing I (3)
ART 107 .....	Survey of World Art: Prehistoric – Gothic (3)
ART 108 .....	Survey of World Art: Renaissance to the 20th Century (3)
ART 120.....	Appreciation of Visual Arts (3)
ART 216.....	Drawing II (3)
ART 230.....	Color and Design (3)
ART 231 .....	Three Dimensional Design and Sculpture (3)
ART 270.....	Ceramics I (3)
ART 275 .....	Ceramics II (3)
ART 280.....	Painting I (3)
ART 281 .....	Painting II (3)
ART 285 .....	Beginning Photography (3)
ART 286.....	Intermediate Photography (3)
ART 290 .....	Sculpture (3)
ART 295 .....	Watercolor Painting I (3)
ART 296.....	Watercolor Painting II (3)
ASL 200.....	Introduction to the Deaf Community (3)
COM 102 .....	Essentials of Communication (3)
ECN 201 .....	Principles of Macroeconomics (3)
ECN 202.....	Principles of Microeconomics (3)
ENG 119 .....	Creative Writing (3)
ENG 209 .....	Introduction to Poetry (3)
ENG 210.....	The Bible as Literature (3)
ENG 212 .....	Children's Literature (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 226 .....	World Literature I (3)
ENG 227 .....	World Literature II (3)

ENG 228 .....	Mythology and Folklore (3)	PHI 113.....	Introduction to Logic and Language (3)
ENG 230 .....	Literature of the Southwest (3)	PHI 130.....	Ethics (3)
ENG 231 .....	Native American Literature (3)	PHI 201.....	Philosophies of the East (3)
ENG 255 .....	Introduction to the English Language (3)	POS 110 .....	American National Government (3)
ENG 260 .....	Irish Literature (3)	POS 220 .....	Federal and Arizona Constitution (3)
ENG 265 .....	Major American Writers (3)	POS 230 .....	World Politics (3)
ENG 273 .....	Women and Literature (3)	POS 240.....	Comparative Politics (3)
GEO 102.....	Introduction to Human Geography (3)	PSY 101 .....	Introduction to Psychology (3)
GEO 104 .....	Political Geography (3)	PSY 103.....	Personality and Adjustment (3)
GEO 121.....	World Regional Geography (3)	PSY 210.....	Social Psychology (3)
HIS 110.....	History of the United States 1607 – 1877 (3)	PSY 230 .....	Personality Theories and Research (3)
HIS 111 .....	History of the United States since 1877 (3)	PSY 240 .....	Developmental Psychology (3)
HIS 201.....	History of Women in the United States (3)	PSY 250	Introduction to Psychological Research, Measurements and Statistics(3)
HIS 229 .....	History of Mexico I (3)	PSY 290 .....	Experimental Psychology (4)
HIS 230.....	History of Mexico II (3)	SOC 101 .....	Introduction to Sociology (3)
HIS 240 .....	Survey of Western Civilization I (3)	SOC 160.....	Ethnic Groups and Minorities (3)
HIS 241.....	Survey of Western Civilization II (3)	SOC 202 .....	Social Problems (3)
HIS 242 .....	Survey of Western Civilization III (3)	SOC 210.....	Marriage and the Family (3)
HIS 260 .....	A History of Russia (3)	SOC 212 .....	Women and Men in a Changing Society (3)
HUM 101.....	Humanities in Contemporary Life (3)	SOC 230 .....	Human Sexuality and Gender Awareness (3)
HUM 110.....	Introduction to Film (3)	SPA 221.....	Introduction to Spanish Literature II (3)
HUM 115 .....	Cultural Heritage of the Southwest (3)	SPA 224.....	Introduction to Mexican Literature I (3)
HUM 200 .....	Film History (3)	SPA 225 .....	Introduction to Mexican Literature II (3)
HUM 205 .....	Major Ancient Cultures (3)	SSV 273.....	Determinants of Human Behavior (3)
HUM 206.....	European Culture (3)	THE 101 .....	Acting I (3)
HUM 207 .....	The Modern World (3)	THE 103.....	Introduction to Theatre (3)
HUM 210.....	Foreign Film Classics (3)	THE 105.....	Theatre Dance (2)
JRN 101 .....	Introduction to Mass Communications (3)	THE 201.....	Acting II (3)
JRN 201 .....	Essentials of Newspaper Publishing (3)	THE 203.....	Theatre Makeup (3)
MUS 101.....	Introduction to Music (3)	THE 213.....	Stagecraft (3)
MUS 102.....	Introduction to Music (3)	THE 220 .....	Dramatic Structure (3)
MUS 109.....	Orchestra (1)	<b>TECHNOLOGY LITERACY</b>	
MUS 110 .....	Chorus (1)	<b>3 CREDITS</b>	
MUS 111 .....	Band (1)	CIS 116.....	Computer Essentials (3)
MUS 123 .....	American Popular Music (3)	CIS 120.....	Introduction to Information Systems (3)
MUS 132 .....	Music Theory I (3)		
MUS 133 .....	Music Theory II (3)		
MUS 201.....	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 Philosophy (3)		

## Degree Programs

In each of the six degrees outlined in this section—the AA, AAEE, AS, ABUS, AGS, and AAS—you will see references to areas such as arts or laboratory sciences. Only approved general education courses (as listed in this section) may be used to satisfy these area requirements within degrees. For the most current information, check the general education course list at [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

The AA, AAEE, AS, and ABUS 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. For many degrees you may transfer with junior standing without loss of credit and complete 56 credits for a total of 120 credits.

Please consult with an advisor in the Student Development Center to ensure that the university you choose offers a degree in your area of study and that you select the most appropriate courses for your area of study. Since university requirements vary considerably, it is strongly recommended that you work closely with an academic advisor to plan your coursework.

### ASSOCIATE OF ARTS DEGREES

The AA degree is recommended for liberal arts, social science, or fine art students who plan to transfer to a university. Cochise College has the following Associate of Arts degrees. See the Areas of Study section of this catalog for complete degree programs. These degrees are designed for transfer to all Arizona public universities; however, not all Arizona public universities offer majors in each of these areas. Please consult with an advisor in the Student Development Center to ensure that the university you choose offers a degree in your area of study.

Administration of Justice .....	Major Code - AJS
Anthropology .....	Major Code - ANT
Communications .....	Major Code - COM
Early Childhood Care and Education .....	Major Code - ECE
Economics .....	Major Code - ECN
English .....	Major Code - ENG
Exercise Science, Health and Physical Education, Recreation and Wellness .....	Major Code - HPES

Family Studies and Human Development .....	Major Code - FSHD
Fine Art .....	Major Code - ARTF
General Requirements .....	Major Code - GENG
Geography .....	Major Code - GEO
History .....	Major Code - HIS
Humanities .....	Major Code - HUM
Journalism and Media Arts .....	Major Code - JMA
Language .....	Major Code - LANG
Mathematics .....	Major Code - MAT
Music .....	Major Code - MUS
Philosophy .....	Major Code - PHI
Political Science .....	Major Code - POS
Psychology .....	Major Code - PSY
Secondary Education	
Art Education .....	Major Code - SEAE
English Teaching .....	Major Code - SEET
History Teaching .....	Major Code - SEHT
Mathematics Teaching .....	Major Code - SEMT
Music Education Teaching .....	Major Code - SEME
Physical Education Teaching .....	Major Code - SEPE
Spanish Teaching .....	Major Code - SEST
Social Work .....	Major Code - SCW
Sociology .....	Major Code - SOC
Theater Arts .....	Major Code - THE

GENERAL EDUCATION REQUIREMENTS, AGEC-A	35 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Mathematics .....	MAT 142 or higher .....
Laboratory sciences .....	8
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Technology literacy .....	CIS 116 or CIS 120 .....
General education electives .....	1-3
<ul style="list-style-type: none"> <li>• Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the current listing of intensive writing courses.</li> <li>• General education electives must be chosen from the general education course list.</li> </ul>	
LANGUAGE REQUIREMENT .....	0-16 CREDITS
<ul style="list-style-type: none"> <li>• Check university language requirements for your major.</li> </ul>	

## CORE CURRICULUM OR ELECTIVES ..... 13-29 CREDITS

- Elective courses must be transferable to all Arizona public universities.

## TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

## GRADUATION REQUIREMENTS:

- All courses must be completed with a grade of C or higher.
- A course may be used to fulfill either a general education requirement or an elective in the associate degree. Total credits toward a degree remain the same.
- Students must demonstrate a 12.0 grade reading level proficiency.
- A minimum of 16 credits must be completed at Cochise College.
- Courses in the arts, humanities, and social and behavioral sciences have content addressing cultural, historical, or global awareness embedded in the coursework.

**ASSOCIATE OF ARTS ELEMENTARY EDUCATION**

The AAEE degree prepares students who want to major in elementary education for transfer to any public university in Arizona. Students will complete 60 additional hours at the university for a bachelor's degree. Students who complete the AAEE degree will have met all of the university general education and admissions requirements.

See the Areas of Study section of this catalog for the complete degree program. This degree is designed for transfer to all Arizona public universities. Please consult with an advisor in the Student Development Center to ensure you are making the correct choices for your target university.

Associate of Arts Elementary Education ..... Major Code - EED

<u>GENERAL EDUCATION REQUIREMENTS, AGEC-A</u>		<u>35 CREDITS</u>
Composition.....	ENG 101 .....	3
English Composition.....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences† .....		8
Arts† .....		3
Humanities† .....		3
Social and behavioral sciences† .....		6
Technology literacy.....	CIS 116 or CIS 120 .....	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. POS 220 is recommended to fulfill three of the six credits.

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

## NON-ENGLISH LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

## CORE CURRICULUM ..... 25 CREDITS

Mathematics for Elementary Education Majors I .. MAT 154.....3

Mathematics for Elementary Education Majors II .. MAT 156.....3

Introduction to Education.....EDU 201 .....

Introduction to Special Education .....

EDU 222 .....

Cultural Diversity in Education .....

EDU 226.....3

Education or Early Childhood Education elective.....3

Electives in content areas relevant to K-12

and/or Early Childhood Education.....7

## ELECTIVES AS NEEDED TO COMPLETE DEGREE ..... 0-4 CREDITS

## TOTAL DEGREE CREDITS..... 64 CREDITS

\*\* University non-English requirements vary. Check with your advisor.

† Notes:

1. Laboratory sciences—8 credits must be taken from two different prefixes. Recommended courses: biology (BIO 101), environmental science (BIO 105), anatomy (BIO 201), geography (GEO 101), physics (PHY 111), chemistry (CHM 130), astronomy (AST 180), and geology (GLG 101).
2. Laboratory sciences—UA South requires four courses for the education degree.
3. Arts—ART 120 or MUS 260 is recommended for UA.
4. Humanities—COM 102 highly recommended; ART 107/108 or MUS 101/102 recommended for UA South.
5. Social and behavioral sciences recommended courses—Political Science (POS 220 highly recommended), US History Survey (HIS 110 or 111 highly recommended), Introduction to Psychology (PSY 101), Cultural Geography (GEO 102), Economics (ECN 201 or 202), and Child Development (PSY 240).
6. Language—UA South requires second-semester proficiency through coursework, credit by examination, and/or native language proficiency. Students who test out of this requirement may choose courses related to area of interest or exploration.
7. Elective courses must be transferable to all Arizona public universities.

## GRADUATION REQUIREMENTS:

- All courses must be completed with a grade of C or higher.
- A course may be used to fulfill either a general education requirement or an elective in the associate degree. Total credits toward a degree remain the same.
- Students must demonstrate a 12.0 grade reading level proficiency.
- A minimum of 16 credits must be completed at Cochise College.
- Courses in the arts, humanities, and social and behavioral sciences have content addressing cultural, historical, or global awareness embedded in the coursework.

## ASSOCIATE OF BUSINESS DEGREE

The ABUS degree is designed to satisfy transfer requirements for business and computer information systems majors. Cochise College has the following Associate of Business degrees. See the Areas of Study section of this catalog for complete degree programs. These degrees are designed for transfer to all Arizona public universities. Please consult an advisor in the Student Development Center for assistance in degree planning.

Business Administration..... Major Code - BUSG  
 Computer Information Systems ..... Major Code - CISS

<u>GENERAL EDUCATION REQUIREMENTS, AGEC-B</u>		<u>35 CREDITS</u>
Composition.....	ENG 101 .....	3
English Composition.....	ENG 102 .....	3
Mathematics .....	MAT 212 or MAT 220 .....	3-5
Laboratory sciences.....		8
Arts .....		3
Humanities .....		3
Social and behavioral sciences .....		6
Technology literacy.....	CIS 116 or CIS 120 .....	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.		
• General education electives must be chosen from the general education course list.		
CORE CURRICULUM .....		29 CREDITS
<b>TOTAL DEGREE REQUIREMENTS</b> .....		<b>64 CREDITS</b>

### GRADUATION REQUIREMENTS:

- All courses must be completed with a grade of C or higher.
- Students must demonstrate a 12.0 grade reading level equivalency.
- A minimum of 16 credits must be completed at Cochise College.
- Courses in the arts, humanities, and social and behavioral sciences have content addressing cultural, historical, or global awareness embedded in the coursework.

## 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. Cochise College has the following Associate of Science degrees. See the Areas of Study section of this catalog for complete degree programs. These degrees are designed for transfer to all Arizona public universities; however, not all Arizona public universities offer majors in each of these areas. Please consult an advisor in the Student Development Center to ensure that the university you choose offers a degree in your area of study.

Allied Health .....	Major Code - ALH
Biology .....	Major Code - BIO
Chemistry .....	Major Code - CHM
Computer Science .....	Major Code - CSC
Engineering .....	Major Code - EGR
General Requirements .....	Major Code - GENG
Physics .....	Major Code - PHY
Secondary Education	
Biology Teaching .....	Major Code - SEBT
Chemistry Teaching .....	Major Code - SECT

<u>GENERAL EDUCATION REQUIREMENTS, AGEC-S</u>		<u>38-42 CREDITS</u>
Composition.....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher.....	3-5
Laboratory sciences .....	BIO 181 and BIO 182 or CHM 151 and CHM 152 or PHY 230 and PHY 231.....	8
Arts .....		3
Humanities .....		3
Social and behavioral sciences .....		6
Technology literacy.....	CIS 116 or CIS 120 .....	3
Additional mathematics and/or laboratory sciences*.....		6-8
• Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses.		
• Based on major and using a transfer guide, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory sciences courses. See <a href="http://www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa">www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa</a> for a complete list.		
<b>CORE CURRICULUM AND ELECTIVES</b> .....		<b>22-26 CREDITS</b>
<b>TOTAL DEGREE REQUIREMENTS</b> .....		<b>64 CREDITS</b>

## GRADUATION REQUIREMENTS:

- All courses must be completed with a grade of C or higher.
- A course may be used to fulfill either a general education requirement or an elective in the associate degree. Total credits toward a degree remain the same.
- Students must demonstrate a 12.0 grade reading level equivalency.
- A minimum of 16 credits must be completed at Cochise College.
- Courses in the arts, humanities, and social and behavioral sciences have content addressing cultural, historical, or global awareness embedded in the coursework.

**ASSOCIATE OF GENERAL STUDIES DEGREE**

The AGS degree is an option designed for students who do not plan to transfer or who may be planning to attend 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 attending an Arizona public university at a later time. The AGS degree is designed to be a general studies degree with no area of emphasis. Students planning to attend 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 transfer planning tool for students.

Currently, three AGS degree programs contain unique general education requirements and state an area of emphasis. Cochise College has the following Associate of General Studies degrees. See the Areas of Study section of this catalog for complete degree programs:

General Studies ..... Major Code - AGS  
 Manufacturing Engineering ..... Major Code - MEG  
 Pre-Nursing ..... Major Code - AGS/ZPRN

Professional Pilot Technology ..... Major Code - PPT

**GENERAL EDUCATION REQUIREMENTS 35 CREDITS**

Composition.....	ENG 101 .....	3
	and ENG 102, ENG 109, ENG 167, or CIS/ENG 279.....	3
Mathematics.....	MAT 122 or higher.....	3-5
Laboratory sciences.....		4
Arts .....		3
Humanities .....		3
Social and behavioral sciences.....		6

Technology literacy..... CIS 116 or CIS 120 .....

Foreign language (100 or above) or

Communications (101 or above)..... 3-4

General education electives..... 3-4

- Six credits of arts, humanities, social and behavioral sciences, or general education electives must be chosen from the intensive writing course list.
- General education electives must be chosen from the general education course list or HPE 179.

**ELECTIVES ..... 29 CREDITS**

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

**TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS**

## GRADUATION REQUIREMENTS:

- The AGS degree requires a cumulative GPA of 2.0 or higher.
- Composition and mathematics courses used to meet general education requirements must have a grade of C or higher.
- A course may be used to fulfill either a general education requirement or an elective in the associate degree. Total credits toward a degree remain the same.
- Students must demonstrate a 12.0 grade reading level equivalency.
- A minimum of 16 credits must be completed at Cochise College.
- Courses in the arts, humanities, and social and behavioral sciences have content addressing cultural, historical, or global awareness embedded in the coursework.

**ASSOCIATE OF APPLIED SCIENCE DEGREE****(Direct Employment Programs)**

The AAS degree is most commonly used to prepare students for employment in a specific career. 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 time.

These degree programs may require lower-division general education courses in the junior and senior years. See an academic advisor for information about the bachelor of applied science degrees (BAS) at Arizona public universities.

Cochise College has the following Associate of Applied Science degrees. See the Areas of Study section of this catalog for complete degree programs.

Administration of Justice ..... Major Code - AJS

Agriculture ..... Major Code - AGR

Automotive Technology .....	Major Code - ATC
Avionics Technology .....	Major Code - AVT
Building Construction Technology.....	Major Code - BCT
Business Management .....	Major Code - BMT
Computer Applications .....	Major Code - CAP
Computer Information Systems .....	Major Code - CIS
Computer Programming .....	Major Code - CPG
Culinary Arts .....	Major Code - CUL
Early Childhood Care and Education.....	Major Code - ECE
Electronics Technology .....	Major Code - ELT
Fire Science Technology .....	Major Code - FST
Game Design and Creation .....	Major Code - GDC
Hospitality Administration.....	Major Code - HAD
Human Services .....	Major Code - HS
Information Security .....	Major Code - IS
Intelligence Operations Studies .....	Major Code - IOST
Interpretation and Translation - English <> Spanish.	Major Code - ITRA
Interpreter Training .....	Major Code - INTP
Logistics Supply Chain Management .....	Major Code - LGS
Manufacturing Engineering .....	Major Code - MEG
Network Technology.....	Major Code - NWT
Paramedicine .....	Major Code - PAR
Professional Administrative Assistant .....	Major Code - PAA
Professional Pilot Technology .....	Major Code - PPT
Registered Nurse .....	Major Code - NUR
Unmanned Aerial Vehicle Flight Operator.....	Major Code - UAVO
Unmanned Aircraft Systems Technician .....	Major Code - UAVT
Welding Technology .....	Major Code - WLD

GENERAL EDUCATION REQUIREMENTS	18-19 CREDITS
Communication .....	6
Mathematics/laboratory sciences*	3-4
Liberal arts .....	6
Technology literacy .....	3
CORE CURRICULUM (SEE AREAS OF STUDY) .....	21-46 CREDITS
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

\* CHM 130 or CHM 151 will satisfy the mathematics/laboratory sciences requirement for the paramedicine program only.

\* NUR 121A and NUR 121B will satisfy the mathematics/laboratory sciences requirement for the nursing program only.

## GRADUATION REQUIREMENTS:

- The AAS degree requires a cumulative GPA of 2.0 or higher.
- Students must demonstrate a 12.0 grade reading level equivalency.
- A minimum of 16 credits must be completed at Cochise College.
- Courses used to satisfy the communication and mathematics/laboratory sciences requirements must be completed with a grade of C or higher.

## CERTIFICATE PROGRAMS

Cochise College offers many certificates designed for direct employment. A minimum of 25 percent of the required credits must be taken in residency at Cochise College to earn a certificate.

## CERTIFICATES

Administrative Office Aide .....	16-18 credits.... Major Code - AOA
Advanced Information Security.....	16 credits.... Major Code - AIS
Advanced Logistics Supply Chain Management	30 credits ...Major Code - LGSA
Aerospace Thermal Fusion .....	30 credits .. Major Code - AETF
Aerospace Welding Technology.....	18 credits.. Major Code - AEWT
Air Conditioning and Refrigeration....	16 credits... Major Code - ACR
Automotive Technology .....	21 credits ...Major Code - ATC
Avionics Technology .....	66 credits ...Major Code - AVT
Basic Borderland Studies .....	20 credits ...Major Code - BBS
Basic Logistics Supply Chain Management	18 credits.. Major Code - LGSB
Carpentry Technology .....	18 credits ...Major Code - CTC
Chef Garde Manger Apprentice .....	21 credits.. Major Code - CGMA
Chef Patissier – Baker's Apprentice .....	24 credits.. Major Code - BKRA
Cisco Networking .....	16 credits... Major Code - CNT
Community Health Worker.....	16 credits .. Major Code - CHW
Computer Applications .....	18 credits .. Major Code - CAP
Computer Programmer .....	30 credits... Major Code - CPG
Computer-Aided Drafting.....	36 credits .. Major Code - CAD
Computerized Office Applications....	30 credits... Major Code - COA
Digital Imagery and Animation .....	16 credits ...Major Code - DIA
Digital Imagery and Video Production.	16 credits .. Major Code - DIVP
Early Childhood Care and Education (Basic)	18 credits .. Major Code - BECE
Emergency Medical Technology (Prep for External Licensure)	8 credits... Major Code - EMT
Entrepreneurship/Small Business Management	30 credits.. Major Code - ENTC
Equine Science and Management.....	27 credits .. Major Code - EQS

Fire Science Technology ..... 16 credits ... Major Code - FST  
 Flash Game Development ..... 16 credits ... Major Code - FGD  
 Game Design and Creation ..... 28 credits ... Major Code - GDC  
 2D Game Development ..... 19 credits ... Major Code - GD2  
 3D Game Development ..... 22 credits ... Major Code - GD3  
 General Business ..... 18 credits ... Major Code - GBUS  
 General Computer-Aided Drafting ..... 18 credits ... Major Code - GCAD  
 General Welding Technology ..... 18 credits ... Major Code - GWLD  
 Hazardous Materials Technician ..... 16 credits ... Major Code - HMT  
 Help Desk ..... 21 credits ... Major Code - HLD  
 Honors ..... 16 credits ... Major Code - HONR  
 Hospitality Administration ..... 28-33 credits ... Major Code - HAD  
 Information Security ..... 32 credits ... Major Code - ISC  
 International Business ..... 21 credits ... Major Code - INB  
 International Management ..... 30 credits ... Major Code - INTM  
 Interpretation and Translation - English <> Spanish  
     16 credits ... Major Code - ITRA  
 Linux System Administrator ..... 15 credits ... Major Code - LSA  
 Management ..... 21 credits ... Major Code - MGM  
 Manufacturing Technology ..... 18 credits ... Major Code - MFT  
 Mechatronic Systems Operating Technician  
     16 credits ... Major Code - MSOT  
 Medical Assistant ..... 30 credits ... Major Code - MEDA  
 Microcomputer Practitioner ..... 18-26 credits ... Major Code - MIC  
 Microcomputer Skills Proficiency ..... 27 credits ... Major Code - MSP  
 Network Administrator ..... 37-41 credits ... Major Code - NAD  
 Network Support ..... 40-44 credits ... Major Code - NTS  
 Nursing Assistant (Prep for External Licensure)  
     5 credits ... Major Code - CNA  
 Office Assistant ..... 30 credits ... Major Code - OAS  
 Paramedicine ..... 28 credits ... Major Code - PAR  
 PC Maintenance and Repair ..... 16 credits ... Major Code - PCM  
 Practical Nurse (Prep for External Licensure)  
     43 credits ... Major Code - LPN  
 Professional Pilot Advanced ..... 23 credits ... Major Code - PPTA  
 Professional Pilot Basic ..... 41 credits ... Major Code - PPTB  
 Public Safety Communications Officer I ..... 10 credits ... Major Code - PSC1  
 Receptionist ..... 18 credits ... Major Code - RCP  
 Residential Electrician Technology ..... 18 credits ... Major Code - REC  
 Retail Management ..... 30 credits ... Major Code - RMC  
 Social Work ..... 31 credits ... Major Code - SCW  
 Sous Chef Apprentice ..... 40-43 credits ... Major Code - SCCA  
 Student Leadership Development ..... 18 credits ... Major Code - SLD  
 Supervisory Management ..... 16 credits ... Major Code - SPM  
 Teacher Aide Preparatory Program ..... 12 credits ... Major Code - TAD

Teacher Aide I ..... 15-16 credits ... Major Code - TAIC  
 Teacher Aide II ..... 16-21 credits ... Major Code - TAD2  
 Teacher Aide III ..... 16 credits ... Major Code - TAD3  
 Teaching English as an International Language

12 credits ... Major Code - TEIL

Teleservices ..... 15 credits ... Major Code - TELE  
 Web Developer ..... 20 credits ... Major Code - WEBD  
 Welding Technology ..... 33 credits ... Major Code - WLD  
 Workplace Spanish ..... 26 credits ... Major Code - WPS

#### **Arizona Department of Corrections Certificates\***

Advanced Automotive Technology ..... 15 credits ... Major Code - AATC  
 Advanced Building Construction Technology

12 credits ... Major Code - ABCT

Advanced Computer Technology ..... 14 credits ... Major Code - ACPT  
 Advanced Custodial Services ..... 16 credits ... Major Code - ACS  
 Advanced Electronics Technician ..... 14 credits ... Major Code - AET  
 Advanced General Electronics ..... 12 credits ... Major Code - AGE  
 Air Conditioning Maintenance Technician

16 credits ... Major Code - ACM

Aquaculture ..... 16 credits ... Major Code - AQU  
 Basic Automotive Technology ..... 12 credits ... Major Code - BATC  
 Basic Building Construction Technology

12 credits ... Major Code - BBCT

Basic Computer Technology ..... 12 credits ... Major Code - BCPT  
 Basic Custodial Services ..... 18 credits ... Major Code - BCS  
 Basic Electronics Technician ..... 13 credits ... Major Code - BET  
 Basic Facility Maintenance Technician ..... 18 credits ... Major Code - BFM  
 Basic General Electronics ..... 14 credits ... Major Code - BGE  
 Basic Welding ..... 12 credits ... Major Code - BWLD  
 Horticulture ..... 15 credits ... Major Code - HRT  
 Telecommunications Cable Installation ..... 20 credits ... Major Code - TCI  
 Workforce and Community Transition Training

12 credits ... Major Code - WCTT

\* Designed for the inmates of the Arizona Department of Corrections in Douglas.

# Areas of Study

## Administration of Justice

The Associate of Arts degree in Administration of Justice is designed to prepare students for professional success in a wide variety of criminal justice career fields and for transfer into university degree programs. To ensure seamless university transfer, students must develop their specific program of study in close coordination with a Cochise College academic advisor.

The Associate of Applied Science in Administration of Justice is designed for immediate entry into the criminal justice profession. In addition, a growing number of university Bachelor of Applied Science degree programs facilitate university transfer for AAS degree completers, while core curriculum credit granted for certified law enforcement/corrections training completers facilitates Cochise College degree completion.

### ADMINISTRATION OF JUSTICE

#### Associate of Arts (Major Code - AJS)

##### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences* .....	.....	8
Arts .....	.....	3
Humanities** .....	.....	3
Social and behavioral sciences*** .....	.....	6
Technology literacy.....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

##### LANGUAGE REQUIREMENT† ..... 8-16 CREDITS

Non-English language
Second- or fourth-semester proficiency

##### CORE CURRICULUM ..... 18 CREDITS

Introduction to Administration of Justice .....	AJS 101 .....	3
Substantive Criminal Law .....	AJS 109 .....	3
Criminology .....	AJS 225 .....	3
The Police Function .....	AJS 230 .....	3
The Correction Function .....	AJS 240 .....	3
Procedural Criminal Law .....	AJS 260 .....	3
Criminology or Criminal Investigations	AJS 225 or AJS 275 .....	3
Communication.....	COM 102 or COM 204 .....	3

##### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)†† ... 0-3 CREDITS

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* PHY 110 recommended.

\*\* COM 102 or 204 recommended.

\*\*\* POS 110 or 220, PSY 101, SOC 101, or SOC 160 recommended.

\*\*\*\*General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

† University non-English language requirements vary. Check with an academic advisor.

†† Elective courses must be transferable to all Arizona public universities. SOC 207, AJS 212, PSY 240, AJS 254, AJS 215, AJS 270, or 275 recommended. It is highly recommended that students complete a criminal justice-related internship in addition to the 64-unit degree requirement, namely AJS 224 or a related SLE special topics course.

### ADMINISTRATION OF JUSTICE

#### Associate of Applied Science (Major Code - AJS)

##### GENERAL EDUCATION REQUIREMENTS ..... 20-21 CREDITS

Composition .....	ENG 101 .....	3
English Composition.....	ENG 102 .....	3
Mathematics/laboratory sciences .....	MAT 122 or higher.....	OR
Laboratory sciences* .....	.....	3-4
Liberal arts** .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
Physical education.....	.....	2

##### CORE CURRICULUM ..... 24 CREDITS

† Select from the following options or see an AJS advisor for evaluation of certified training.		
Introduction to Administration of Justice .....	AJS 101 .....	3
Substantive Criminal Law .....	AJS 109 .....	3
Juvenile Justice Procedures .....	AJS 212 .....	3
The Police Function .....	AJS 230 .....	3
The Correction Function .....	AJS 240 .....	3
Procedural Criminal Law .....	AJS 260 .....	3
Criminology or Criminal Investigations	AJS 225 or AJS 275 .....	3
Communication.....	COM 102 or COM 204 .....	3

##### AJS DEPARTMENT APPROVED ELECTIVES ..... 19-20 CREDITS

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

Electives may include, but are not limited to, the following: Non-English language, AJS 204, AJS 215, AJS 224 (or criminal justice related SLE internship), AJS 225 (or 275), AJS 254, AJS 270, AJS 295, AJS 296, SOC 160, SOC 207, PSY 101, PSY 240, and laboratory science recommended.

NOTE: All coursework must be completed with a grade of C or higher.

\* PHY 110, Fundamentals of Physical Science, recommended.

\*\* From the listing of Cochise College AGEC qualifying courses. SOC 101, SOC 160, PSY 101, and/or POS 110 (or POS 220) recommended.

† Based upon AJS department evaluation, certified law enforcement training such as POST Academy, Border Patrol Academy, and COTA can be used to fulfill all or part of the core curriculum and AJS electives unit requirement.

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

## PUBLIC SAFETY COMMUNICATIONS OFFICER I

### Certificate (Major Code - PSC1)

CORE CURRICULUM.....	10 CREDITS
Basic Public Safety Communications	
Officer Academy.....	AJS 103 .....6
Field Experience in Administration of Justice .....	AJS 224. ....4
TOTAL CERTIFICATE REQUIREMENTS.....	10 CREDITS

## Agriculture

Cochise College's agricultural program specializes in animal husbandry, natural resource sciences, and veterinarian technicians. The Associate of Applied Science in Agriculture is a flexible program intended to permit students to specialize in the agricultural field most closely related to their career choice or existing job requirements. It is also intended for transfer to a four-year institution for students to pursue a higher degree.

Coursework required for completion of the Equine Science Certificate is typically designed for students who are interested in the handling and management of horses. Students should consult their advisor or appropriate university for transfer requirements.

### AGRICULTURE

#### Associate of Applied Science (Major Code - AGR)

GENERAL EDUCATION REQUIREMENTS .....	26 CREDITS
English Composition .....	ENG 100 or higher .....6
Mathematics .....	MAT 122 or higher .....3
Technology literacy.....	CIS 116 .....3
Biology.....	BIO 101 .....4
Chemistry .....	CHM 130 or CHM 151 .....4
Liberal arts .....	.....6
CORE CURRICULUM .....	27 CREDITS

Principles of Veterinary Science .....	AGR 101 .....3
Introduction to Agriculture .....	AGR 102 .....3
Range Management.....	AGR 105 .....OR
Soil Science .....	AGR 214 .....3
Farrier Science.....	AGR 107 .....3
Range Plants .....	AGR 207 .....3
General Welding .....	AGR 210 .....3
Economics in American Agriculture .....	AGR 211 .....OR
Introduction to Agri-Business .....	AGR 225 .....3
Animal Feeding .....	AGR 230 .....3
Livestock Production and Management. ....	AGR 243 .....3
ELECTIVES (ANY OTHER AGRICULTURE CLASS) .....	5 CREDITS
BUSINESS ELECTIVES (FROM ANY OF THE FOLLOWING).....	6 CREDITS
Principles of Management .....	BUS 143
Introduction to Accounting .....	BUS 146
Business Communications .....	BUS 167
Introduction to Information Systems.....	CIS 120
Written Communications and Reports .....	ENG 109
TOTAL DEGREE REQUIREMENTS.....	64 CREDITS

## EQUINE SCIENCE AND MANAGEMENT

### Certificate (Major Code - EQS)

CORE CURRICULUM.....	27 CREDITS
Principles of Veterinary Science .....	AGR 101 .....3
Range Management.....	AGR 105 .....OR



Soil Science .....	AGR 214 .....	3
Farrier Science.....	AGR 107 .....	3
Team Roping .....	AGR 138 .....	3
Western Horsemanship.....	AGR 139 .....	3
Range Plants .....	AGR 207 .....	3
General Welding .....	AGR 210 .....	3
Animal Feeding .....	AGR 230 .....	3
Horse Science and Management.....	AGR 237 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>27 CREDITS</b>	

## Allied Health

The Associate of Science degree in Allied Health is designed for students interested in pursuing a four-year degree in an allied health profession. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### ALLIED HEALTH

#### **Associate of Science (Major Code - ALH)**

GENERAL EDUCATION REQUIREMENTS (AGEC-S)..... 40-42 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences.....	BIO 181 and BIO 182 .....	8
Arts .....	3	
Humanities.....	3	
Social and behavioral sciences .....	6	
Technology literacy.....	CIS 116 or CIS 120 .....	3
Introductory Biology for Allied Health.....	BIO 156 .....	4
Chemistry for Allied Health.....	CHM 138 .....	4
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

CORE CURRICULUM..... 13 CREDITS

Human Anatomy and Physiology I.....	BIO 201 .....	4
Microbiology.....	BIO 205 .....	4
Individual Studies.....	BIO 299 .....	1

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*

TOTAL DEGREE REQUIREMENTS .....

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.

### **EMERGENCY MEDICAL TECHNICIAN**

The Emergency Medical Technician course prepares the student with the necessary knowledge, skills, and abilities to practice as an Emergency Medical Technician-Basic as required by the National Registry of Emergency Medical Technicians (NREMT) and the Arizona Department of Health Services – Bureau of Emergency Medical Services (ADHS-BEMS). Students desiring NREMT and ADHS-BEMS certification must complete the state required hours of clinical experience with an Emergency Medical Service provider of out-of-hospital emergency care. The course covers basic knowledge of the signs and symptoms of illness and injury, procedures associated with the provision of emergency medical care, basic legal responsibilities, anatomy and physiology, triage, patient assessment, and basic life support systems. Curriculum meets the ADHS-BEMS guidelines and is approved by the state of Arizona and the National Registry of EMTs.

### **EMERGENCY MEDICAL TECHNICIAN**

#### **(Major Code - EMT)**

CORE CURRICULUM\* .....

Emergency Medical Technician..... EMT 174 .....

\* See course description for prerequisites and other requirements.



## MEDICAL ASSISTANT

The Medical Assistant Certificate provides training for entry-level employment in a medical practice setting, with emphasis on 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 as well as 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 laboratory and internship courses offer practical experience in a medical office setting. After certificate completion, students are eligible to take the American Medical Technology National Exam to become certified as Registered Medical Assistants.

## MEDICAL ASSISTANT

### Certificate (Major Code - MEDA)

CORE CURRICULUM*	30 CREDITS
Introduction to Human Anatomy and Physiology . BIO 160 .....	4
Computer Essentials.....CIS 116 .....	3
CPR and First Aid.....HLT 111 .....	1
Medical Assistant I .....	HLT 139 .....
Medical Assistant II .....	HLT 140 .....
Medical Assistant III .....	HLT 141 .....

TOTAL CERTIFICATE REQUIREMENTS. .... 30 CREDITS

\* See course descriptions for prerequisites and other requirements.

## PARAMEDICINE

The Associate of Applied Science in Paramedicine or the Paramedicine Certificate prepares the student to perform as a Nationally Registered Emergency Medical Technician – Paramedic (NREMT-P). Paramedicine is a specialty whose practitioners respond to emergencies before a patient reaches a hospital, rendering basic and advanced medical treatment before and during transport to a medical facility. Classroom, clinical and field internship training prepares paramedics to assess and treat a wide variety of medical emergencies. The EMT-Paramedic provides the highest level of pre-hospital medical care for sick and injured persons. The knowledge, skills and experience gained through the paramedic program prepares the student to sit for both the Arizona Department of Health Services – Bureau of Emergency Medical Services (ADHS-BEMS) paramedic certification exam and the NREMT-P exam. Paramedics work for fire departments, rescue squads, private providers, industrial companies, clinics, and hospitals.

Program entry requires a separate application and an interview with paramedicine program advisors. Prior to enrollment in the paramedicine program, all students must pass written and practical exams as outlined by the ADHS-BEMS. A required oral interview is also used in determining admission to the program. The testing and interview process normally takes place the month prior to the class start date.

## PARAMEDICINE

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

GENERAL EDUCATION REQUIREMENTS*	31 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Introduction to Psychology .....	PSY 101 .....
Introduction to Sociology.....	SOC 101 .....
Human Anatomy and Physiology I. ....	BIO 201 .....
Human Anatomy and Physiology II .....	BIO 202 .....
Chemistry.....	CHM 130 or CHM 151 .....
Microbiology .....	BIO 205 .....
Electives .....	3

CORE CURRICULUM*	36 CREDITS
Emergency Medical Technician	EMT 174 ..... 8
Paramedicine I	EMT 201 ..... 12
Paramedicine II	EMT 202 ..... 14
Paramedicine III	EMT 203 ..... 2
<b>TOTAL DEGREE REQUIREMENTS</b>	<b>67 CREDITS</b>

\* See course descriptions for prerequisites and other requirements.

## PARAMEDICINE

### Certificate (Major Code - PAR)

CORE CURRICULUM*	28 CREDITS
Paramedicine I	EMT 201 ..... 12
Paramedicine II	EMT 202 ..... 14
Paramedicine III	EMT 203 ..... 2
<b>TOTAL CERTIFICATE REQUIREMENTS</b>	<b>28 CREDITS</b>

\* See course descriptions for prerequisites and other requirements.

## Anthropology

The Associate of Arts degree in Anthropology is designed to prepare students to transfer with junior standing to a university, where they can continue their studies in anthropology. It also provides students with the opportunity for practical experience, including field experience in physical anthropology. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## ANTHROPOLOGY

### Associate of Arts (Major Code - ANT)

GENERAL EDUCATION REQUIREMENTS (AGEC-A)	35 CREDITS
Composition	ENG 101 ..... 3
English Composition	ENG 102 ..... 3
Mathematics	MAT 142 or higher ..... 3-5
Laboratory sciences	8
Arts	3
Humanities	3
Social and behavioral sciences	6
Technology literacy	CIS 116 or CIS 120 ..... 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](http://www.cochise.edu/AGEC).

### LANGUAGE REQUIREMENT\*\*

0-16 CREDITS  
Non-English language  
Second- or fourth-semester proficiency

### CORE CURRICULUM

6 CREDITS  
Origin and Antiquity of Humankind ..... ANT 101 ..... 3  
Society and Culture ..... ANT 102 ..... 3

### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

### TOTAL DEGREE REQUIREMENTS

64 CREDITS

\* General education electives must be chosen from the general education list/AGEC.

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The Anthropology Department recommends the following electives: ANT 110, ANT 111, ANT 138, ANT 140, ANT 235, ANT 285, ANT 287, ANT 288, and ANT 299.

## Art

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. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## ART

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

GENERAL EDUCATION REQUIREMENTS (AGEC-A)	35 CREDITS
Composition	ENG 101 ..... 3
English Composition	ENG 102 ..... 3
Mathematics	MAT 142 or higher ..... 3-5
Laboratory sciences	8
Arts	3
Humanities	3
Social and behavioral sciences	6
Technology literacy	CIS 116 or CIS 120 ..... 3
General education electives*	1-3

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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	
LANGUAGE REQUIREMENT**	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
CORE CURRICULUM	15 CREDITS
Fundamentals	ART 103 .....3
Drawing I	ART 106 .....3
Survey of World Art: Prehistoric-Gothic	ART 107 .....3
Survey of World Art: Renaissance	
through the 20th Century	ART 108 .....3
Three-Dimensional Design/Sculpture	ART 231 .....3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
TOTAL DEGREE REQUIREMENTS	64 CREDITS

- \* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).
- \*\* University non-English language requirements vary. Check with your advisor.
- \*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The Art Department recommends a painting or ceramics course, select courses for a two-dimensional department emphasis: ART 216, ART 230, ART 245, ART 280, ART 281, ART 286, ART 295, ART 296, OR a three-dimensional department emphasis: ART 250, ART 255, ART 270, ART 290.

## DIGITAL IMAGERY AND ANIMATION

### Certificate (Major Code - DIA)

CORE CURRICULUM	16 CREDITS
Digital Imaging I	DMA 110 .....3
Computer Animation I	DMA 111 .....3
Digital Imaging II	DMA 210 .....3
Computer Animation II	DMA 211 .....3
Creating Multimedia Presentations	DMA 214 .....4
TOTAL CERTIFICATE REQUIREMENTS	16 CREDITS

## DIGITAL IMAGERY AND VIDEO PRODUCTION

### Certificate (Major Code - DIVP)

CORE CURRICULUM	16 CREDITS
3D Computer-Generated Imagery	DMA 112 .....4
3D Computer-Generated Animation	DMA 113 .....4
Advanced 3D Computer-Generated Imagery	DMA 212 .....4
Computer-Generated Video Production	DMA 213 .....4
TOTAL CERTIFICATE REQUIREMENTS	16 CREDITS

## Automotive Technology

The Automotive Technology Associate of Applied Science degree provides students with a working knowledge of the skills required for employment as an automotive technician. It benefits both students seeking marketable skills and experienced automotive technicians looking to upgrade their proficiency and obtain industry certification. Students successfully completing the Automotive Technology AAS will have obtained the knowledge and skills necessary to qualify for all eight segments of the Automotive Service Excellence (ASE) Technician Certification.

The Automotive Technology Certificate is designed to provide students with a solid core of skills for employment in the automotive technology industry and prepare them to take the applicable Automotive Service Excellence (ASE) certification tests.

## AUTOMOTIVE TECHNOLOGY

### Associate of Applied Science (Major Code - ATC)

GENERAL EDUCATION REQUIREMENTS	18-19 CREDITS
Composition	ENG 101 or CIS/ENG 179 .....3
English Composition	ENG 102 or CIS/ENG 279 .....3
Mathematics/lab science	MAT 122 or higher .....3-4
Liberal arts	.....6
Technology literacy	CIS 116 or CIS 120 .....3
CORE CURRICULUM	33 CREDITS
Introduction to Automotive Technology	AUT 101 .....3
Automotive Electrical Fundamentals	AUT 102 .....3
Internal Combustion Engines	AUT 103 .....3
Automotive Brake System	AUT 104 .....3
Automotive Suspension and Steering Systems	AUT 105 .....3
Automotive Manual Drive Systems	AUT 106 .....3
Automotive Electrical Systems and Equipment	AUT 201 .....3
Automatic Transmission/Transaxle Diagnostics	AUT 204 .....3

Automotive Heating, Ventilation and Air Conditioning .....	AUT 205 .....	3
Field Experience in Automotive Technology .....	AUT 224 .....	3
Principles of Management .....	BUS 143 .....	3
RECOMMENDED ELECTIVES AS NEEDED		
TO COMPLETE 64 CREDITS .....		
Automotive Service Consultant .....	AUT 107 .....	3
Automotive Parts Specialist .....	AUT 108 .....	3
Basic Auto Body Repair .....	AUT 110 .....	3
Automotive Service Management .....	AUT 207 .....	3
Machine Technology .....	GTC 140 .....	3
Manufacturing Processes .....	GTC 231 .....	4
Oxyacetylene Welding .....	WLD 105 .....	3
Arc Welding .....	WLD 106 .....	3
Gas Metal Arc Welding .....	WLD 128 .....	3
TOTAL DEGREE REQUIREMENTS .....		64 CREDITS

## AUTOMOTIVE TECHNOLOGY

### Certificate (Major Code - ATC)

CORE CURRICULUM .....		
Introduction to Automotive Technology .....	AUT 101 .....	3
Automotive Electrical Fundamentals .....	AUT 102 .....	3
Internal Combustion Engines .....	AUT 103 .....	3
Automotive Brake Systems .....	AUT 104 .....	3
Automotive Suspension and Steering Systems ..	AUT 105 .....	3
Automotive Electrical Systems and Equipment ..	AUT 201 .....	3
Automatic Transmission/Transaxle Diagnostics ..	AUT 204 .....	3
TOTAL CERTIFICATE REQUIREMENTS .....		21 CREDITS

## Aviation

### AVIONICS TECHNOLOGY

The avionics technology program at Cochise College prepares students for the Federal Communications Commission certification as avionics technicians and trains students to meet the demands of the rapidly changing aircraft electronics industry.

It is divided into four phases totaling 12 months. Phase 1 focuses on basic electronics and avionics fundamentals. Phase 2 deals extensively with electronic devices and digital circuitry. Phase 3 encompasses digital and pulse circuits along with communications. Phase 4 covers autopilots, radar and pulse systems, navigation and communication systems, and FCC and FAA rules and regulations.

## AVIONICS TECHNOLOGY

### Certificate (Major Code - AVT)

GENERAL EDUCATION REQUIREMENTS .....		
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 122 or higher .....	3
Liberal arts .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
CORE CURRICULUM .....		
Math for Basic Electronics .....	AVT 101 .....	3
Introduction to Electronics .....	AVT 104 .....	7
Avionics Fundamentals to Include Unmanned		
Aerial Vehicles .....	AVT 107 .....	5
Electronic Devices and Circuits I .....	AVT 112 .....	8
Digital and Microprocessor Fundamentals .....	AVT 115 .....	7
Pulse and Digital System Circuits .....	AVT 218 .....	8
Electronic Communications to Include Unmanned		
Aerial Vehicles .....	AVT 202 .....	8
Electronic Devices and Circuits II .....	AVT 205 .....	4
FCC/FAA Regulations .....	AVT 208 .....	4
Navigations Systems to Include Unmanned		
Aerial Vehicles .....	AVT 220 .....	4
Autopilot and Control Systems to Include Unmanned		
Aerial Vehicles .....	AVT 224 .....	4
Aircraft Radar Systems to Include Unmanned		
Aerial Vehicles .....	AVT 228 .....	4
TOTAL DEGREE REQUIREMENTS .....		84 CREDITS

NOTE: All coursework must be completed with a grade of C or higher.

## AVIONICS TECHNOLOGY

### Certificate (Major Code - AVT)

JULY THROUGH SEPTEMBER (PHASE 1) .....		
Math for Basic Electronics .....	AVT 101 .....	3
Introduction to Electronics .....	AVT 104 .....	7
Avionics Fundamentals to Include Unmanned		
Aerial Vehicles .....	AVT 107 .....	5
SEPTEMBER THROUGH DECEMBER (PHASE 2) .....		
Electronic Devices and Circuits I .....	AVT 112 .....	8
Digital and Microprocessor Fundamentals .....	AVT 115 .....	7
Electronic Devices and Circuits II .....	AVT 205 .....	4
JANUARY THROUGH MARCH (PHASE 3) .....		
Pulse and Digital System Circuits .....	AVT 218 .....	8

Electronic Communications to Include Unmanned	
Aerial Vehicles .....	AVT 202 .....
MARCH THROUGH JUNE (PHASE 4).....	16 CREDITS
FCC/FAA Regulations .....	AVT 208 .....
Navigations Systems to Include Unmanned	
Aerial Vehicles .....	AVT 220 .....
Autopilot and Control Systems to Include Unmanned	
Aerial Vehicles .....	AVT 224 .....
Aircraft Radar Systems to Include Unmanned	
Aerial Vehicles .....	AVT 228 .....
TOTAL CERTIFICATE REQUIREMENTS.....	66 CREDITS

NOTE: All coursework must be completed with a grade of C or higher.

## PROFESSIONAL PILOT TECHNOLOGY

The Professional Pilot Technology program at Cochise College is certified by the Federal Aviation Administration (FAA certificate HR8S200Q) under Part 141 of the regulations as a pilot school. The program is dedicated to training students in the knowledge, pilot skills, and ratings necessary to become competent, qualified, and productive professional pilots.

The program is presented in a traditional course and semester manner, allowing the completion of both the pilot courses and the courses required for an associate degree. An Associate of General Studies in Professional Pilot Technology and two certificates — Professional Pilot Basic and Professional Pilot Advanced — are also offered to meet the various needs of students. All ratings are offered, and students may enter the program with or without prior flight training or certificates. Placement in the flight portion of the program for those with prior training will depend upon a skills analysis when the student enters the program. The normal progression will lead from the Private Pilot Certificate to a fully FAA certified commercial pilot with instrument and multi-engine ratings. Flight instructor courses in Airplane-Single-engine, Airplane-Multiengine, Instrument, and the Airline Transport Pilot Certificate are also available through the program.

## PROFESSIONAL PILOT TECHNOLOGY

### Associate of General Studies (Major Code - PPT)

GENERAL EDUCATION REQUIREMENT .....	35 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Mathematics .....	MAT 122 or higher .....
Laboratory sciences.....	4

Arts .....	3
Humanities.....	3
Social and behavioral sciences .....	6
Technology literacy .....	CIS 116 or CIS 120 .....
Foreign language (100 or higher) or communication .....	3-4
General education electives*.....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	
CORE CURRICULUM.....	33 CREDITS
Private Pilot Ground School .....	PFT 101 .....
Private Pilot Preparation .....	PFT 110 .....
Commercial Flight I .....	PFT 121 .....
Commercial Pilot Ground School .....	PFT 130 .....
Commercial Flight II.....	PFT 131 .....
Instrument Rating Ground School .....	PFT 204 .....
Instrument Rating .....	PFT 212 .....
Commercial Flight III .....	PFT 218 .....
TOTAL DEGREE REQUIREMENTS .....	68 CREDITS

Acceptance into the Professional Pilot program requires an interview with the chief flight instructor plus completion of admission requirements and departmental acceptance. Admission to Cochise College does not guarantee acceptance into the pilot program.

\* General education electives must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## PROFESSIONAL PILOT TECHNOLOGY

### Associate of Applied Science (Major Code - PPT)

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Composition .....	ENG 101 .....
English Composition.....	ENG 102 .....
Mathematics .....	MAT 122 .....
Liberal arts .....	6
Technology literacy.....	CIS 116 or CIS 120 .....
CORE CURRICULUM .....	38 CREDITS
Private Pilot Ground School .....	PFT 101 .....
Private Pilot Preparation .....	PFT 110 .....
Commercial Flight I .....	PFT 121 .....
Meteorology.....	PFT 122 .....
Commercial Pilot Ground School .....	PFT 130 .....
Commercial Flight II.....	PFT 131 .....
Instrument Rating Ground School .....	PFT 204 .....

Aircraft Systems .....	PFT 206 .....	4	CORE CURRICULUM .....	23 CREDITS	
Instrument Rating .....	PFT 212 .....	5	Multi-Engine Class Rating Ground School.....	PFT 210 .....	1
Commercial Flight III .....	PFT 218 .....	1	Multi-Engine Class Rating Flight .....	PFT 211 .....	1
Electives (as needed to complete 64 credits), see department advisor.			Flight Instructor, Fundamentals of Ground School.	PFT 230.....	3
MULTI-ENGINE OPTION:			Flight Instructor, Airplane Ground School.....	PFT 231 .....	5
Multi-Engine Rating Ground School .....	PFT 210 .....	1	Flight Instructor, Initial Flight .....	PFT 232 .....	3
Multi-Engine Rating Flight.....	PFT 211 .....	1	Flight Instructor Instrument Ground School .....	PFT 250 .....	3
OR			Flight Instructor Instrument Flight.....	PFT 251 .....	3
FLIGHT INSTRUCTOR OPTION:			CHOOSE MULTI-ENGINE INSTRUCTOR OR AIRLINE TRANSPORT OPTION		
Flight Instructor Fundamentals Ground School ..	PFT 230 .....	3	Flight Instructor Multi-Engine Ground School....	PFT 240 .....	2
Flight Instructor Airplane Ground School .....	PFT 231 .....	5	Flight Instructor Multi-Engine Ground School....	PFT 241 .....	2
Flight Instructor Initial Flight .....	PFT 232 .....	3	OR		
TOTAL DEGREE REQUIREMENTS .....			Airline Transport Pilot Ground School .....	PFT 260 .....	3
64 CREDITS			Airline Transport Pilot Flight Course .....	PFT 261 .....	1
TOTAL CERTIFICATE REQUIREMENTS.....23 CREDITS					

## PROFESSIONAL PILOT TECHNOLOGY

### Basic Certificate (Major Code - PPTB)

CORE CURRICULUM.....	41 CREDITS	
English or mathematics .....	101 level or higher .....	3
Private Pilot Ground School .....	PFT 101 .....	5
Private Pilot Preparation .....	PFT 110 .....	6
Commercial Flight I .....	PFT 121 .....	3
Meteorology.....	PFT 122 .....	1
Commercial Pilot Ground School.....	PFT 130 .....	5
Commercial Flight II.....	PFT 131 .....	3
Instrument Rating Ground School.....	PFT 204 .....	5
Aircraft Systems .....	PFT 206 .....	4
Instrument Rating .....	PFT 212 .....	5
Commercial Flight III .....	PFT 218 .....	1
TOTAL CERTIFICATE REQUIREMENTS.....		41 CREDITS

## PROFESSIONAL PILOT TECHNOLOGY

### Advanced Certificate (Major Code - PPTA)

Prerequisite: ..... ENG 101 or higher or BUS 104 or higher .....

Completion of Professional Pilot Basic Certificate OR student holds an FAA Commercial Pilot Certificate with instrument rating and consent of the chief flight instructor.

## Biology

The Associate of Science in Biology is designed for biology majors and many health professional students transferring to a four-year institution. Upon transfer, biology students will further specialize in an area of biological sciences. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## BIOLOGY

### Associate of Science (Major Code - BIO)

GENERAL EDUCATION REQUIREMENTS (AGEC-S).....	38-42 CREDITS	
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences .....	CHM 150 and CHM 152 .....	8
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Technology literacy.....	CIS 116 or CIS 120 .....	3
Additional mathematics and/or laboratory sciences* .....		6-8
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

\* Based on major and using a transfer guide, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory sciences courses. See [www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa](http://www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa) for a complete list.

CORE CURRICULUM .....	11	
General Biology I (for majors).....	BIO 181 .....	4
General Biology II .....	BIO 182 .....	4
Elements of Statistics.....	MAT 167 .....	3

#### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*

TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.

## Building Construction Technology

The Building Construction Technology Associate of Applied Science degree provides students with a working knowledge of the skills required for employment as a construction worker, estimator or construction supervisor. This program is a benefit to both the traditional student seeking an employable skill and the experienced construction worker looking to upgrade their skills and obtain industry certification. Students successfully completing this degree will have obtained the skills and knowledge necessary for several National Center for Construction Education and Research (NCCER) certificates and enhance any construction apprenticeship program.

The Air Conditioning and Refrigeration Certificate prepares students for direct employment in the refrigeration industry. Upon completion of this certificate, students will possess the skills to troubleshoot and repair air conditioning, refrigeration, and heating systems.

The Carpentry Technology certificate program prepares students with a working knowledge of advanced-level carpentry techniques of modern framing. Completion of this program will provide students with the skills necessary for employment in the framing carpentry industry field.

Students successfully completing the Residential Electrician Technology Certificate will be qualified as entry-level electricians. This certificate benefits both traditional students seeking a skill trade and experienced electricians looking to upgrade their skills and obtain industry certification.

## BUILDING CONSTRUCTION TECHNOLOGY

### **Associate of Applied Science (Major Code - BCT)**

#### GENERAL EDUCATION REQUIREMENTS..... 18-19 CREDITS

Composition .....	ENG 101 or CIS/ENG 179 .....	3
English Composition .....	ENG 102 or CIS/ENG 279 .....	3
Mathematics/laboratory sciences .....	MAT 122 or higher .....	3-4
Liberal arts .....	.....	6
Technology literacy.....	CIS 116 or CIS 120 .....	3

#### CORE CURRICULUM..... 36 CREDITS

Carpentry Level I .....	BCT 102 .....	3
Carpentry Level II.....	BCT 201 .....	3
Carpentry Level III .....	BCT 202 .....	3
Cabinetmaking.....	BCT 110 .....	3
Electrical Theory.....	BCT 105 .....	3
Residential Electric I .....	BCT 104 .....	3
Plumbing I .....	BCT 111 .....	3
Blueprint Reading and Estimating.....	BCT 127 .....	3
International Residential Building Code .....	BCT 103 .....	3
Technical Math I .....	BCT 100 .....	3
Refrigeration I .....	BCT 122 .....	3
Principles of Management.....	BUS 143 .....	3

#### RECOMMENDED ELECTIVES..... 9-10 CREDITS

Home Maintenance.....	BCT 107 .....	2
Field Experience in Building		
Construction Technology .....	BCT 224 .....	1-6
Residential Electric II.....	BCT 204 .....	3
National Electric Code I .....	BCT 106 .....	3
Refrigeration II.....	BCT 222 .....	3
Heating and Air Conditioning .....	BCT 223 .....	4

#### TOTAL DEGREE REQUIREMENTS .....

64 CREDITS

## AIR CONDITIONING AND REFRIGERATION

### **Certificate (Major Code - ACR)**

#### CORE CURRICULUM..... 16 CREDITS

Technical Mathematics I .....	BCT 100 .....	3
Refrigeration I .....	BCT 122 .....	3
Refrigeration II .....	BCT 222 .....	3
Heating and Air Conditioning .....	BCT 223 .....	4
Oxyacetylene Welding .....	WLD 105 .....	3

#### TOTAL CERTIFICATE REQUIREMENTS..... 16 CREDITS

## CARPENTRY TECHNOLOGY

### Certificate (Major Code - CTC)

CORE CURRICULUM.....	18 CREDITS
Blueprint Reading and Estimating.....	BCT 127 ..... 3
International Residential Building Code .....	BCT 103 ..... 3
Technical Mathematics .....	BCT 100 ..... 3
Carpentry Level I .....	BCT 102 ..... 3
Carpentry Level II.....	BCT 201 ..... 3
Carpentry Level III .....	BCT 202 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	18 CREDITS

## RESIDENTIAL ELECTRICIAN

### Certificate (Major Code - REC)

CORE CURRICULUM.....	18 CREDITS
Residential Electric I .....	BCT 104..... 3
Electrical Theory.....	BCT 105 ..... 3
National Electrical Code I .....	BCT 106 ..... 3
Blueprint Reading and Estimating.....	BCT 127..... 3
Residential Electric II.....	BCT 204 ..... 3
Grounding and Bonding.....	BCT 220 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	18 CREDITS

## Business

The Associate of Business degree in Business Administration is intended for students interested in pursuing a program of study leading to a major in management, marketing, or general business at a four-year school. It not only prepares students to transfer as juniors to a college of business, but it also trains them for direct employment in the business environment.

The Associate of Applied Science degree in Business Management is designed for direct employment in business management or transfer to other universities accepting AAS transfer degrees.

Business certificates are designed to improve skills and help prepare students for a career in a business field.

The online International Business Certificate prepares students for careers and advancement in the international economy. This sequence of courses is delivered online with a focus on preparing students for careers in international business or to transfer to a four-year degree program in international business. Courses include introduction to international business, international management, international marketing, and international trade.

The Supervisory Management Certificate program is designed to provide the knowledge and analytical skills necessary to effectively meet the challenges and opportunities facing supervisors and managers in the workplace. This program provides the skills necessary to manage resources and personnel in a rapidly changing work environment. Upon successful completion of program requirements, students will receive a certificate in supervisory management.

The Management Certificate program is designed to provide supervisors and managers with the knowledge and analytical skills necessary to effectively meet the challenges and opportunities facing today's and tomorrow's competitive organizations. Particular attention is paid to honing the leadership and resource management skills of supervisors and managers by focusing on managing resources and on managing programs. Upon successful completion of the Management Certificate program, students will receive a joint Cochise College - American Management Association certificate in management.

## BUSINESS ADMINISTRATION

### Associate of Business (Major Code - BUSG)

GENERAL EDUCATION REQUIREMENTS (AGEC-B) .....	35 CREDITS
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 212 or MAT 220 ..... 3-5
Laboratory sciences .....	..... 8
Arts .....	..... 3
Humanities.....	..... 3
Social and behavioral sciences ....	ECN 201 and ECN 202 ..... 6
Introduction to Information Systems.....	CIS 120 ..... 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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	

CORE CURRICULUM.....	27 CREDITS
Survey of American Business.....	BUS 109 ..... 3
Business Communications .....	BUS 167 ..... 3
Quantitative Methods in Business.....	BUS 172 ..... 3
Financial Accounting .....	BUS 201 ..... 3
Managerial Accounting.....	BUS 202 ..... 3
Business Statistics .....	BUS 219 ..... 3
The Legal Environment of Business .....	BUS 233 ..... 3
Computer Applications.....	CIS 181 ..... 3
Advanced Computer Applications .....	CIS 281 ..... 3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS) ..... 2 CREDITS  
 TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

Accounting or computer information systems majors should see Transfer Programs ABUS Degree.

Students transferring to Arizona State University, Northern Arizona University, or University of Arizona are required to see a business faculty advisor for specific transfer curriculum to these universities.

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## BUSINESS MANAGEMENT

### Associate of Applied Science (Major Code - BMT)

GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Communication ..... BUS 167, BUS/CIS/ENG 179,  
 CIS/ENG 279, ENG 101, or ENG 102 ..... 6  
 Mathematics ..... MAT 122 or higher ..... 3  
 Technology literacy ..... CIS 116 or CIS 120 ..... 3  
 Liberal arts ..... COM 102 ..... 3  
 Social and behavioral sciences ..... ECN 201 or ECN 202 ..... 3

CORE CURRICULUM ..... 34-36 CREDITS  
 Essential Workplace Success Skills ..... BUS 160 ..... OR  
 Customer Relations in the Workplace ..... BUS 168 ..... 1-3  
 Quantitative Methods in Business ..... BUS 172 ..... OR  
 Computer Applications ..... CIS 181 ..... 3  
 Survey of American Business ..... BUS 109 ..... OR  
 Survey of International Business ..... BUS 110 ..... 3  
 International Marketing ..... BUS 134 ..... OR  
 Principles of Marketing ..... BUS 145 ..... 3  
 International Management ..... BUS 131 ..... OR  
 Principles of Management ..... BUS 143 ..... 3  
 Human Resource Management ..... BUS 123 ..... OR  
 Leadership and Supervision ..... BUS 127 ..... 3  
 Introduction to Accounting ..... BUS 146 ..... OR  
 Financial Accounting ..... BUS 201 ..... OR  
 Managerial Accounting ..... BUS 202 ..... 3  
 Business Statistics ..... BUS 219 ..... OR  
 Financial Planning ..... BUS 228 ..... OR  
 Business Investments ..... BUS 229 ..... 3  
 Business Ethics ..... BUS 150 ..... OR  
 The Legal Environment of Business ..... BUS 233 ..... 3  
 Starting a Business ..... BUS 183 ..... OR  
 Seminar: Trends and Practices in Business ..... BUS 245 ..... 3

Electronic Commerce ..... BUS 285 ..... OR  
 World Wide Web Development ..... CIS 287 ..... 3  
 Management Information Systems ..... BUS 282 ..... OR

Advanced Computer Applications ..... CIS 281 ..... 3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\* ..... 10-12 CREDITS

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Recommended electives: Students may consider two co-op credits in BUS 224 to gain workplace experience, and any course with BUS/CIS/ECN prefix and/or alternate courses listed in the core curriculum. Transfer AAS students should check with transfer school for transferability.

## GENERAL BUSINESS

### Certificate (Major Code - GBUS)

CORE CURRICULUM ..... 18 CREDITS

Business Math ..... BUS 104 ..... 3  
 Survey of American Business ..... BUS 109 ..... 3  
 Introduction to Accounting ..... BUS 146 ..... 3  
 Business Communications ..... BUS 167 ..... 3

CHOOSE ONE OF THE FOLLOWING:

Starting a Business ..... BUS 183 ..... OR  
 International Management ..... BUS 131 ..... 3

CHOOSE ONE OF THE FOLLOWING:

Computer Essentials ..... CIS 116 ..... OR  
 Introduction to Information Systems ..... CIS 120 ..... OR  
 Advisor-approved course ..... 3

TOTAL CERTIFICATE REQUIREMENTS ..... 18 CREDITS

## ENTREPRENEURSHIP/SMALL BUSINESS MANAGEMENT

### Certificate (Major Code - ENTC)

CORE CURRICULUM ..... 30 CREDITS

Business Math ..... BUS 104 ..... 3  
 Survey of American Business ..... BUS 109 ..... 3  
 Introduction to Accounting ..... BUS 146 ..... 3  
 Business Communications ..... BUS 167 ..... 3  
 Starting a Business ..... BUS 183 ..... OR  
 International Management ..... BUS 131 ..... 3  
 Financial Accounting ..... BUS 201 ..... 3  
 The Legal Environment of Business ..... BUS 233 ..... 3  
 Small Business Management ..... BUS 283 ..... 3  
 Computer Essentials ..... CIS 116 ..... OR

Introduction to Information Systems.....	CIS 120.....	OR
Advisor-approved course .....	3	
Principles of Macroeconomics .....	ECN 201 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>30 CREDITS</b>	

## INTERNATIONAL MANAGEMENT

### **Certificate (Major Code - INTM)**

GENERAL EDUCATION COURSES.....	18 CREDITS
Business Math.....	BUS 104 .....
Survey of American Business.....	BUS 109 .....
Introduction to Accounting.....	BUS 146 .....
Business Communications.....	BUS 167 .....
International Management .....	BUS 131.....
Starting a Business .....	BUS 183 .....
Computer Essentials.....	CIS 116.....
Introduction to Information Systems.....	CIS 120.....
Advisor approved course .....	3
<b>CORE CURRICULUM .....</b>	<b>12 CREDITS</b>
International Marketing .....	BUS 134 .....
Financial Accounting .....	BUS 201 .....
Principles of Macroeconomics .....	ECN 201 .....
International Trade .....	ECN 221 .....
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>30 CREDITS</b>

## INTERNATIONAL BUSINESS

### **Certificate (Major Code - INB)**

CORE CURRICULUM.....	21 CREDITS
Survey of International Business .....	BUS 110 .....
International Management .....	BUS 131 .....
International Marketing .....	BUS 134 .....
Financial Accounting .....	BUS 201 .....
Electronic Commerce.....	BUS 285 .....
Principles of Macroeconomics .....	ECN 201 .....
International Trade .....	ECN 221 .....
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>21 CREDITS</b>

## RETAIL MANAGEMENT

### **Certificate (Major Code - RMC)**

CORE CURRICULUM .....	30 CREDITS
Business Communications .....	BUS 167 .....
Business Math.....	BUS 104 .....
Computer Essentials.....	CIS 116.....
Introduction to Information Systems.....	CIS 120 .....

Human Resource Management .....	BUS 123 .....	3
Leadership and Supervision .....	BUS 127 .....	3
Business Speech Communications .....	BUS 209 .....	3
Introduction to Management.....	BUS 143 .....	3
Introduction to Accounting.....	BUS 146 .....	3
Principles of Marketing .....	BUS 145 .....	3
Merchandising Management .....	BUS 149 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>30 CREDITS</b>	

## SUPERVISORY MANAGEMENT

### **Certificate (Major Code - SPM)**

Program prerequisite: Sponsorship by a governmental agency or private/non-profit organization, a current supervisory or management position or potential for appointment to a supervisory/management position.

CORE CURRICULUM.....	16 CREDITS
Introduction to Management Skills.....	MGT/PAD 101 .....
The Manager and System Relationships ...	MGT/PAD 102.....
The Manager and the Work Group.....	MGT/PAD 103 .....
Composition*.....	ENG 101 .....
Mathematics* .....	100 level or higher .....
Recommended electives*.....	5
Reading minimum of 11.5 grade level in accordance with	
standardized test scores.	

### RECOMMENDED ELECTIVES:

Introduction to Sociology .....	SOC 101 .....	3
Introduction to Psychology .....	PSY 101 .....	3
Introduction to Information Systems. ....	CIS 120 .....	3
Computer Applications.....	CIS 181 .....	3
Principles of Macroeconomics .....	ECN 201 .....	3
Principles of Microeconomics.....	ECN 202 .....	3
Financial Accounting .....	BUS 201 .....	3
Principles of Marketing .....	BUS 145 .....	3

<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>16 CREDITS</b>
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\* Requirement waived for individuals holding an AA/AS degree or higher.

## MANAGEMENT PROGRAM

### Certificate (Major Code - MGM)

Prerequisite: Students must have the written sponsorship of a private or non-profit employer or approval of the coordinator of the Cochise College Center for Lifelong Learning prior to enrollment in the program. Students may gain advanced entry into MGT 201 upon completion of the Supervisory Management program (or an equivalent training program), or upon completion of a two-year college degree, which includes six credit hours (or 90 clock hours of training) in management, to include performance evaluation, affirmative action and related topics.

CORE CURRICULUM.....	21 CREDITS
Introduction to Management Skills.....	MGT/PAD 101 ..... 2
The Manager and System Relationships ...	MGT/PAD 102 ..... 2
The Manager and the Work Group.....	MGT/PAD 103 ..... 2
Leadership Skills for Managers.....	MGT 201 ..... 3
Effective Decision Making.....	MGT 202 ..... 3
Successful Project Management.....	MGT 203 ..... 3
Composition* .....	ENG 101.....OR
Business Communications*.....	BUS 167 ..... 3
Recommended electives* .....	3

### RECOMMENDED ELECTIVES:

Principles of Marketing .....	BUS 145 ..... 3
Financial Accounting .....	BUS 201 ..... 3
Managerial Accounting.....	BUS 202 ..... 3
Computer Applications.....	CIS 181 ..... 3
Introduction to Psychology .....	PSY 101 ..... 3
Introduction to Sociology .....	SOC 101 ..... 3
Introduction to Social Welfare .....	SOC 207 ..... 3

### TOTAL CERTIFICATE REQUIREMENTS..... 21 CREDITS

\* Requirement waived for individuals holding an AA/AS degree or higher.

## Chemistry

The Associate of Science degree in Chemistry is designed for students interested in transferring to a four-year institution in areas such as chemistry, medicinal chemistry, biochemistry, forensics, or chemical engineering; or for students planning to become health professionals. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## CHEMISTRY

### Associate of Science (Major Code - CHM)

#### GENERAL EDUCATION REQUIREMENTS (AGEC-S)..... 40-42 CREDITS

Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 220 or higher ..... 3-5
Laboratory sciences .....	PHY 230 and PHY 231 ..... 8
Arts .....	3
Humanities.....	3
Social and behavioral sciences .....	6
Technology literacy.....	CIS 116 or CIS 120 ..... 3
General Chemistry I.....	CHM 151 ..... 4
General Chemistry II .....	CHM 152 ..... 4
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	

#### CORE CURRICULUM..... 12 CREDITS

General Organic Chemistry I .....	CHM 235 ..... 4
General Organic Chemistry II .....	CHM 236 ..... 4
Calculus II .....	MAT 231 ..... 4

#### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*

#### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.



## Communications

The Associate of Arts degree in Communications is designed for students who plan to transfer to a four-year college or university to pursue a degree in speech, communications or communication studies. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### COMMUNICATIONS

#### Associate of Arts (Major Code - COM)

##### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition.....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....		8
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Technology literacy.....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
LANGUAGE REQUIREMENT** .....		0-16 CREDITS

- Non-English language
- Second- or fourth-semester proficiency



##### CORE CURRICULUM ..... 6 CREDITS

Essentials of Communication ..... COM 102 ..... 3

Public Speaking ..... COM 110 ..... 3

##### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Computer Information Systems/Computer Science

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.

The Associate of Business in Computer Information Systems is designed to prepare students for direct transfer to four-year institutions. Information technology is one of the fastest growing career fields in the world. The curriculum provides the foundation for the following rewarding careers including applications programmer, systems programmer, and database administrator.

The Associate of Applied Science degree in Information Security provides students with marketable skills and knowledge in the information security, network security, and information assurance fields. The course sequence combines theory with hands-on application.

The Associate of Applied Science degree in Network Technology provides students with the knowledge and skills for immediate employment in the field of computer networking. Students choose an area of emphasis from among network operating systems.

The various certificate programs can prepare students for direct employment and/or improved skills in rewarding, technology-related careers.

To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

**CIS DEPARTMENT APPROVED ELECTIVES**

(PREREQUISITES APPLY.)

Customer Service for the Help Desk Professional .....	CIS 115 .....	3
Linux Operating System .....	CIS 128 .....	4
Introduction to Programming Logic.....	CIS 129 .....	1
Programming Logic .....	CIS 130 .....	3
Operating Systems .....	CIS 140 .....	3
Essentials of Networking.....	CIS 150 .....	3
Introduction to Information Security .....	CIS 160 .....	3
Networking Security Fundamentals .....	CIS 161 .....	4
Applied Technical Writing.....	CIS 179 .....	3
Computer Applications .....	CIS 181 .....	3
Basic Game Design and Creation.....	CIS 183 .....	3
Internet Essentials .....	CIS 185 .....	3
C Programming .....	CIS 204 .....	4
Java Programming.....	CIS 208 .....	4
Advanced Java Programming .....	CIS 209 .....	4
User Support for the Help Desk Professional.....	CIS 215 .....	3
Introduction to Visual C#.Net Programming .....	CIS 217 .....	4
Visual Basic Programming .....	CIS 218 .....	4
Data Structures.....	CIS 220 .....	4
Digital Logic .....	CIS 221 .....	3
Advanced Visual Programming.....	CIS 223 .....	4
Introduction to Game Programming .....	CIS 224 .....	4
C++ Programming.....	CIS 227 .....	4
Linux System Administration.....	CIS 229 .....	4
Digital Communications and Network Hardware .....	CIS 232 .....	4
Microsoft Workstation Operating Systems.....	CIS 236 .....	4
Introduction to TCP/IP .....	CIS 238 .....	3
Advanced Microsoft Server .....	CIS 240 .....	4
Introduction to Microsoft Directory Services .....	CIS 241 .....	4
World Wide Web Programming .....	CIS 242 .....	3
World Wide Web Graphics .....	CIS 244 .....	3
Perl Scripting .....	CIS 248 .....	3
Database Management .....	CIS 250 .....	4
Advanced Linux Systems Administration .....	CIS 259 .....	4
Service and Maintenance of Personal Computers....	CIS 260 .....	4
Wireless Security .....	CIS 261 .....	4
Network Support and Troubleshooting.....	CIS 262 .....	4
Implementing Internet/Intranet Firewalls.....	CIS 265 .....	4
Implementing Operating Systems Security .....	CIS 266 .....	4

Technical Presentations.....	CIS 268 .....	3
Systems Analysis .....	CIS 270 .....	4
Advanced Applied Technical Writing .....	CIS 279 .....	3
Advanced Computer Applications.....	CIS 281 .....	3
Introduction to Game Level Design .....	CIS 282 .....	3
Advanced Game Design and Creation .....	CIS 283 .....	3
Introduction to Simulations Programming .....	CIS 284 .....	4
World Wide Web Development .....	CIS 287 .....	3
Artificial Intelligence Theory and Programming.....	CIS 289 .....	4
Game Development Using Flash .....	CIS 290 .....	4
Practical Applications in Information Security .....	CIS 291 .....	4
Practical Applications in Game Design .....	CIS 293 .....	4

**COMPUTER INFORMATION SYSTEMS****Associate of Business (Major Code - CISS)**

GENERAL EDUCATION REQUIREMENTS (AGEC-B).....	35 CREDITS	
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics.....	MAT 212 .....	3
Laboratory sciences .....		8
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Technology literacy .....	CIS 116 or CIS 120 .....	3
General education electives*.....		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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
CORE CURRICULUM .....	29 CREDITS	
Financial Accounting .....	BUS 201 .....	3
Managerial Accounting.....	BUS 202 .....	3
Business Statistics .....	BUS 219 .....	3
The Legal Environment of Business .....	BUS 233 .....	3
Introduction to Visual C#.NET Programming.....	CIS 217 .....	4
Systems Analysis .....	CIS 270 .....	4
Principles of Macroeconomics .....	ECN 201 .....	3
Principles of Microeconomics.....	ECN 202 .....	3
Finite Mathematics.....	MAT 172.....	OR
Quantitative Methods in Business.....	BUS 172 .....	3
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS	

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## COMPUTER INFORMATION SYSTEMS

### Associate of Applied Science (Major Code - CIS)

#### GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
Mathematics .....	MAT 122 or higher .....	3
Introduction to Information Systems.....	CIS 120 .....	3
Advanced Applied Technical Writing.....	CIS/ENG 279 .....	3
Liberal arts .....		6

#### CORE CURRICULUM ..... 46 CREDITS

Customer Relations in the Workplace .....	BUS 168 .....	1
Programming Logic .....	CIS 130 .....	3
Introduction to Operating Systems .....	CIS 140 .....	3
Essentials of Networking .....	CIS 150 .....	3
Computer Applications .....	CIS 181 .....	3
Internet Essentials.....	CIS 185 .....	3
Technical Presentations.....	CIS 268 .....	3
Advanced Computer Applications .....	CIS 281 .....	3
Field Experience in CIS.....	CIS 294 .....	3
Departmental approved electives*.....		21

#### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Please select 21 credits from the CIS departmental approved elective courses.  
(Note: they cannot include CORE courses from above.)



Advanced Computer Applications.....	CIS 281 .....	3
World Wide Web Development .....	CIS 287 .....	3
Field Experience in CIS.....	CIS 294 .....	2
Essential Workplace Success Skills.....	BUS 160 .....	3
Administrative Assistant Skills III .....	BUS 216 .....	4
Administrative Assistant Skills IV .....	BUS 217 .....	4

#### ADVANCED OPERATING SYSTEMS (SELECT ONE)

Linux Operating System.....	CIS 128.....	OR
Microsoft Workstation Operating Systems.....	CIS 236 .....	4

#### TOTAL DEGREE REQUIREMENTS ..... 66 CREDITS

## COMPUTER APPLICATIONS

### Associate of Applied Science (Major Code - CAP)

#### GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
Advanced Applied Technical Writing.....	CIS/ENG 279 .....	3
Intermediate Algebra .....	MAT 122 .....	3
Computer Essentials.....	CIS 116 .....	3
Liberal arts .....		6

#### CORE CURRICULUM ..... 48 CREDITS

Introduction to Information Systems.....	CIS 120 .....	3
Introduction to Operating Systems .....	CIS 140 .....	3
Essentials of Networking .....	CIS 150 .....	3
Computer Applications .....	CIS 181 .....	3
Internet Essentials.....	CIS 185 .....	3
World Wide Web Programming.....	CIS 242 .....	OR
World Wide Web Graphics .....	CIS 244 .....	3
Service and Maintenance of Personal Computers	CIS 260 .....	4
Technical Presentations.....	CIS 268 .....	3

## COMPUTER APPLICATIONS

### Certificate (Major Code - CAP)

The Computer Applications Certificate is designed to provide students with the fundamentals of software applications including Word, Excel, Access, PowerPoint, Introduction to Information Systems, Internet Essentials, and a department approved elective.

#### CORE CURRICULUM ..... 18 CREDITS

Computer Essentials.....	CIS 116* .....	3
Introduction to Information Systems.....	CIS 120* .....	3
Computer Applications .....	CIS 181* .....	3
Internet Essentials.....	CIS 185* .....	3
Advanced Computer Applications .....	CIS 281 .....	3
Elective (department approved course with CIS prefix) .....		3

\* Prerequisites apply.

#### TOTAL CERTIFICATE REQUIREMENTS ..... 18 CREDITS

## COMPUTER PROGRAMMER

### Certificate (Major Code - CPG)

CORE CURRICULUM.....	14 CREDITS
Customer Relations in the Workplace .....	BUS 168 ..... 1
Introduction to Information Systems.....	CIS 120 ..... 3
Programming Logic .....	CIS 130 ..... 3
Digital Logic .....	CIS 221 ..... 3
Systems Analysis .....	CIS 270 ..... 4
PROGRAMMING (SELECT THREE) .....	12 CREDITS
COBOL Programming.....	CIS 202 ..... 4
FORTRAN Programming.....	CIS 203 ..... 4
C Programming.....	CIS 204 ..... 4
Assembler w/Architecture .....	CIS 206 ..... 4
Java Programming .....	CIS 208 ..... 4
Visual C#.NET Programming.....	CIS 217 ..... 4
Visual Basic Programming .....	CIS 218 ..... 4
C++ Programming .....	CIS 227 ..... 4
ADVANCED PROGRAMMING (SELECT ONE) .....	4 CREDITS
Advanced Java Programming.....	CIS 209 ..... 4
Data Structures (in language selected above) .....	CIS 220 ..... 4
Advanced Visual Programming .....	CIS 223 ..... 4
TOTAL CERTIFICATE REQUIREMENTS. ....	30 CREDITS

## COMPUTER PROGRAMMING

### Associate of Applied Science (Major Code - CPG)

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Applied Technical Writing.....	BUS/CIS/ENG 179 ..... 3
Intermediate Algebra.....	MAT 122 or higher .....
Technology literacy .....	CIS 116 or CIS 120 ..... 3
Advanced Applied Technical Writing.....	CIS/ENG 279.....3
Liberal arts .....	6
CORE CURRICULUM .....	46 CREDITS
Customer Relations in the Workplace .....	BUS 168 ..... 1
Programming Logic .....	CIS 130 ..... 3
Introduction to Operating Systems .....	CIS 140 ..... 3
Essentials of Networking .....	CIS 150 ..... 3
Internet Essentials.....	CIS 185 ..... 3
Digital Logic .....	CIS 221 ..... 3
Systems Analysis .....	CIS 270 ..... 4
Field Experience in CIS.....	CIS 294 ..... 2
College Algebra .....	MAT 151 or higher ..... 4
PROGRAMMING (SELECT THREE) .....	12 CREDITS
COBOL Programming.....	CIS 202 ..... 4
FORTRAN Programming.....	CIS 203 ..... 4
C Programming .....	CIS 204 ..... 4
Assembler with Architecture.....	CIS 206 ..... 4
JAVA Programming.....	CIS 208 ..... 4
Visual C#.NET Programming .....	CIS 217 ..... 4
Visual Basic Programming .....	CIS 218 ..... 4
C++ Programming.....	CIS 227 ..... 4
ADVANCED PROGRAMMING (SELECT ONE) .....	4 CREDITS
Advanced JAVA Programming .....	CIS 209 ..... 4
Data Structures (in a language selected above) .....	CIS 220 ..... 4
Advanced Visual Basic Programming.....	CIS 223 ..... 4
ADVANCED OPERATING SYSTEMS (SELECT ONE) .....	4 CREDITS
Linux Operating System .....	CIS 128..... 4
Microsoft Workstation Operating Systems.....	CIS 236 ..... 4
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## COMPUTER SCIENCE

### Associate of Science (Major Code - CSC)

The Associate of Science degree in Computer Science is designed for students interested in transferring to a four-year institution in the area of computer science. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

GENERAL EDUCATION REQUIREMENTS (AGEC-S).....	40-42 CREDITS
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 220 or higher .....
Laboratory sciences .....	PHY 230 and PHY 231 .....
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Technology literacy .....	CIS 116 or CIS 120 ..... 3
Calculus II.....	MAT 231 ..... 4
Calculus III .....	MAT 241 ..... 4
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	
CORE CURRICULUM .....	22 CREDITS

Assembler with Architecture.....	CIS 206 ..... 4
Java Programming .....	CIS 208 ..... 4
Data Structures - Java.....	CIS 220J .....
Digital Logic .....	CIS 221 ..... 3

General Chemistry I.....	CHM 151 .....	4
Discrete Math. ....	MAT 227 .....	3
<b>DEPARTMENT APPROVED ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)*</b>		
<b>TOTAL DEGREE REQUIREMENTS.....</b>	<b>64 CREDITS</b>	
* Elective courses must be transferable to all Arizona public universities. See <a href="http://www.aztransfer.com">www.aztransfer.com</a> . The department recommends that students use a university transfer guide for transfer requirements.		

## GAME DESIGN AND CREATION

### **Associate of Applied Science (Major Code - GDC)**

The Associate of Applied Science degree in Game Design and Creation provides students with skills marketable in the gaming industry. Combining theory with hands-on application, it presents knowledge of the game development and design process.

<b>GENERAL EDUCATION REQUIREMENTS .....</b>	<b>18 CREDITS</b>	
Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
Advanced Applied Technical Writing.....	CIS/ENG 279 .....	3
Mathematics .....	MAT 122 or higher .....	3
Technology literacy.....	CIS 116 or CIS 120 .....	3
Liberal arts.....	ART 103 or ART 106 .....	3
Liberal arts .....	.....	3
<b>CORE CURRICULUM .....</b>	<b>46 CREDITS</b>	
Introduction to Programming Logic.....	CIS 129 .....	1
Basic Game Design and Creation .....	CIS 183 .....	3
Introduction to Visual C#.NET Programming.....	CIS 217 .....	4
Introduction to Game Programming .....	CIS 224 .....	4
Introduction to Game Level Design .....	CIS 282 .....	3
Advanced Game Design and Creation.....	CIS 283 .....	3
Introduction to Simulations Programming .....	CIS 284 .....	4
Artificial Intelligence Theory and Programming ..	CIS 289 .....	4
Game Development Using Flash .....	CIS 290 .....	4
Practical Applications in Game Design .....	CIS 293 .....	4
Computer Animation I.....	DMA 111 .....	3
Computer Animation II .....	DMA 211 .....	3
Department approved electives.....	.....	6
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

## GAME DESIGN AND CREATION

### **Certificate (Major Code - GDC)**

The Game Design and Creation Certificate teaches the fundamentals of game design theory, which include game and simulations programming, animation, and level design.

<b>CORE CURRICULUM .....</b>	<b>28 CREDITS</b>	
Introduction to Programming Logic.....	CIS 129 .....	1
Basic Game Design and Creation .....	CIS 183 .....	3
Introduction to Visual C#.NET Programming.....	CIS 217 .....	4
Introduction to Game Programming .....	CIS 224 .....	4
Introduction to Game Level Design .....	CIS 282 .....	3
Advanced Game Design and Creation.....	CIS 283 .....	3
Introduction to Simulations Programming .....	CIS 284.....	4
Computer Animation I.....	DMA 111 .....	3
Computer Animation II .....	DMA 211 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>28 CREDITS</b>	

## 2D GAME DEVELOPMENT

### **Certificate (Major Code - GD2)**

The 2D Game Development Certificate teaches the fundamentals of 2D game design theory, which include game programming, basic and advanced game design, and 2D animation.

<b>CORE CURRICULUM .....</b>	<b>19 CREDITS</b>	
Introduction to Programming Logic.....	CIS 129 .....	1
Basic Game Design and Creation .....	CIS 183 .....	3
Introduction to Visual C#.NET Programming.....	CIS 217 .....	4
Introduction to Game Programming .....	CIS 224 .....	4
Advanced Game Design and Creation.....	CIS 283 .....	3
Artificial Intelligence Theory and Programming ..	CIS 289 .....	4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>19 CREDITS</b>	

## 3D GAME DEVELOPMENT

### **Certificate (Major Code - GD3)**

The 3D Game Development Certificate teaches the fundamentals of 3D game design theory, which include game programming, basic and advanced game design, game level design, and 3D simulations programming.

<b>CORE CURRICULUM .....</b>	<b>22 CREDITS</b>	
Introduction to Programming Logic.....	CIS 129 .....	1
Basic Game Design and Creation .....	CIS 183 .....	3
Introduction to Visual C#.NET Programming.....	CIS 217 .....	4
Introduction to Game Level Design .....	CIS 282 .....	3
Advanced Game Design and Creation.....	CIS 283 .....	3
Introduction to Simulations Programming .....	CIS 284 .....	4
Practical Applications in Game Design .....	CIS 293 .....	4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>22 CREDITS</b>	

## FLASH GAME DEVELOPMENT

### Certificate (Major Code - FGD)

The Flash Game Development Certificate teaches the fundamentals of Flash game design theory, which include Flash programming, animation, and advanced game design.

CORE CURRICULUM.....	16 CREDITS
Basic Game Design and Creation .....	CIS 183 ..... 3
Advanced Game Design and Creation.....	CIS 283 ..... 3
Game Development Using Flash.....	CIS 290 ..... 4
Computer Animation I.....	DMA 111 ..... 3
Computer Animation II .....	DMA 211 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## HELP DESK

### Certificate (Major Code - HLD)

The Help Desk Certificate provides students with the knowledge and skills for immediate employment as entry-level help desk professionals or computer support specialists.

CORE CURRICULUM.....	21 CREDITS
Computer Essentials.....	CIS 116 ..... 3
Introduction to Operating Systems .....	CIS 140 ..... 3
Customer Service for the Help Desk Professional .	CIS 115 ..... 3
Applied Technical Writing.....	CIS 179 ..... 3
Service and Maintenance of Personal Computers.	CIS 260 ..... 4
User Support for the Help Desk Professional .....	CIS 215 ..... 3
Field Experience in Computer Information Systems..	CIS 294 ..... 2
TOTAL CERTIFICATE REQUIREMENTS.....	21 CREDITS

## INFORMATION SECURITY

### Associate of Applied Science (Major Code - IS)

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Applied Technical Writing.....	ENG/BUS/CIS 179 ..... 3
Advanced Applied Technical Writing.....	ENG/CIS 279 ..... 3
Intermediate Algebra.....	MAT 122 or higher
	MAT 142 recommended ..... 3
Technology literacy.....	CIS 116 or CIS 120 ..... 3
Liberal arts .....	6

CORE CURRICULUM.....	46 CREDITS
Linux Operating Systems .....	CIS 128 ..... 4
Introduction to Operating Systems .....	CIS 140 ..... 3
Essentials of Networking.....	CIS 150 ..... 3
Introduction to Information Security.....	CIS 160 ..... 4

Networking Security Fundamentals.....	CIS 161 ..... 4
Microsoft Workstation Operating Systems.....	CIS 236 ..... 4
Wireless Security .....	CIS 261 ..... 4
Implementing Internet/Intranet Firewalls .....	CIS 265 ..... 4
Implementing Operating System Security.....	CIS 266 ..... 4
Systems Analysis .....	CIS 270 ..... 4
Practical Applications in Information Security .....	CIS 291 ..... 4
Department approved electives.....	5
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## INFORMATION SECURITY

### Certificate (Major Code - ISC)

CORE CURRICULUM.....	32 CREDITS
Linux Operating System.....	CIS 128 ..... 4
Introduction to Operating Systems .....	CIS 140 ..... 3
Essentials of Networking .....	CIS 150 ..... 3
Introduction to Information Security.....	CIS 160 ..... 3
Networking Security Fundamentals .....	CIS 161 ..... 4
Applied Technical Writing.....	CIS 179 ..... 3
Microsoft Workstation Operating Systems.....	CIS 236..... 4
Implementing Internet/Intranet Firewalls .....	CIS 265 ..... 4
Implementing Operating System Security.....	CIS 266 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	32 CREDITS

## ADVANCED INFORMATION SECURITY

### Certificate (Major Code - AIS)

CORE CURRICULUM .....	16 CREDITS
Wireless Security .....	CIS 261 ..... 4
Implementing Internet/Intranet Firewalls .....	CIS 265 ..... 4
Implementing Operating System Security.....	CIS 266 ..... 4
Practical Applications in Information Security .....	CIS 291 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## LINUX SYSTEM ADMINISTRATOR

### Certificate (Major Code - LSA)

CORE CURRICULUM .....	15 CREDITS
Linux Operating System .....	CIS 128 ..... 4
Linux System Administration .....	CIS 229* ..... 4
Perl Scripting.....	CIS 248* ..... 3
Advanced Linux System Administration.....	CIS 259* ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	15 CREDITS

\* Prerequisites apply.

## MICROCOMPUTER SKILLS PROFICIENCY

### Certificate (Major Code - MSP)

CORE CURRICULUM .....	27 CREDITS
Word Processing .....	BUS 213.....OR
Word I, Word II .....	BUS 193V, BUS 193W,
Word III .....	BUS 193X .....3
Advanced Word Processing .....	BUS 214 .....OR
Advanced Word I, Advanced Word II	BUS 293A, BUS 293B .....OR
Advanced Word III .....	BUS 293C .....3
Technical Presentations.....	CIS 268.....OR
PowerPoint I, PowerPoint II .....	BUS 193M, BUS 193N,
PowerPoint III .....	BUS 193O .....3
Computer Applications.....	CIS 181.....OR
Excel I, Excel II .....	BUS A193, BUS B193,
Access I, Access II .....	BUS D193, BUS E193 .....3-4
Administrative Assistant Skills III .....	BUS 216.....OR
Excel III, Access III .....	BUS C193, BUS F193,
Advanced Word Projects.....	BUS 293O .....3-4
Introduction to Email .....	BUS 193U .....1
Introduction to Outlook.....	BUS 193Z .....1
Advanced Outlook.....	BUS 293D .....1
Advanced Office Professional I .....	BUS 293L .....1
Advanced Office Professional II .....	BUS 293M .....1
Advanced Office Professional III .....	BUS 293N .....1
Administrative Assistant Skills IV .....	BUS 217.....OR
Advanced Word Applications I.....	BUS 293P,
Advanced Word Applications II .....	BUS 293Q,
Advanced Word Applications III .....	BUS 293R .....3-4
Electives: BUS 192, BUS 193, BUS 293 or CIS 193 courses listed in the certificate requirements but not used .....	1-3
TOTAL CERTIFICATE REQUIREMENTS.....	27 CREDITS

## MICROCOMPUTER PRACTITIONER

### Certificate (Major Code - MIC)

To satisfy graduation requirements for this certificate, all courses require a grade of C or higher.

CORE CURRICULUM.....	15-18 CREDITS
Computer Essentials.....	CIS 116 .....OR
Introduction to Information Systems.....	CIS 120 .....3
Introduction to Operating Systems .....	CIS 140 .....3
Internet Essentials.....	CIS 185 .....3
Technical Presentations.....	CIS 268 .....3
Department approved electives.....	0-3

## COMPLETE ONE OF THE FOLLOWING OPTIONS

Web Option .....	6 CREDITS
World Wide Web Development .....	CIS 287 .....3
World Wide Web Programming .....	CIS 242 .....3
Applications Option .....	6 CREDITS
Computer Applications.....	CIS 181 .....3
Advanced Computer Applications .....	CIS 281 .....3
Office Option .....	8 CREDITS
Administrative Assistant Skills III .....	BUS 216 .....4
Administrative Assistant Skills IV .....	BUS 217 .....4
TOTAL CERTIFICATE REQUIREMENTS.....	21-26 CREDITS

## NETWORK ADMINISTRATOR

### Certificate (Major Code - NAD)

The Network Administrator Certificate teaches the fundamentals of network administration including operating systems, computer applications, networking essentials, and information security. It also provides field experience in computer information systems.

CORE CURRICULUM.....	25-26 CREDITS
Applied Technical Writing.....	BUS/CIS/ENG 179 .....OR
Mathematics .....	MAT 122 or higher .....3
Computer Essentials.....	CIS 116 .....3
Introduction to Operating Systems .....	CIS 140 .....3
Essentials of Networking .....	CIS 150 .....3

OR

Cisco Networking Fundamentals.....	CNT 140 .....4
Introduction to Information Security.....	CIS 160 .....3
Computer Applications.....	CIS 181 .....3
Service and Maintenance of Personal Computers.	CIS 260 .....4
Field Experience in Computer Information Systems .	CIS 294 .....3

## TAKE REQUIRED NUMBER OF COURSES FROM

THE SAME TRACK.....	12-15 CREDITS
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### Cisco Track – Take three courses.

Cisco Networking Fundamentals.....	CNT 140 .....4
Cisco Networking Router Technologies .....	CNT 150 .....4
Cisco LAN Switching and Wireless .....	CNT 240 .....4
Cisco Wide Area Network (WAN) Technologies ..	CNT 250.....4

### Linux Track – Take four courses.

Linux Operating System .....	CIS 128 .....4
Introduction to Programming Logic .....	CIS 129 .....1
Linux System Administration .....	CIS 229 .....4
Perl Scripting.....	CIS 248 .....3

Microsoft Track – Take four courses.

Microsoft Workstation Operating Systems.....	CIS 236 .....	4
Introduction to TCP/IP.....	CIS 238 .....	3
Advanced Microsoft Server .....	CIS 240 .....	4
Introduction to Microsoft Directory Services .....	CIS 241 .....	4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>37-41 CREDITS</b>	

## NETWORK SUPPORT

### Certificate (Major Code - NTS)

The Network Support Certificate teaches the fundamentals of network support including operating systems, networking essentials and functions, hardware basics, and system troubleshooting. It also provides field experience in computer information systems.

**CORE CURRICULUM .....** 28-29 CREDITS

Introduction to Operating Systems .....	CIS 140 .....	3
Essentials of Networking .....	CIS 150 .....	3

OR

Cisco Networking Fundamentals.....	CNT 140 .....	4
Introduction to Information Security .....	CIS 160 .....	3
Digital Communications and Network Hardware .	CIS 232 .....	4
Microsoft Workstation Operating Systems.....	CIS 236 .....	4
Service and Maintenance of Personal Computers. CIS 260 .....	4	
Network Support and Troubleshooting .....	CIS 262 .....	4
Field Experience in Computer Information Systems .....	CIS 294 .....	3

TAKE REQUIRED NUMBER OF COURSES FROM

**THE SAME TRACK.....** 12-15 CREDITS

Cisco Track – Take three courses.

Cisco Networking Fundamentals.....	CNT 140 .....	4
Cisco Networking Router Technologies.....	CNT 150 .....	4
Cisco LAN Switching and Wireless.....	CNT 240 .....	4
Cisco Wide Area Network (WAN) Technologies ..	CNT 250.....	4

Linux Track – Take four courses.

Linux Operating System .....	CIS 128 .....	4
Introduction to Programming Logic.....	CIS 129 .....	1
Linux System Administration .....	CIS 229 .....	4
Perl Scripting.....	CIS 248 .....	3

Microsoft Track – Take four courses.

Microsoft Workstation Operating Systems.....	CIS 236 .....	4
Introduction to TCP/IP.....	CIS 238 .....	3
Advanced Microsoft Server .....	CIS 240 .....	4
Introduction to Microsoft Directory Services .....	CIS 241 .....	4

**TOTAL CERTIFICATE REQUIREMENTS.....** 40-44 CREDITS

## NETWORK TECHNOLOGY

### Associate of Applied Science (Major Code - NWT)

The Associate of Applied Science degree in Network Technology provides students with the knowledge and skills for immediate employment in the field of computer networking. Students choose an area of emphasis from among network operating systems.

**GENERAL EDUCATION REQUIREMENTS .....** 18 CREDITS

Applied Technical Writing.....	ENG/BUS/CIS 179 .....	3
Advanced Applied Technical Writing .....	ENG/CIS 279 .....	3
Mathematics .....	MAT 122 or higher .....	3
Technology literacy.....	CIS 116 or CIS 120 .....	3
Liberal arts .....	.....	6

**CORE CURRICULUM .....** 25 CREDITS

Introduction to Operating Systems .....	CIS 140 .....	3
Introduction to Information Security.....	CIS 160 .....	3
Digital Communications and Network Hardware .	CIS 232 .....	4
Microsoft Workstation Operating Systems.....	CIS 236 .....	4
Service and Maintenance of Personal Computers. CIS 260 .....	4	
Network Support and Troubleshooting .....	CIS 262 .....	4
Technical Presentations.....	CIS 268 .....	3

**CHOOSE ONE TRACK FROM THE FOLLOWING. ....** 21 CREDITS

Cisco Track\*

Cisco Networking Fundamentals.....	CNT 140 .....	4
Cisco Networking Router Technologies .....	CNT 150* .....	4
Cisco LAN Switching and Wireless.....	CNT 240* .....	4
Cisco Wide Area Network (WAN) Technologies .	CNT 250* .....	4
Field Experience in Computer Information Systems CIS 294 .....	2	
Department approved electives (see list) .....	3	

Linux Track\*

Linux Operating System .....	CIS 128 .....	4
Introduction to Programming Logic.....	CIS 129 .....	1
Essentials of Networking .....	CIS 150 .....	3
Linux System Administration .....	CIS 229* .....	4
Perl Scripting.....	CIS 248* .....	3
Advanced Linux System Administration.....	CIS 259* .....	4
Field Experience in Computer Information Systems . CIS 294 .....	2	

Microsoft Track\*

Essentials of Networking .....	CIS 150 .....	3
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Introduction to TCP/IP .....	CIS 238*	3
Advanced Microsoft Server .....	CIS 240*	4
Introduction to Microsoft Directory Services .....	CIS 241*	4
Field Experience in Computer Information Systems .....	CIS 294	3
Department approved electives (see list) .....		4
<b>TOTAL DEGREE REQUIREMENTS</b> .....		<b>64 CREDITS</b>

\* Prerequisites apply.

## PC MAINTENANCE AND REPAIR

### **Certificate (Major Code - PCM)**

<b>CORE CURRICULUM</b> .....		<b>16 CREDITS</b>
Introduction to Operating Systems .....	CIS 140	3
Essentials of Networking .....	CIS 150	3
Internet Essentials .....	CIS 185	3
Service and Maintenance of PCs .....	CIS 260	4
Field Experience in Computer Information Systems .....	CIS 294	3
<b>TOTAL CERTIFICATE REQUIREMENTS</b> .....		<b>16 CREDITS</b>

## WEB DEVELOPER

### **Certificate (Major Code - WEBD)**

<b>CORE CURRICULUM</b> .....		<b>20 CREDITS</b>
Operating System Foundation		
Microsoft Workstation Operating Systems .....	CIS 236	OR
Linux Operating System .....	CIS 128	4
Programming Foundation		
Introduction to Programming Logic .....	CIS 129	1
Communication Foundation		
Applied Technical Writing .....	BUS/CIS/ENG 179	3
World Wide Web Foundation		
Internet Essentials .....	CIS 185	3
World Wide Web Programming .....	CIS 242	3
World Wide Web Graphics .....	CIS 244	3
World Wide Web Development .....	CIS 287	3
<b>TOTAL CERTIFICATE REQUIREMENTS</b> .....		<b>20 CREDITS</b>

## CISCO NETWORKING

### **Certificate (Major Code - CNT)**

The Cisco Networking Certificate is designed to present a comprehensive overview of networking, from fundamentals to advanced applications and services. Students will learn the concepts and skills required to design networks and be provided the opportunity for practical application and hands-on experience in installing, operating and maintaining networks.

<b>CORE CURRICULUM</b> .....		<b>16 CREDITS</b>
Cisco Networking Fundamentals .....	CNT 140	4
Cisco Networking Router Technologies .....	CNT 150	4
Cisco LAN Switching and Wireless .....	CNT 240	4
Cisco Wide Area Network (WAN) Technologies .....	CNT 250	4
<b>TOTAL CERTIFICATE REQUIREMENTS</b> .....		<b>16 CREDITS</b>

## Culinary Arts

The Associate of Applied Science degree in Culinary Arts 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 food and beverages director. It also provides general education and allows elective study in the areas of general business and hotel administration.

The Chef Garde Manger Apprentice Certificate provides training in all areas of professional garde manger (cold-food preparation) as well as in food and beverage control and restaurant sanitation. It is intended for those already trained in professional cooking who wish to progress into the garde manger area.

The Chef Pâtissier – 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.

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.

## CULINARY ARTS

### **Associate of Applied Science (Major Code - CUL)**

<b>GENERAL EDUCATION REQUIREMENTS</b> .....		<b>18-20 CREDITS</b>	
Composition .....	ENG 101	3	
English Composition .....	ENG 102	3	
Mathematics .....	BUS 104	OR	
	MAT 122	or higher	3-5
Liberal arts .....		3	
Technology literacy .....	CIS 116 or CIS 120	3	
General education electives .....		3	
<b>CORE CURRICULUM</b> .....		<b>40-43 CREDITS</b>	
Nutrition in Food Service .....	CUL 105	3	
Restaurant Sanitation .....	CUL 107	3	

Food Service Purchasing and Control .....	CUL 204 .....	3
Culinary Preparation I .....	CUL 215 .....	3
Culinary Preparation II .....	CUL 216 .....	3
Saucier.....	CUL 217 .....	3
Baking I .....	CUL 220 .....	3
Baking II .....	CUL 221 .....	3
Garde Manger I.....	CUL 225 .....	3
Garde Manger II .....	CUL 226 .....	3
Dining Service Management.....	CUL 242 .....	3
Advanced Techniques in Gourmet Food Preparation I .....	CUL 280 .....	3
Advanced Techniques in Gourmet Food Preparation II....	CUL 281 .....	3
Field Experience in Culinary Arts .....	CUL 224 .....	1-4
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS) .....	1-6	
<b>TOTAL DEGREE REQUIREMENTS.....</b>	<b>64 CREDITS</b>	

### **CHEF GARDE MANGER APPRENTICE**

#### **Certificate (Major Code - CGMA)**

<b>CORE CURRICULUM.....</b>	<b>21 CREDITS</b>	
Cold Foods and Salad		
Nutrition in Food Service.....	CUL 105 .....	3
Restaurant Sanitation.....	CUL 107 .....	3
Food Purchasing and Control .....	CUL 204 .....	3
Garde Manger Specialty		
Culinary Preparation I.....	CUL 215 .....	3
Culinary Preparation II .....	CUL 216 .....	3
Garde Manger.....	CUL 225 .....	3
Garde Manger II .....	CUL 226 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>21 CREDITS</b>	

### **CHEF PATISSIER – BAKER’S APPRENTICE**

#### **Certificate (Major Code - BKRA)**

Cake Decorating.....	CUL 101 .....	3
Nutrition in Food Service.....	CUL 105 .....	3
Restaurant Sanitation.....	CUL 107 .....	3
Food Service Purchasing and Control .....	CUL 204 .....	3
Baking Specialty		
Baking I .....	CUL 220 .....	3
Baking II .....	CUL 221 .....	2 3
Advanced Confections and Pastries I .....	CUL 222 .....	3
Advanced Confections and Pastries II .....	CUL 223 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>24 CREDITS</b>	

### **SOUS CHEF APPRENTICE**

#### **Certificate (Major Code - SCCA)**

<b>CORE CURRICULUM.....</b>	<b>40-43 CREDITS</b>	
Nutrition in Food Service.....	CUL 105 .....	3
Restaurant Sanitation.....	CUL 107 .....	3
Food Service Purchasing and Control .....	CUL 204 .....	3
Culinary Preparation I.....	CUL 215 .....	3
Culinary Preparation II .....	CUL 216 .....	3
Saucier.....	CUL 217 .....	3
Baking I .....	CUL 220 .....	3
Baking II.....	CUL 221 .....	3
Garde Manger I.....	CUL 225 .....	3
Garde Manger II .....	CUL 226 .....	3
Dining Service Management.....	CUL 242 .....	3
Advanced Techniques in Gourmet Food Preparation I .....	CUL 280 .....	3
Advanced Techniques in Gourmet Food Preparation II....	CUL 281 .....	3
Field Experience in Culinary Arts .....	CUL 224.....	1-4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>40-43 CREDITS</b>	

## Drafting and Design

The Computer-Aided Drafting Certificate is intended to prepare students for entry-level positions in various areas of drafting and design. Students are introduced to traditional and computer-aided drafting techniques, including theory and practice useful in many drafting and technical jobs. Product design is also included in order to familiarize the students with common industry problems.

The General Computer-aided Drafting Certificate provides students with entry-level drafting skills.

### **COMPUTER-AIDED DRAFTING**

#### **Certificate (Major Code - CAD)**

<b>CORE CURRICULUM.....</b>	<b>25 CREDITS</b>	
Technical Graphics I .....	DFT 112 .....	3
Technical Graphics II .....	DFT 113 .....	3
Spatial Relationships.....	DFT 210 .....	3
Computer-Aided Drafting .....	DFT 150 .....	3
Topics in Drafting.....	DFT 201 .....	4
Computer-Aided Drafting II.....	DFT 250 .....	3
Written Communications and Reports .....	ENG 109 .....	3
Elementary Algebra .....	MAT 082 .....	3

SELECT OPTION .....	11 CREDITS
Manufacturing Option	
Manufacturing Materials and Processes .....	GTC 105 ..... 3
Manufacturing Materials and Processes .....	GTC 206 ..... 4
Engineering Design .....	DFT 241 ..... 4
Computer Technology Option	
Introduction to Operating Systems .....	CIS 140 ..... 3
Essentials of Networking .....	CIS 150 ..... 3
Computer electives .....	5
TOTAL CERTIFICATE REQUIREMENTS. .... 36 CREDITS	

## GENERAL COMPUTER-AIDED DRAFTING

### Certificate (Major Code - GCAD)

CORE CURRICULUM..... 18 CREDITS	
Technical Graphics I .....	DFT 112 ..... 3
Technical Graphics II .....	DFT 113 ..... 3
Spatial Relationships.....	DFT 210 ..... 3
Computer-Aided Drafting.....	DFT 150 ..... 3
Manufacturing Materials and Processes .....	GTC 105 ..... 3
Computer-Aided Drafting II.....	DFT 250 ..... 3
TOTAL CERTIFICATE REQUIREMENTS. .... 18 CREDITS	

## Economics

The Associate of Arts degree in Economics is intended for students interested in pursuing a program of study leading to a major in economics from a four-year school. The program of study is parallel to that of the ABUS and will prepare economic students for junior standing at Arizona public universities. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## ECONOMICS

### Associate of Arts (Major Code - ECN)

GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS	
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 142 or higher ..... 3-5
Laboratory sciences .....	8
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6

Technology literacy .....	CIS 116 or CIS 120 ..... 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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	

### LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

Non-English language	
Second- and fourth-semester proficiency	

### CORE CURRICULUM..... 12 CREDITS

Calculus for Business .....	MAT 212 ..... 3
Business Statistics .....	BUS 219 ..... OR
Elements of Statistics.....	MAT 167 ..... 3
Principles of Macroeconomics .....	ECN 201 ..... 3
Principles of Microeconomics .....	ECN 202 ..... 3

### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Education

Education is one of the nation's fastest growing career fields. Students are reminded that education is an upper-level major in Arizona's public universities and that admission is increasingly competitive and is dependent upon a variety of factors, such as grade point average and pre-professional experience. It is therefore imperative that students plan their course of study with the assistance of an academic advisor.

The Associate of Arts in Elementary Education (AAEE) degree is designed to serve two primary audiences: (1) future teachers seeking entrance into teacher education programs through transfer to one of the Arizona public universities, and (2) teacher aides (current and new) seeking to comply with federal regulations. This degree allows students to complete their general education requirements (AGEC) and to take a number of teacher education and/or Early Childhood Education courses. This degree meets all curricular requirements for junior standing in the college of education at all Arizona state universities. In addition to providing a seamless transfer pathway, the degree gives the student the practical and theoretical basis necessary for making an informed choice of education as a career, a career which promises almost unlimited employment opportunities. Students are reminded that successful comple-

tion of the degree does not guarantee admission to a university college of education. Additional criteria, such as grade point average, community service, leadership activities and prior classroom experience (e.g. volunteer tutoring), may also be used by a college of education in making admission decisions.

The Teacher Aide Preparatory Skills program is designed to prepare students with academic deficiencies, as identified by the Cochise College placement test, to enter the Teacher Aide Certificate Program sequence, while enhancing those academic skills essential to the role of the teacher aide.

The Associate of Arts degree in Early Childhood Care and Education provides for the continuing education of early childhood education professionals beyond the certificate level. It offers in-depth theoretical child development information, practical applications in the workplace, and comprehensive understanding for work with children and families.

The Associate of Applied Science degree in Early Childhood Care and Education is designed for those seeking to comply with industry regulations for their career as child care providers and for those wishing to transfer to a university that offers a Bachelor of Applied Science in Early Childhood Education. Completion of this degree does not guarantee state licensure or certification. Students must qualify for licensure requirements as stated by individual licensing agencies.

The Basic Certificate in Early Childhood Care and Education is designed for persons already employed in giving care and education to young children. The content parallels the areas of competency required for those preparing for the Child Development Associate (CDA) exam, which sets entry-level standards in the field nationally. Completion of this certificate does not guarantee state licensure or certification. Students must qualify for licensure requirements as stated by individual licensing agencies.

## **ELEMENTARY EDUCATION**

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

#### **GENERAL EDUCATION REQUIREMENTS (AGEC-A).....35 CREDITS**

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences† .....	.....	8
Art† .....	.....	3
Humanities†.....	.....	3
Social and behavioral sciences†.....	.....	6

Technology literacy.....CIS 116 or CIS 120 .....

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](http://www.cochise.edu/AGEC).  
POS 220 is recommended to fulfill three of the six credits

\* General education electives must be chosen from the general education course list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

NON-ENGLISH LANGUAGE REQUIREMENT\*\*† .....

0-16 CREDITS

CORE CURRICULUM .....

18 CREDITS

Mathematics for Elementary Education Majors I. ....MAT 154 .....

3

Mathematics for Elementary Education Majors II. ....MAT 156 .....

3

Introduction to Education .....

EDU 201 .....

3

Introduction to Special Education .....

EDU 222 .....

3

Cultural Diversity in Education.....EDU 226 .....

3

Education or Early Childhood Education elective .....

3

Electives in content areas relevant to K-12 and/or

Early Childhood Education.....

7

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)† .....

0-4 CREDITS

TOTAL DEGREE REQUIREMENTS .....

64 CREDITS

\*\* University non-English requirements vary. Check with your advisor.

† Notes:

1. Laboratory sciences—8 credits must be taken from two different prefixes. Recommended courses: biology (BIO 101), environmental science (BIO 105), anatomy (BIO 201), geography (GEO 101), physics (PHY 111), chemistry (CHM 130), astronomy (AST 180), and geology (GLG 101).
2. Laboratory sciences—UA South requires 4 courses for the education degree.
3. Arts—ART 120 or MUS 260 is recommended for UA.
4. Humanities—COM 102 highly recommended; ART 107/108 or MUS 101/102 recommended for UA South.
5. Social and behavioral sciences recommended courses: Political Science (POS 220 highly recommended), US History Survey (HIS 110 or 111 highly recommended), Introduction to Psychology (PSY 101), Cultural Geography (GEO 102), Economics (ECN 201 or 202), and Child Development (PSY 240).
6. Language—UA South requires second-semester proficiency through coursework, credit by examination, and/or native language proficiency. Students who test out of this requirement may choose courses related to area of interest or exploration.
7. Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

# Teacher Aide Certificate Program

The Teacher Aide Certificate Program consists of three sequential levels, each of which provides the student with increasing levels of academic skills and content knowledge, both essential to enhancing the teacher aide's contribution to the elementary, middle, or secondary school instructional process. Each of the three levels is designed to move the participant toward an associate of arts degree with an emphasis in pre-elementary education, a degree which fulfills the lower division course requirements at all three Arizona state universities.

## TEACHER AIDE CERTIFICATE PREPARATORY PROGRAM

### Certificate (Major Code - TAD)

CORE CURRICULUM .....	12 CREDITS
Intermediate Writing .....	ENG 100 ..... 3
Mathematics .....	MAT 082 ..... 3
Reading .....	RDG 110 or 122 or placement ..... 3
General education electives* .....	3
<b>TOTAL REQUIREMENTS.</b> .....	<b>12 CREDITS</b>

\* Social and behavioral sciences course recommended.

## TEACHER AIDE LEVEL I

### Certificate (Major Code - TAIC)

CORE CURRICULUM .....	15-16 CREDITS
Composition .....	ENG 101 ..... 3
Mathematics .....	MAT 122 or higher ..... 3
Technology literacy .....	CIS 116 or 120 ..... 3
Non-English language* or elective** .....	3-4
Education.....	EDU 201 ..... 3

**TOTAL CERTIFICATE REQUIREMENTS** .....

- \* Non-English language courses: Students, particularly those planning to transfer to the University of Arizona, are encouraged to complete a three- to four-unit non-English language course at or above the fourth-semester proficiency level.
- \*\* Electives must be selected from the required courses for the associate degree in education. It is recommended that students select courses in classroom management and/or reading strategies, and/or COM 102 or 110; life or physical science; ECN 201 or 202; GEO 102 or 121; SOC 101; PSY 101; or art, music, dance or theater.

## TEACHER AIDE LEVEL II

### Certificate (Major Code - TAD2)

CORE CURRICULUM .....	16-21 CREDITS
English Composition .....	ENG 102 ..... 3
Mathematics ...MAT 142 (preferred), MAT 151, or higher .....	3-4
Laboratory sciences .....	4
Arts .....	ART 120 or MUS 260 ..... 3
Humanities (intensive writing recommended) .....	3
Non-English language* or elective** .....	0-4
<b>TOTAL CERTIFICATE REQUIREMENTS.</b> .....	<b>16-21 CREDITS</b>

\* Non-English language courses: Students, particularly those planning to transfer to the University of Arizona, are encouraged to complete a three- to four-unit non-English language course at or above the fourth-semester proficiency level.

\*\* Electives must be selected from the required courses for the associate degree in education. It is recommended that students select courses in classroom management and/or reading strategies, and/or COM 102 or 110; life or physical science; ECN 201 or 202; GEO 102 or 121; SOC 101; PSY 101; or art, music, dance or theater.

## TEACHER AIDE LEVEL III

### Certificate (Major Code - TAD3)

CORE CURRICULUM .....	16 CREDITS
Social and behavioral sciences* .....	6
Laboratory sciences .....	4
Mathematics.....	MAT 154 ..... 3
Education.....	EDU 222 or 226 ..... 3
<b>TOTAL CERTIFICATE REQUIREMENTS.</b> .....	<b>16 CREDITS</b>

\* Recommended social and behavioral science courses: POS 220, HIS 110/111.

NOTE: Upon completion of Teacher Aide Level III, students must see an academic advisor to select coursework necessary to complete the associate of arts degree and to seamlessly transfer to the university of their choice. The AA degree will require six units of intensive writing coursework.

## TEACHING ENGLISH AS AN INTERNATIONAL LANGUAGE

### Certificate (Major Code - TEIL)

For educators employed in teaching English as an international language, the courses leading to this certificate provide an intensive introduction to the basic concepts and practices of the profession.

CORE CURRICULUM .....	12 CREDITS
English for Educators .....	EDU 195 ..... 3
Introduction to the English Language.....	ENG 255 ..... 3
Classroom Relationships.....	EDU 230 ..... 3
Practicum in Teaching English as an International Language..	EDU 295 ..... 3
<b>TOTAL CERTIFICATE REQUIREMENTS.</b> .....	<b>12 CREDITS</b>

## EARLY CHILDHOOD CARE AND EDUCATION

### Associate of Arts (Major Code - ECE)

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

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	ART 120 or MUS 260 .....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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](http://www.cochise.edu/AGEC).

LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

- Non-English language
- Second- or fourth-semester proficiency

CORE CURRICULUM ..... 24 CREDITS

#### SELECT TWO FROM THE FOLLOWING THREE

Children's Language Development .....	ECE 155 .....	3
Children's Literature and Children's Literacy...ECE 156 .....	3	
Early Childhood Growth and Development. ....ECE 160 .....	3	
Introduction to Early Childhood Care and Education .....ECE 150 .....	3	
Introduction to Education .....EDU 201 .....	3	
Introduction to Special Education .....EDU 222 .....	3	
Cultural Diversity in Education.....EDU 226 .....	3	
Mathematics for Elementary Education Majors I .....MAT 154 .....	3	
Mathematics for Elementary Education Majors II .....MAT 156 .....	3	

ELECTIVES\*\*\* (AS NEEDED TO COMPLETE 64 CREDITS)

TOTAL DEGREE REQUIREMENTS† ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

#### Notes:

Students should consult with an advisor for course selection.

Some students will have more than 64 credits because of varying credits in language, math and other courses; 64 credits represent the minimum for this degree.

## EARLY CHILDHOOD CARE AND EDUCATION

### Associate of Applied Science (Major Code - ECE)

GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Communication.....	ENG 101 and ENG 102 or ENG 111 and ENG 167 or ENG 179 .....	6
Mathematics*.....	BUS 104, MAT 122, MAT 142, MAT 154, or MAT 156 .....	3

Liberal arts .....	ART 103 or ART 120 or (choose two)
.....	COM 102 or MUS 101 or MUS 102 or PHI 130 or PSY 101 or SOC 101 or SOC 160 or THE 103 .....
Technology literacy .....	CIS 116 or CIS 120..... 3

CORE CURRICULUM ..... 30 CREDITS

Introduction to Early Childhood Care and Education .....	ECE 150 .....	3
Observation, Behavior and Guidance .....	ECE 152 .....	3
Children's Language Development .....	ECE 155 .....	3
Health, Safety and Nutrition for Young Children	ECE 158 .....	3
Early Childhood Growth and Development .....	ECE 160 .....	3
Understanding Families, Community and Diversity .....	ECE 161 .....	3
Curriculum Development for Early Childhood Education .....	ECE 170 .....	3
Teaching Strategies for Early Childhood Education .....	ECE 172 .....	3
Administration of Early Childhood Care and Education Programs .....	ECE 173 .....	3
Relationships in the Classroom.....	EDU 230 .....	3

RECOMMENDED ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*

Behavior Management.....	ECE 174 .....	3
Creativity in Early Childhood Education .....	ECE 175 .....	3
Math and Science for Early Childhood Care and Education .....	ECE 176 .....	3
Ethnic Groups and Minorities.....	SOC 160.....	
Elements of Intercultural Communication .....	COM 204 .....	3
Cultural Values in Borderlands Workplace .....	HUM 167 .....	3
Developmental Psychology .....	PSY 240 .....	3
Introduction to Special Education .....	EDU 222 .....	3

Cultural Diversity in Education.....	EDU 226 .....	3
Children's Literature .....	ENG 212 .....	3
Or department approved electives		
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	
* Students should consult an advisor for course selection.		

## EARLY CHILDHOOD CARE AND EDUCATION

### Basic Certificate (Major Code - BECE)

<b>CORE CURRICULUM .....</b>	<b>18 CREDITS</b>
Health, Safety and Nutrition for Young Children ...	ECE 158 .....
OR ECE 101 (Safety in Early Childhood Education, 1 credit)	
AND ECE 102 (Health in Early Childhood Education, 1 credit)	
AND ECE 103 (Nutrition in Early Childhood Education, 1 credit)	
Teaching Strategies for Early Childhood Education .	ECE 172 .....
OR ECE 104 (Physical Activities in Early Childhood Education, 1 credit)	
AND ECE 105 (Cognitive Activities in Early Childhood Education, 1 credit)	
AND ECE 106 (Creative Activities in Early Childhood Education, 1 credit)	
Observation, Behavior and Guidance .....	ECE 152 .....
OR ECE 107 (Self Concept, 1 credit)	
AND ECE 108 (Social Concept, 1 credit)	
AND ECE 109 (Guidance, 1 credit)	
Early Childhood Growth and Development.....	ECE 160 .....
Understanding Families, Community and Diversity .	ECE 161 .....
Administration of Early Childhood Care and Education Programs .....	ECE 173 .....
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>18 CREDITS</b>

## Secondary Education

Secondary education majors are encouraged to complete an Associate of Arts or an Associate of Science degree in their area of study. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## SECONDARY ART EDUCATION

### Associate of Arts (Major Code - SEAE)

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A).....</b>	<b>35 CREDITS</b>	
Composition .....	ENG 101 .....	
English Composition .....	ENG 102 .....	
Mathematics .....	MAT 142 or higher .....	
Laboratory sciences .....	..... 8	
Arts .....	..... 3	
Humanities .....	..... 3	
Social and behavioral sciences .....	..... 6	
Technology literacy.....	CIS 116 or CIS 120 .....	
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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
<b>LANGUAGE REQUIREMENT** .....</b>	<b>0-16 CREDITS</b>	
Non-English language		
Second- or fourth-semester proficiency		
<b>CORE CURRICULUM .....</b>	<b>21 CREDITS</b>	
Design Fundamentals .....	ART 103 .....	
Drawing I.....	ART 106 .....	
Survey of World Art: Prehistoric-Gothic.....	ART 107 .....	
Survey of World Art: Renaissance through the 20th Century .....	ART 108 .....	
Three-Dimensional Design/Sculpture .....	ART 231 .....	
Introduction to Education .....	EDU 201 .....	
Cultural Diversity in Education.....	EDU 226 .....	
<b>ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***</b>		
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

\* General education electives must be chosen from the general education course list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The Art Department recommends the following electives: Two-dimensional department emphasis: ART 216, ART 230, ART 245, ART 265, ART 280, ART 281, ART 286, ART 295, ART 296. Three-dimensional department emphasis: ART 250, ART 255, ART 270, ART 275, and ART 290.

## SECONDARY BIOLOGY TEACHING

### Associate of Science (Major Code - SEBT)

GENERAL EDUCATION REQUIREMENTS (AGEC-S) ..... 38-42 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences .....	CHM 151 and CHM 152 .....	8
Arts .....	.....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
Additional mathematics and/or laboratory sciences* .....	.....	6-8
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

\* Based on major and using a transfer guide, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory sciences courses. The department recommends PHY 111 and PHY 112, or PHY 230 and PHY 231. BIO 156 and CHM 138 do not satisfy the requirement for this degree. See [www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa](http://www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa) for a complete list.

LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

- Non-English language
- Second- or fourth-semester proficiency

CORE CURRICULUM..... 14 CREDITS

General Biology I (for majors).....	BIO 181 .....	4
General Biology II.....	BIO 182 .....	4
Introduction to Education .....	EDU 201 .....	3
Introduction to Special Education .....	EDU 222.....	OR
Cultural Diversity in Education. ....	EDU 226 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

TOTAL DEGREE REQUIREMENTS..... 64 CREDITS

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.

## SECONDARY CHEMISTRY TEACHING

### Associate of Science (Major Code - SECT)

GENERAL EDUCATION REQUIREMENTS (AGEC-S) ..... 38-42 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences .....	CHM 151 and CHM 152 .....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
Additional mathematics and/or laboratory sciences* .....	.....	6-8
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

\* Based on major and using a transfer guide, select MAT 231, MAT 241, MAT 252, MAT 262, and/or appropriate laboratory sciences courses. The department recommends PHY 111 and PHY 112, or PHY 230 and PHY 231. BIO 156 and CHM 138 do not satisfy the requirement for this degree. See [www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa](http://www.aztransfer.com/cgi-bin/WebObjects/agecweb.woa) for a complete list.

LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

- Non-English language
- Second- or fourth-semester proficiency

CORE CURRICULUM..... 14 CREDITS

General Organic Chemistry I .....	CHM 235 .....	4
General Organic Chemistry II .....	CHM 236 .....	4
Introduction to Education .....	EDU 201 .....	3
Introduction to Special Education .....	EDU 222 .....	OR
Cultural Diversity in Education. ....	EDU 226 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.

## SECONDARY ENGLISH TEACHING

### Associate of Arts (Major Code - SEET)

#### GENERAL EDUCATION REQUIREMENTS (AGEC-A).....35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences.....	.....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy.....	CIS 116 or CIS 120 .....	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](http://www.cochise.edu/AGEC).

#### LANGUAGE REQUIREMENT\*\* .....

Non-English language	
Second- or fourth-semester proficiency (elective)	
<b>CORE CURRICULUM .....</b>	
British Literature I .....	ENG 220 .....
British Literature II .....	ENG 221 .....
Introduction to Education .....	EDU 201 .....
Introduction to Special Education .....	EDU 222.....OR
Cultural Diversity in Education. ....	EDU 226 .....

#### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

#### TOTAL DEGREE REQUIREMENTS .....

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The English Department recommends the following electives: ENG 224, ENG 225, or any 200-level literature course that transfers to all Arizona public universities.

## SECONDARY HISTORY TEACHING

### Associate of Arts (Major Code - SEHT)

The Associate of Arts degree in Secondary History Teaching serves future teachers seeking entrance into teacher education programs through transfer to one of Arizona's public universities. It allows students to complete their general education requirements and to take a number of teacher education courses.

#### GENERAL EDUCATION REQUIREMENTS (AGEC-A).....35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy.....	CIS 116 or CIS 120 .....	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](http://www.cochise.edu/AGEC).

#### LANGUAGE REQUIREMENT\*\* .....

Non-English language	
Second- or fourth-semester proficiency	

#### CORE CURRICULUM .....

Introduction to Education .....	EDU 201 .....	3
Introduction to Special Education .....	EDU 222.....OR	
Cultural Diversity in Education.....	EDU 226 .....	3
History of the United States 1607-1877 .....	HIS 110 .....	3
History of the United States since 1877 .....	HIS 111 .....	3

#### SELECT TWO OF THE FOLLOWING:.....

Survey of Western Civilization I .....	HIS 240 .....	3
Survey of Western Civilization II.....	HIS 241 .....	3
Survey of Western Civilization III .....	HIS 242 .....	3

#### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

#### TOTAL DEGREE REQUIREMENTS .....

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## SECONDARY MATHEMATICS TEACHING

### Associate of Arts (Major Code - SEMT)

#### GENERAL EDUCATION REQUIREMENTS (AGEC-A).....35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities .....	.....	3

Social and behavioral sciences .....	6	
Technology literacy.....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
LANGUAGE REQUIREMENT** .....	0-16 CREDITS	

Non-English language

Second- or fourth-semester proficiency (elective)

CORE CURRICULUM .....	19 CREDITS	
Calculus I .....	MAT 220 .....	5
Calculus II .....	MAT 231 .....	4
Calculus III .....	MAT 241 .....	4
Introduction to Education .....	EDU 201 .....	3
Introduction to Special Education .....	EDU 222.....	OR
Cultural Diversity in Education. ....	EDU 226 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
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TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Students are encouraged to take programming, MAT 188, and/or non-English language in the elective area.

NOTE: Chemistry and physics are recommended for the AGEC and/or core curriculum area.

## SECONDARY MUSIC EDUCATION

### Associate of Arts (Major Code - SEME)

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
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Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....		8
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Technology literacy .....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

LANGUAGE REQUIREMENTS** .....	0-16 CREDITS
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Non-English language

Second- or fourth-semester proficiency

CORE CURRICULUM.....	18 CREDITS
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Introduction to Education .....	EDU 201 .....	3
Cultural Diversity in Education.....	EDU 226 .....	3
Music Theory I .....	MUS 132 .....	3
Music Theory II .....	MUS 133 .....	3
Music Theory III.....	MUS 232 .....	3
Music Theory IV .....	MUS 233 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
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TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The Music Department recommends the following electives: instrument and voice courses.

## SECONDARY PHYSICAL EDUCATION TEACHING

### Associate of Arts (Major Code - SEPE)

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
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Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....		8
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Technology literacy .....	CIS 116 or CIS 120 .....	3

General education electives*.....		1-3
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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](http://www.cochise.edu/AGEC).

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
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Non-English language

Second- or fourth-semester proficiency

CORE CURRICULUM.....	18 CREDITS	
College Algebra. ....	MAT 151 .....	4
Human Anatomy and Physiology I.....	BIO 201 .....	4
Human Anatomy and Physiology II .....	BIO 202 .....	4
Introduction to Education .....	EDU 201 .....	3
Cultural Diversity in Education. ....	EDU 226 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
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TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## SECONDARY SPANISH TEACHING

### Associate of Arts (Major Code - SEST)

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

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

Non-English language

Second- or fourth-semester proficiency (Spanish)

CORE CURRICULUM ..... 22 CREDITS

Elementary Spanish I .....	SPA 101 .....	4
Elementary Spanish II .....	SPA 102 .....	4
Intermediate Spanish .....	SPA 201 .....	4
Intermediate Spanish .....	SPA 202 .....	4
Introduction to Education .....	EDU 201 .....	3
Introduction to Special Education .....	EDU 222.....	OR
Cultural Diversity in Education.....	EDU 226 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The Language Department recommends the following electives: LIN 101, SPA 224, and SPA 225.

## Electronics

The Associate of Applied Science degree in Electronics prepares students for employment in general electronics. Completion of the core curriculum allows the student to obtain competencies in electricity, digital and analog devices and circuits, measurements, electronic communications, microprocessors and microcomputers. Courses include designing and experimenting with electromechanical systems and team problem solving.

## ELECTRONICS TECHNOLOGY

### Associate of Applied Science (Major Code - ELT)

GENERAL EDUCATION REQUIREMENTS ..... 18-19 CREDITS

Composition .....	ENG 101 .....	3
Mathematics .....	ELT 110 or MAT 122 .....	3
Mathematics .....	ELT 120 or MAT 151 .....	3-4
Liberal arts .....	.....	3
General education electives .....	.....	6

CORE CURRICULUM ..... 45-46 CREDITS

Introduction to DC Circuits .....	ELT 105 .....	3
Introduction to AC Circuits .....	ELT 106 .....	4
Semiconductors and Transistors .....	ELT 122 .....	4
Electronic Circuits and Systems .....	ELT 125 .....	4
Pulse Circuits.....	ELT 231 .....	4
Digital Circuits and Systems .....	ELT 233 .....	4
Modern Electronic Devices .....	ELT 243 .....	4
Communications Electronics I .....	ELT 245 .....	4
Communications Electronics II .....	ELT 247 .....	4
Microprocessors and Microcomputers .....	ELT 265 .....	4
Electives .....	.....	6-7

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

## Engineering

The Associate of Science degree in Engineering prepares students for a wide variety of engineering majors at the university level. Graduates will demonstrate proficiency in communication, critical thinking, quantitative analysis, and technological applications. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## ENGINEERING

### Associate of Science (Major Code - EGR)

GENERAL EDUCATION REQUIREMENTS (AGEC-S) ..... 41 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Calculus I .....	MAT 220 .....	5
Laboratory sciences .....	CHM 151 and CHM 152 .....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6

Technology literacy.....	CIS 116 or CIS 120 .....	3	LANGUAGE REQUIREMENT*** .....	0-16 CREDITS
Calculus III .....	MAT 241 .....	4	Non-English language	
Differential Equations.....	MAT 262 .....	3	Fourth-semester proficiency	
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .			CORE CURRICULUM.....	12 CREDITS
CORE CURRICULUM.....		18 CREDITS	British Literature I .....	ENG 220 .....
Essentials of Communication .....	COM 102 .....	3	British Literature II .....	ENG 221 .....
Principles of Engineering .....	EGR 102 .....	3	Choose one of the following:	
Calculus II .....	MAT 231 .....	4	American Literature I .....	ENG 224 .....
Physics with Calculus I.....	PHY 230 .....	4	American Literature II .....	ENG 225 .....
Physics with Calculus II .....	PHY 231 .....	4	Major American Writers .....	ENG 265 .....
TOTAL DEGREE REQUIREMENTS .....		64 CREDITS	Choose one elective from the list below.....	3

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.

## English

The Associate of Arts degree in English is designed to provide the English major with a strong foundation in written communication, literature, and general education, enabling transfer with junior standing to all Arizona public universities and many others. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### ENGLISH

#### Associate of Arts (Major Code - ENG)

GENERAL EDUCATION REQUIREMENTS (AGEC-A) .....

35 CREDITS
Composition .....
English Composition .....
Mathematics .....
Laboratory sciences .....
Arts .....
Humanities*.....
Social and behavioral sciences.....
Technology literacy.....
General education electives**.....
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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .

TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
* The department recommends a 200-level literature course.	
** General education electives must be chosen from the general education list. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> . The department recommends a 200-level literature course.	
*** University non-English language requirements vary. Check with your advisor.	
****Elective courses must be transferable to all Arizona public universities. See <a href="http://www.aztransfer.com">www.aztransfer.com</a> .	

## Exercise Science, Health and Physical Education, Recreation and Wellness

Cochise College offers a wide range of activity, health, recreation, and wellness classes for students of all ages and fitness levels. Students can find an activity that suits their interest in fitness, recreation, or sports. Cochise College offers courses for those students interested in a physical education teaching major or minor and/or athletic coaching at four-year institutions. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### EXERCISE SCIENCE, HEALTH AND PHYSICAL EDUCATION, RECREATION AND WELLNESS

#### Associate of Arts (Major Code - HPES)

##### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

##### LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

Non-English language
Second- or fourth-semester proficiency

##### CORE CURRICULUM ..... 12 CREDITS

College Algebra.....	MAT 151 .....	4
Human Anatomy and Physiology I.....	BIO 201 .....	4
Human Anatomy and Physiology II .....	BIO 202 .....	4

##### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Family Studies and Human Development

The Associate of Arts degree in Family Studies and Human Development enables students to fulfill university lower-division requirements for the baccalaureate degree in family studies and human development at the University of Arizona. This program has been developed for seamless transfer. Students are requested to develop their specific programs in close coordination with a Cochise College advisor.

### FAMILY STUDIES AND HUMAN DEVELOPMENT

#### Associate of Arts (Major Code - FSHD)

##### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition .....	ENG 101 and 102.....	6
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences (choose two):		
General Biology I (Majors) .....	BIO 181.....	OR
Human Anatomy and Physiology I.....	BIO 201.....	OR
Human Anatomy and Physiology II .....	BIO 202 .....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences.....	PSY 101 and SOC 101 .....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

##### LANGUAGE REQUIREMENT ..... 0-8 CREDITS

Non-English language
Second-semester proficiency

##### CORE CURRICULUM ..... 12 CREDITS

Child Development.....	FCS 184 .....	3
Nutrition.....	FON 101 .....	3
Intro to Psychological Research,		
Measurement and Statistics .....	PSY 250 .....	3
Experimental Psychology .....	PSY 290 .....	3

##### RECOMMENDED ELECTIVES

Developmental Psychology .....	PSY 240 .....	3
Marriage and Family.....	SOC 210 .....	3

##### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Elective courses must be transferable to all Arizona public universities. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

# Fire Science Technology

Designed to train students for a career in fire service, this program covers firefighter safety and entry-level operations, fire rescue operations, ground ladders and hose procedures, and fire support services. Focus is on hands-on learning.

## FIRE SCIENCE TECHNOLOGY

### Associate of Applied Science (Major Code - FST)

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Composition.....	ENG 101 .....3
English Composition .....	ENG 102 .....3
Mathematics .....	MAT 122 or higher .....3
Liberal arts .....	6
Technology literacy .....	CIS 116 or CIS 120 .....3
CORE CURRICULUM.....	31 CREDITS
Firefighter Safety and Entry-Level Operations ...	FST 101 .....4
Fire Rescue Operation. ....	FST 102 .....4
Firefighter Ground Ladders and Hose Procedures	FST 103 .....4
Fire Support Services .....	FST 104 .....4
Fire Service Apparatus Driver/Operator .....	FST 115 .....3
Field Experience in Fire Science Technology .....	FST 224 .....4
Emergency Medical Technician .....	EMT 174 .....8
ELECTIVES .....	15 CREDITS
Human Resource Management.....	BUS 123 .....3
Principles of Management.....	BUS 143 .....3
Business Ethics. ....	BUS 150 .....3
Business Communications .....	BUS 167 .....3
Applied Technical Writing. ....	BUS/CIS 179 .....3
The Legal Environment of Business.....	BUS 233 .....3
Fundamental Chemistry.....	CHM 130 .....4
Chemistry for Allied Health .....	CHM 138..... 4
Introduction to Operating Systems.....	CIS 140 .....3
Essentials of Networking.....	CIS 150 .....3
Computer Applications.....	CIS 181 .....3
Internet Essentials.....	CIS 185 .....3
Service and Maintenance of Personal Computers.	CIS 260 .....4
Technical Presentations.....	CIS 268 .....3
Personal Fitness .....	HPE 115 .....2
Personal Fitness II .....	HPE 116 .....1-2
College Algebra. ....	MAT 151 .....4
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## FIRE SCIENCE TECHNOLOGY

### Certificate (Major Code - FST)

CORE CURRICULUM .....	16 CREDITS
Firefighter Safety and Entry Level Operations ...	FST 101 .....4
Fire Rescue Operation.....	FST 102 .....4
Firefighter Ground Ladders and Hose Procedures	FST 103..... 4
Fire Support Services .....	FST 104 .....4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## HAZARDOUS MATERIALS TECHNICIAN

### Certificate (Major Code - HMT)

CORE CURRICULUM .....	16 CREDITS
Hazmat Technician I.....	FST 121 .....6
Hazmat Technician II.....	FST 222 .....5
Hazmat Technician III.....	FST 223 .....5
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

# Geography

The Associate of Arts degree in Geography prepares students for transfer to university programs in public planning, regional development, applied geography, and geography. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## GEOGRAPHY

### Associate of Arts (Major Code - GEO)

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
Composition .....	ENG 101 .....3
English Composition .....	ENG 102 .....3
Mathematics .....	MAT 142 or higher .....3-5
Laboratory sciences .....	8
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Technology literacy.....	CIS 116 or CIS 120 .....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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	



**LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS**

Non-English language

Second- or fourth-semester proficiency

**CORE CURRICULUM ..... 10 CREDITS**

Physical Geography ..... GEO 101 ..... 4

Introduction to Human Geography ..... GEO 102 ..... 3

World Regional Geography ..... GEO 121 ..... 3

**ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\***

**TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS**

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## History

The Associate of Arts degree in History combines a strong theoretical foundation in history with the general education courses needed for transfer with junior standing to the three state universities and to others as well. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor. In addition to preparing students for a teaching career, history provides an excellent background for careers in education, law, business, social work and government.

## HISTORY

**Associate of Arts (Major Code - HIS)**

**GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS**

Composition ..... ENG 101 ..... 3

English Composition ..... ENG 102 ..... 3

Mathematics ..... MAT 142 or higher ..... 3-5

Laboratory sciences ..... 8

Arts ..... 3

Humanities ..... 3

Social and behavioral sciences ..... 6

Technology literacy ..... CIS 116 or CIS 120 ..... 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](http://www.cochise.edu/AGEC).

**LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS**

Non-English language

Second- or fourth-semester proficiency

**CORE CURRICULUM ..... 15 CREDITS**

History of the United States 1607-1877 ..... HIS 110 ..... 3

History of the United States since 1877 ..... HIS 111 ..... 3

Survey of Western Civilization I ..... HIS 240 ..... 3

Survey of Western Civilization II ..... HIS 241 ..... 3

Survey of Western Civilization III ..... HIS 242 ..... 3

**ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\***

**TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS**

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Honors

The Honors Certificate Program consists of Honors classes and individual Honors projects that enrich the collegial experience, providing intellectual challenge and stimulation for motivated, creative and academically talented students. Besides transferring to any one of Arizona's University Honors Colleges, it will also enhance a student's chances for entering unique academic programs and obtaining special grants.

### HONORS

#### **Certificate (Major Code - HONR)**

GENERAL EDUCATION REQUIREMENTS .....	3 CREDITS
English Composition .....	ENG 102H.....OR
Honors advisor approved elective.....	3
CORE CURRICULUM.....	13 CREDITS
Honors: Individual Projects .....	HON 250 .....
Honors Seminar .....	HON 251 .....
Leadership/Service .....	HON 255 .....
The Human Quest for Utopia.....	HON 260 .....
Dimensions and Directions of Contemporary Issues .....	HON 265 .....
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

### STUDENT LEADERSHIP DEVELOPMENT

#### **Certificate (Major Code - SLD)**

CORE CURRICULUM .....	18 CREDITS
Leadership/Service .....	HON 255 or SLE 255 .....
Leadership Practicum .....	HON 256 or SLE 256 .....
Leadership in Theory and Practice...	HON 258 or SLE 258 .....
Introduction to Psychology .....	PSY 101....3 OR
Introduction to Sociology .....	SOC 101 .....
Recommended electives* .....	5-8
Leadership and Supervision .....	BUS 127 .....
Business Ethics .....	BUS 150 .....
Understanding and Managing Conflict.....	BUS/SOC 170 .....
Essentials of Communication .....	COM 102 .....
Elements of Intercultural Communication .....	COM 204 .....
Mentoring for Success (COOKIES) I ..	HON 220 or SLE 220 .....
Mentoring for Success (COOKIES) II..	HON 221 or SLE 221 .....
Mentoring for Success (COOKIES) III .	HON 222 or SLE 222 .....

Honors: Individual Project.....	HON 250 .....	1-4
Leadership Practicum II .....	HON 257 or SLE 257 .....	1-4
Ethics .....	PHI 130 .....	3
American National Government .....	POS 110 .....	3
Federal and Arizona Constitution .....	POS 220 .....	3
Personality Theories and Research .....	PSY 230 .....	3
Special Topics in Service Learning .....	SLE 192.....-3	
Introduction to Student Life Activities Programming .....	SLE 259 .....	3
Special Topics in Service Learning II.....	SLE 292 .....	1-3
Ethnic Groups and Minorities .....	SOC 160 .....	3
TOTAL CERTIFICATE REQUIREMENTS.....		18 CREDITS

## Hospitality

The Associate of Applied Science degree in Hospitality Administration combines a firm foundation for employment in hotel administration with general education for students who plan to continue their studies at a university.

The Hospitality Administration Certificate provides grounding in business and in the fundamental principles involved in hotel and restaurant operations. The certificate is intended for those students planning to go directly to work and for those who want to prepare themselves for career advancement.

### HOSPITALITY ADMINISTRATION

#### **Associate of Applied Science (Major Code - HAD)**

GENERAL EDUCATION REQUIREMENTS .....	33-34 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Mathematics .....	MAT 151 or higher .....
Laboratory sciences .....	8
Arts and Humanities or Social and Behavioral Sciences .....	6
Foreign Language (Second-semester proficiency) .....	8
Physical Education.....	2
Reading Competency*	
CORE CURRICULUM.....	33 CREDITS
Introduction to the Hospitality Industry .....	HAD 100 .....
Introduction to Property Management .....	HAD 120 .....
Guest Services Management.....	CUL 210 .....
Hospitality Law .....	HAD 235 .....
Hospitality Financial Management .....	HAD 250 .....

Hospitality Automation .....	HAD 270 .....	3
Financial Accounting .....	BUS 201 .....	3
Business Statistics .....	BUS 219 .....	3
Principles of Macroeconomics .....	ECN 201 .....	3
Principles of Microeconomics.....	ECN 202 .....	3
Computer Applications.....	CIS 181 .....	3
<b>RECOMMENDED ELECTIVES</b>		
Field Experience in Hospitality Administration ..	HAD 224 .....	1-6
Commercial Food Preparation Theory.....	CUL 240 .....	3
Advanced Commercial Food Preparation and Lab. .	CUL 241 .....	4
<b>TOTAL DEGREE REQUIREMENTS .....</b>		<b>66-67 CREDITS</b>

\* Must include GEO 102, GEO 104 or GEO 105, and HUM 205 or 206, or JRN 101.

## HOSPITALITY ADMINISTRATION

### **Certificate (Major Code - HAD)**

<b>CORE CURRICULUM .....</b>		
Introduction to the Hospitality Industry .....	HAD 100 .....	3
Introduction to Property Management .....	HAD 120 .....	3
Guest Services Management.....	CUL 210 .....	3
Field Experience .....	HAD 224 .....	1-6
Hospitality Automation .....	HAD 270 .....	3
Composition .....	ENG 101 .....	3
Business Math.....	BUS 104 .....	3
Financial Accounting .....	BUS 201 .....	3
Principles of Microeconomics.....	ECN 202 .....	3
Computer Applications .....	CIS 181 .....	3
<b>RECOMMENDED ELECTIVES</b>		
Commercial Food Preparation Theory .....	CUL 240 .....	3
Advanced Commercial Food Preparation and Lab. .	CUL 241 .....	4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>		<b>28-33 CREDITS</b>

## Human Services

The Associate of Applied Science degree in Human Services prepares students for entry-level positions in the wide field of Human Services, to include social service and public health. At the same time, it enables students to fulfill the first two years of study towards the Bachelor of Applied Science degree.

The Community Health Worker Certificate prepares students for entry-level employment as direct support specialists or as community health or social services employees. It serves as a component of the Associate of Applied Science Degree in Human Services and meets several requirements for the Associate Degree in Social Work. The practicum phase of the certificate allows students to apply public health or social services knowledge and theory in a real-world setting by involving them in forms of community outreach such as health promotion, disease prevention, advocacy, education, and referral services. Program admission is open to any interested student 18 or older with a high school diploma or a GED. Certain certificate courses require participants to complete health screening and provide proof of immunization. Prior to enrollment a meeting with a program advisor is strongly encouraged.

## HUMAN SERVICES

### **Associate of Applied Science (Major Code - HS)**

<b>GENERAL EDUCATION REQUIREMENTS .....</b>		
Composition .....	ENG 101 .....	3
English Composition. ...	ENG 102 or ENG 109 or ENG 279 .....	3
Mathematics .....	MAT 122 or above .....	3
Humanities.....	COM 102 or COM 204 .....	3
Political Science.....	POS 110 or POS 220 .....	3
Technology literacy .....	CIS 116 or CIS 120 .....	3
<b>CORE CURRICULUM.....</b>		
CPR and First Aid .....	HLT 111 .....	1
Social/Health Services Practicum.....	SSV 121...3 or 6	
Introduction to Psychology.....	PSY 101 .....	3
Personality and Adjustment.....	PSY 103.....OR	
Personality Theories and Research.....	PSY 230 .....	3
Introduction to Sociology .....	SOC 101 .....	3
Childhood Development.....	FCS 184.....OR	
Developmental Psychology .....	PSY 240 .....	3
Ethnic Groups and Minorities .....	SOC 160 .....	3
Introduction to Social Welfare .....	SOC 207 .....	3

Choose 12 credits from the following:

Introduction to Community Health Worker .....	SSV 120 .....	3
The Challenge of Parenting.....	CPD 105 .....	3
Stress Management .....	CPD 107 .....	2
Career and Life Planning .....	CPD 121 .....	3
Social Psychology.....	PSY 210 .....	3
Loss, Grief and Dying .....	PSY 218 .....	3
Introduction to Psychological Research, Measurements and Statistics .....	PSY 250 .....	3
Experimental Psychology .....	PSY 290 .....	4
Social Problems .....	SOC 202 .....	3
Marriage and the Family.....	SOC 210 .....	3
Interpersonal Communications.....	COM/SSV 270 .....	3
Communications in Small Groups .....	COM/SSV 271 .....	3
Prevention of Drug and Alcohol Abuse .....	SSV 221 .....	3
<b>LANGUAGE REQUIREMENTS .....</b>	<b>8 CREDITS</b>	
Non-English language second-semester proficiency (Spanish or sign language suggested)		
<b>RECOMMENDED ELECTIVES .....</b>	<b>1-4 CREDITS</b>	
Laboratory sciences.....	BIO 160 or BIO 201 .....	4
Society and Culture .....	ANT 102 .....	3
Arizona Constitution* .....	POS 221 .....	1
Introduction to Human Geography .....	GEO 102 .....	3
Non-English language** .....	8	
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

- \* If POS 220 not taken in general education requirements above
- \*\* Either fourth-semester proficiency or a second proficiency at the second-semester level. Spanish or sign language suggested.

## COMMUNITY HEALTH WORKER

**Certificate (Major Code - CHW)**

**TOTAL CERTIFICATE REQUIREMENTS.....16 CREDITS**

- \* ENG 101 or higher preferred.
- \*\* Students considering transfer to a Bachelor of Social Work program should take SSV 121. Other university transfer students must see an advisor prior to enrolling in SSV 224.
- \*\*\* PSY 101, 240, 250; SOC 101, 160, 202; AJS 101, 212; HPE 179; COM 102; FON 101; or related course(s) with departmental approval.

Humanities

Humanities majors are encouraged to complete the Associate of Arts degree, General Requirements. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

HUMANITIES

## **Associate of Arts (Major Code - HUM)**

GENERAL EDUCATION REQUIREMENTS (AGEC-A) .....		35 CREDITS
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3

LANGUAGE REQUIREMENT** .....	16 CREDITS
Non-English language .....	
Fourth-semester proficiency .....	
CORE CURRICULUM.....	6 CREDITS
Major Ancient Cultures .....	HUM 205 .....
European Culture.....	HUM 206 .....
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)** .....	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## Intelligence Operations Studies

The Associate of Applied Science degree in Intelligence Operations Studies meets career and educational goals of students currently in or preparing for employment in the intelligence field. This degree is intended for current or former military intelligence specialists and for students who are interested in intelligence operations studies.

Military credit toward this degree may be based on skill level, training, and/or military schools attended. See a Cochise College IOS advisor for details.

### INTELLIGENCE OPERATIONS STUDIES

#### Associate of Applied Science (Major Code - IOST)

##### GENERAL EDUCATION REQUIREMENTS ..... 18-20 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	OR
Written Communications and Reports .....	ENG 109.....	OR
Critical Writing .....	ENG 206 .....	3
Mathematics .....	MAT 122 or higher .....	3-5
Liberal arts .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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\*\* ..... 23-25 CREDITS

\*\* Electives must be selected from the following categories: intelligence, military science, history, political science, economics, geography, sociology, psychology, any foreign language, or any course awarded on Fort Huachuca in the MOS credentialing program.

NOTE: A minimum of nine credits, from the 64 total credits in this degree, must be completed with 200-level courses.

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

Contact an advisor at the Fort Huachuca Center regarding the following areas of concentration:

Common Ground Station Operator (Major Code - IOST/CGSO)
Counterintelligence (Major Code - IOST/CI)
Electronic Intelligence Analyst (Major Code - IOST/EIA)
General Intelligence (Major Code - IOST/GIO)
Ground Surveillance Systems Operator (Major Code - IOST/GSO)
Human Intelligence Collector (Major Code - IOST/HIC)
Imagery Analyst (Major Code - IOST/IMA)
Intelligence Analyst (Major Code - IOST/IA)

Linguist (Major Code - IOST/LIN)
Military Intelligence Systems Maintainer (Major Code - IOST/MISM)
Morse Interceptor (Major Code - IOST/MI)
Multi-Sensor Operator (Major Code - IOST/MSO)
Signal Collector Analyst (Major Code - IOST/SCA)
Signals Collection/Id Analyst (Major Code - IOST/SCIA)
Signals Intelligence Analyst (Major Code - IOST/SIA)

## Journalism and Media Arts

The Associate of Arts degree in Journalism and Media Arts is designed to prepare students to transfer with junior standing to a university, where they can continue their studies in the field. It also provides students with the opportunity for practical experience, including contribution to and publication in a newspaper. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### JOURNALISM AND MEDIA ARTS

#### Associate of Arts (Major Code - JMA)

##### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

##### LANGUAGE REQUIREMENT ..... 0-16 CREDITS

Non-English language
Second- or fourth-semester proficiency

##### CORE CURRICULUM ..... 9 CREDITS

Introduction to Mass Communications .....	JRN 101 .....	3
Essentials of News Writing .....	JRN 102 .....	3
Public Speaking .....	COM 110 .....	3

##### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*

##### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

- \* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).
- \*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Languages and Interpretation

To prepare students to live and work effectively in a diverse society and participate in the global community, Cochise College offers a variety of language programs to fit the differing needs of students. These include transfer preparation for foreign language majors (AA with emphasis in language), workplace language certificate programs in Spanish and in English, an intensive Spanish Immersion Program, and comprehensive programs in English as a Second Language: a day program emphasizing academic English, preparing students for college and university studies and an evening program for people employed during the day.

The Associate of Arts in Language is designed to provide students with the linguistic foundation in written and spoken language and the lower-division general education coursework necessary for seamless transfer with junior standing to all Arizona universities and virtually all others. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

The Workplace Spanish certificate program provides students with communicative competence in Spanish through practical application of frequently used specialized workplace language, preparing them for employment or advancement in a work environment in which proficiency in Spanish is essential.

In addition the College offers two programs in interpretation and translation: Spanish/English or American Sign Language (ASL) and English. Options in the Spanish/English program include certificates or an Associate of Applied Science degree with emphasis possible in either legal or health services.

Language and non-language majors can also find introductory courses in linguistics and the structure of language in the course descriptions area of the catalog.

## LANGUAGE

### Associate of Arts (Major Code - LANG)

#### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy.....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		

#### LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

Non-English language	.....
Second- or fourth-semester proficiency	.....

#### CORE CURRICULUM ..... 12 CREDITS

Introduction to the English Language .....	ENG 255.....OR
Introduction to Linguistics.....	LIN 101 .....
Electives .....	.....
OR	

#### Recommended courses for Spanish majors (choose three):

Introduction to Spanish Literature I .....	SPA 220 .....	3
Introduction to Spanish Literature II .....	SPA 221 .....	3
Introduction to Mexican Literature I.....	SPA 224 .....	3
Introduction to Mexican Literature II .....	SPA 225 .....	3
Intermediate Spanish Conversation and Composition .....	SPA 275 .....	3
Intermediate Conversation and Composition ....	SPA 276 .....	3

#### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

#### TOTAL DEGREE REQUIREMENTS..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## WORKPLACE SPANISH

### Certificate (Major Code - WPS)

CORE CURRICULUM .....	26 CREDITS
Elementary Spanish I.....	SPA 101.....OR
Understanding Spanish.....	SPA 189..... 4
Pronouncing Spanish .....	SPA 190 .....1
Elementary Spanish II. ....	SPA 102 .....4
Spanish for Occupations .....	SPA 191 .....1
Intermediate Spanish .....	SPA 201 .....4
Cultural Content: Case Studies .....	SPA 283 .....1
Intermediate Spanish .....	SPA 202 .....4
Basic Skills in Translation and Interpretation .....	SPA 284 .....1
The following two capstone courses are taught bilingually in a cross-cultural setting.	
Cultural Values in the Borderlands Workplace ..	HUM 167 .....3
Field Experience in Cooperative Education .....	CED 224 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	26 CREDITS

## SPANISH IMMERSION PROGRAM (SUMMER)

The college offers a summer Spanish Immersion program that provides intensive, day-long instruction to non-native speakers. The program is designed to improve basic listening and speaking facility in the Spanish language. Students receive four or eight credits of transferable credit (equivalent to one or two semesters of first-year Spanish) upon successful completion of the program.

## ENGLISH AS A SECOND LANGUAGE

ESL programs develop speaking, listening, reading and writing skills. The programs are designed to help students develop their proficiency in English. For further information about admissions to the ESL program, contact the Admissions Office.

## INTERPRETER TRAINING

### Associate of Applied Science (Major Code - INTP)

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Communication .....	ENG 101 and COM 204..... 6
Mathematics/laboratory sciences .....	MAT 122 .....3
Liberal arts .....	COM 102 and elective .....6
Technology literacy .....	CIS 116 .....3
CORE CURRICULUM .....	46 CREDITS
American Sign Language IV.....	ASL 202..... 4
Fingerspelling and Numbers .....	ASL 105 .....2
Introduction to the Deaf Community.....	ASL 200 .....3
Linguistics of American Sign Language.....	ASL 203 .....3
Advanced Fingerspelling and Numbers.....	ASL 205 .....2
Introduction to Interpreting .....	ITP 210 .....3
Classifiers, Mimetic Description and ASL Literature ..	ITP 215 .....3
Interpreting I .....	ITP 220 .....4
Interpreting II .....	ITP 250 .....4
Etymology .....	ITP 268 .....2
Beginning Sign to Voice .....	ITP 270 .....4
Advanced Sign to Voice .....	ITP 280 .....4
Educational Interpreting/Transliteration.....	ITP 285 .....4
Special Topics in Interpreting .....	ITP 289 .....2
Interpreter Training Field Experience .....	ITP 290 .....2
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## INTERPRETATION AND TRANSLATION

### ENGLISH<>SPANISH

This program provides specialized training and practice in the fundamentals of translation and interpretation between Spanish and English in the workplace, with emphasis on legal/law-enforcement or health-related environments. It includes special attention to cross-cultural communication skills, ethical issues, accuracy and completeness-of-meaning transfer between languages, sight translation, document translation, and consecutive interpretation.

## INTERPRETATION AND TRANSLATION ENGLISH<>SPANISH

### Associate of Applied Science (Major Code - ITRA)

GENERAL EDUCATION REQUIREMENTS .....	18-19 CREDITS
Composition or Business	
Communication.....	ENG 101 or 167 .....3
Computer Essentials.....	CIS 116 .....
Applied Technical Writing .....	ENG 179 .....3
Mathematics/laboratory sciences .....	MAT 122, MAT 142, BIO 101, BIO 105, or CHM 130. ....3-4
Essentials of Communication .....	COM 102 .....3
Ethics .....	PHI 130 .....3
CORE CURRICULUM.....	45-46 CREDITS
Introduction to Translation and Interpretation ..	SPA 211 .....4
Writing and Listening for Interpretation and Translation:	
English<>Spanish .....	ITP 278 .....4
English<>Spanish Medical Terminology .....	ITP 282 .....4
English<>Spanish Legal Terminology .....	ITP 283 .....4
The Legal Environment of Business .....	BUS 233 .....
Intro Human Anatomy and Physiology .....	BIO 160 .....4
English<>Spanish Document Translation.....	ITP 284 .....4
Sight Translation and Consecutive Interpretation.	ITP 286 .....
Capstone Course in Interpretation and Translation...	ITP 297 .....
Field Experience in Health-Related Interpretation and Translation (Entry Level) .....	ITP 224A .....1
Field Experience in Law-Related Interpretation and Translation (Entry Level).....	ITP 224B .....1
Field Experience in Health or Law-Related Interpretation and Translation (Intermediate Level) ...	ITP 294A or 294B .....
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)*	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

\* May include ENG 100, SPA 202 or 203, RDG 110 or 122, an additional listed general education course, another credit of field experience, or other courses related to ITP per approval of advisor.

## INTERPRETATION AND TRANSLATION ENGLISH<>SPANISH

### Certificate (Major Code - ITRA)

CORE CURRICULUM .....	16 CREDITS
Introduction to Translation and Interpretation ..	SPA 211 .....4
Writing and Listening for Interpretation and Translation:	
English<>Spanish .....	ITP 278 .....4
English<>Spanish Medical Terminology.....	ITP 282 .....3
English<>Spanish Legal Terminology .....	ITP 283 .....3
Field Experience in Health-Related Interpretation and Translation (Entry Level) .....	ITP 224A .....1
Field Experience in Law-Related Interpretation and Translation (Entry Level) .....	ITP 224B .....1
TOTAL CERTIFICATE REQUIREMENTS.	16 CREDITS

## Logistics

The Associate of Applied Science degree in Logistics Supply Chain Management provides students with an understanding of the fundamental principles of logistics and business, and with the working knowledge of inventory control, transportation, and warehouse management required for employment in the field of logistics.

The Advanced Logistics Supply Chain Management Certificate is designed to prepare students for higher-level positions in the field of logistics through the development of technical writing and business management skills and through the acquisition of field experience. Students may develop further skills and knowledge by completing the Logistics Supply Chain Management Associate of Applied Science degree.

The Basic Logistics Supply Chain Management Certificate is designed to prepare students for entry-level positions in the field of logistics by providing them with an understanding of the principles of logistics, inventory control, computerized logistics, and warehouse management. Students may develop further skills by completing the Advanced Logistics Supply Chain Management Certificate.

## LOGISTICS SUPPLY CHAIN MANAGEMENT

### Associate of Applied Science (Major Code - LGS)

GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Communication.....	ENG 101 .....	3
	BUS/ENG 167, CIS/ENG 279,	
	ENG 102, or COM 204 .....	3
Mathematics .....	MAT 122 or higher .....	3
Liberal arts .....	COM 102, ECN 201,	
	ECN 202, or PHI 130 .....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
CORE CURRICULUM.....	40-44 CREDITS	
Principles of Logistics .....	LGS 101 .....	3
Inventory Control.....	LGS 102 .....	3
Freight Claims and Contracts.....	LGS 103 .....	3
Computerized Logistics.....	LGS 104 .....	2
Warehouse Management .....	LGS 105 .....	3
Transportation and Traffic Management.....	LGS 106 .....	3
Introduction to Purchasing.....	LGS 107 .....	3
International Logistics .....	LGS 108 .....	3
Field Experience in Logistics .....	LGS 224 .....	1-3
Survey of American Business .....	BUS 109.....	OR
Survey of International Business .....	BUS 110 .....	3
Management and Organizational Behavior.....	BUS 125.....	OR
Leadership and Supervision .....	BUS 127 .....	3
Essential Workplace Success Skills.....	BUS 160.....	OR
Customer Relations in the Workplace .....	BUS 168 .....	1-3
Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
Electronic Commerce.....	BUS 285 .....	3
World Regional Geography.....	GEO 121 .....	3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)* .....	2-6	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS	

\* Recommended electives: Students may consider 2-3 co-op credits in LGS 224 to gain additional workplace experience, and any course with BUS/CIS/ECN prefix. Transfer students should check with transfer school for transferability.

## ADVANCED LOGISTICS SUPPLY CHAIN MANAGEMENT

### Certificate (Major Code - LGSA)

CORE CURRICULUM.....	30 CREDITS
Principles of Logistics .....	LGS 101 .....
Inventory Control.....	LGS 102 .....
Computerized Logistics.....	LGS 104 .....
Warehouse Management.....	LGS 105 .....

Transportation and Traffic Management.....	LGS 106 .....	3
International Logistics .....	LGS 108 .....	3
Readiness Skills for Logistics Careers .....	LGS 109 .....	1
Field Experience in Logistics .....	LGS 224 .....	3
Management and Organizational Behavior.....	BUS 125.....	OR
Leadership and Supervision .....	BUS 127 .....	3
Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3

#### SELECT ONE OF THE FOLLOWING:

Business Communications.....	BUS/ENG 167.....	OR
Advanced Applied Technical Writing.....	CIS/ENG 279.....	OR
Composition .....	ENG 101.....	OR
English Composition .....	ENG 102.....	OR
Elements of Intercultural Communication .....	COM 204 .....	3

TOTAL CERTIFICATE REQUIREMENTS..... 30 CREDITS

## BASIC LOGISTICS SUPPLY CHAIN MANAGEMENT

### Certificate (Major Code - LGSB)

CORE CURRICULUM.....	18 CREDITS	
Principles of Logistics .....	LGS 101 .....	
Inventory Control.....	LGS 102 .....	
Computerized Logistics.....	LGS 104 .....	
Warehouse Management .....	LGS 105 .....	
Transportation and Traffic Management.....	LGS 106.....	OR
International Logistics .....	LGS 108 .....	
Readiness Skills for Logistics Careers .....	LGS 109 .....	
Applied Technical Writing.....	BUS/CIS/ENG 179 .....	
TOTAL CERTIFICATE REQUIREMENTS.....	18 CREDITS	

## Manufacturing Engineering

The Associate of General Studies degree in Manufacturing Engineering is intended to prepare students for employment in the field of industrial manufacturing. The manufacturing and machining trades offer excellent employment opportunities.

The Manufacturing Technology Certificate program provides students the entry-level skills necessary for employment in the manufacturing industry.

## MANUFACTURING ENGINEERING

### Associate of General Studies (Major Code - MEG)

#### GENERAL EDUCATION REQUIREMENTS ..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences. ....	PHY 230 and PHY 231 .....	8
Arts .....	3	
Humanities.....	3	
Social and behavioral sciences .....	6	
Technology literacy.....	CIS 116 or CIS 120 .....	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](http://www.cochise.edu/AGEC).

#### CORE CURRICULUM ..... 29 CREDITS

Computer-Aided Drafting.....	DFT 150 .....	3
Engineering Design .....	DFT 241 .....	4
Computer-Aided Drafting II.....	DFT 250 .....	3
Manufacturing Materials and Processes I.....	GTC 105 .....	3
Engineering Materials and Processes.....	GTC 206 .....	4
Manufacturing Processes .....	GTC 231 .....	4

#### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## MANUFACTURING ENGINEERING

### Associate of Applied Science (Major Code - MEG)

#### GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Composition .....	ENG 101.....	OR
Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
English Composition .....	ENG 102.....	OR
Advanced Applied Technical Writing .....	CIS/ENG 279 .....	3
Mathematics .....	MAT 122 or higher .....	3-5
Liberal arts .....	.....	3
Technology literacy.....	CIS 116 or CIS 120 .....	3
General education electives.....	.....	1-3

#### CORE CURRICULUM ..... 46 CREDITS

Computer-Aided Drafting.....	DFT 150 .....	3
Engineering Design .....	DFT 241 .....	4

#### Computer-Aided Drafting II..... DFT 250 .....

#### Manufacturing Materials and Processes I..... GTC 105 .....

#### Engineering Materials and Processes..... GTC 206 .....

#### Manufacturing Processes .....

#### Welding Survey..... WLD 202 .....

#### Electives .....

#### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

## MANUFACTURING TECHNOLOGY

### Certificate (Major Code - MFT)

#### CORE CURRICULUM ..... 18 CREDITS

#### Manufacturing Materials and Processes .....

#### Computer-Aided Drafting..... DFT 150 .....

#### Welding Survey..... WLD 202 .....

#### Engineering Materials and Processes..... GTC 206 .....

#### Manufacturing Processes .....

#### TOTAL CERTIFICATE REQUIREMENTS..... 18 CREDITS

## Mathematics

The Associate of Arts degree in Mathematics is designed for students who plan to transfer to a four-year college or university to pursue a degree in mathematics. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## MATHEMATICS

### Associate of Arts (Major Code - MAT)

#### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

#### Composition .....

#### English Composition .....

#### Mathematics .....

#### Laboratory sciences .....

#### Arts .....

#### Humanities.....

#### Social and behavioral sciences .....

#### Technology literacy..... CIS 116 or CIS 120 .....

#### 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](http://www.cochise.edu/AGEC).

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
CORE CURRICULUM.....	16 CREDITS
Calculus I .....	MAT 220 ..... 5
Calculus II .....	MAT 231 ..... 4
Calculus III .....	MAT 241 ..... 4
Differential Equations .....	MAT 262 ..... 3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	

TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The Math Department recommends the following electives: programming, MAT 188, and/or non-English language. Chemistry and physics are recommended for the AGEC and/or core curriculum areas.

## Mechatronics

The Mechatronic Systems Operating Technician Certificate provides training for employment as a mechatronic systems operating technician and teaches the skills needed by a machine operator in a complex system. Prepares students to take the internationally recognized certification, Level 1 - Siemens Certified Mechatronic Systems Assistant.

### MECHATRONIC SYSTEMS OPERATING TECHNICIAN Certificate (Major Code - MSOT)

CORE CURRICULUM.....	16 CREDITS
Mechatronic Systems Electrical Components ... MCS 101 .....	4
Introduction to Programmable Logic Controllers .. MCS 102 .....	4
Mechatronic Systems Mechanical Components.... MCS 103 .....	4
(Electro)Pneumatic and Hydraulic Control Circuits . MCS 104 .....	4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## Music

The Associate of Arts degree in Music is designed for students who plan to transfer to a four-year college or university to pursue a degree in music, interdisciplinary arts and performance, or related areas of study. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## MUSIC

### Associate of Arts (Major Code - MUS)

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
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Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 142 or higher ..... 3-5
Laboratory sciences .....	8
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Technology literacy .....	CIS 116 or CIS 120 ..... 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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .	

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
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    Non-English language

    Second- or fourth-semester proficiency

CORE CURRICULUM.....	12 CREDITS
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Music Theory I .....	MUS 132 ..... 3
Music Theory II .....	MUS 133 ..... 3
Music Theory III.....	MUS 232 ..... 3
Music Theory IV.....	MUS 233 ..... 3
NOTE: The Music Department recommends MUS 132 be taken concurrently with MUS 134 and MUS 133 be taken concurrently with MUS 135.	

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
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TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

# Nursing

Accredited by the National League for Nursing Accrediting Commission and approved by the Arizona State Board of Nursing, the Associate of Applied Science in Nursing teaches about common physical and psychosocial health needs and problems throughout the human life span, the body's responses to stressors, nursing interventions, and alterations in growth and development. Concepts include the use of a framework promoting 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 trends in health care to adapt to changes and to be proactive in the profession of nursing.

Students are required to complete program prerequisites prior to admission into the nursing program and must complete courses in the sequence outlined in the program.

Upon completion of the first year of nursing courses students are eligible to apply to take the National Council Licensing Exam to become licensed by the Arizona State Board of Nursing as a Practical Nurse.

Upon completion of the nursing program students are eligible to apply to take the National Council Licensing Exam to become licensed by the Arizona State Board of Nursing as a Registered Nurse.

Acceptance into the nursing program does not guarantee successful completion of the program. Class attendance and clinical experience, involving travel to locations throughout Cochise County and elsewhere, are required. Experience in multiple clinical agencies is essential for completion of the program. Any possible legal impediment to licensure must be made known to the Nursing Department prior to assignment to a clinical agency. Acceptance into and/or successful completion of the program does not guarantee licensure by the Arizona State Board of Nursing.

## NURSING

### Associate of Applied Science (Major Code - NUR)

Year 1 Program Prerequisites:

FALL/SPRING SEMESTER.....	17 CREDITS
Human Anatomy and Physiology I.....	BIO 201 .....4
Human Anatomy and Physiology II .....	BIO 202 .....4
Composition .....	ENG 101 .....3
English Composition .....	ENG 102 .....3
Introduction to Psychology .....	PSY 101 .....3

Year 2 Freshman:	
FIRST SEMESTER.....	13 CREDITS
Medication Math I .....	NUR 121A .....2
Nursing I.....	NUR 122 .....8
Update on Pharmacology .....	NUR 203.....OR
Developmental Psychology .....	PSY 240 .....3
SECOND SEMESTER .....	13 CREDITS
Nursing II .....	NUR 123 .....10
Update on Pharmacology .....	NUR 203.....OR
Developmental Psychology .....	PSY 240 .....3
Year 3 Sophomore:	
THIRD SEMESTER .....	12 CREDITS
Medication Math II.....	NUR 121B .....2
Nursing III.....	NUR 232 .....10
FOURTH SEMESTER.....	14 CREDITS
Microbiology .....	BIO 205 .....4
Nursing IV .....	NUR 233 .....10
TOTAL DEGREE REQUIREMENTS.....	69 CREDITS

NOTES: Students must complete courses during or prior to the semester listed in the program outline.

All non-nursing courses require a grade of C or higher.

## NURSING ASSISTANT

HLT 109, Nursing Assistant, is approved by the Arizona Board of Nursing to prepare the basic level of nursing assistant to take the state exam for certification with emphasis on basic concepts of communication, patient safety, anatomy and physiology, nursing process, patient rights, legal and professional responsibilities, and specific patient care skills. The student will learn to recognize and meet basic physical, psychosocial, and cultural needs of patients especially those needs of the geriatric patient.

## NURSING ASSISTANT

### (Major Code - CNA)

CORE CURRICULUM* .....	5 CREDITS
Nursing Assistant .....	HLT 109 .....5

\* See course description for prerequisites.

## Philosophy

Philosophy majors are encouraged to complete the Associate of Arts degree, General Requirements. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### PHILOSOPHY

#### Associate of Arts (Major Code - PHI)

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

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities .....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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](http://www.cochise.edu/AGEC).

LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS

Non-English language

Fourth-semester proficiency

CORE CURRICULUM ..... 13 CREDITS

College Algebra .....	MAT 151 .....	4
Introduction to Philosophy .....	PHI 111 .....	3
Introduction to Logic and Language .....	PHI 113 .....	3
Ethics .....	PHI 130 .....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AEGC](http://www.cochise.edu/AEGC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Physics

The Associate of Science degree in Physics is designed for students interested in transferring to a four-year institution in physics, physical science, or astronomy. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### PHYSICS

#### Associate of Science (Major Code - PHY)

GENERAL EDUCATION REQUIREMENTS (AGEC-S) ..... 40-42 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences .....	CHM 151 and CHM 152 .....	8



Arts .....	3	
Humanities .....	3	
Social and behavioral sciences .....	6	
Technology literacy.....CIS 116 or CIS 120 .....	3	
Calculus II .....	MAT 231 .....	4
Calculus III .....	MAT 241 .....	4
Six credits of arts, humanities, or social and behavioral sciences must be chosen from the current listing of intensive writing courses. See <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
<b>CORE CURRICULUM.....</b>	<b>12-14 CREDITS</b>	
Physics with Calculus I .....	PHY 230 .....	4
Physics with Calculus II .....	PHY 231 .....	4
<b>SELECT ONE AREA OF EMPHASIS BELOW</b>		
Physics		
Introduction to Linear Algebra .....	MAT 252 .....	3
Differential Equations .....	MAT 262 .....	3
Physical Science		
Physical Geography .....	GEO 101 .....	4
Astronomy		
Introduction to Astronomy.....	AST 180 .....	4
<b>ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)*</b>		
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com). The department recommends that students use a university transfer guide for transfer requirements.

## Political Science

The Associate of Arts degree in Political Science has full transferability to all Arizona public universities and provides the first two years of a four-year program in political science. Following completion of a four-year degree, students may enter government service or pursue a graduate degree in political science, law, public administration and management, international business, secondary education or similar fields of study. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## POLITICAL SCIENCE

### **Associate of Arts (Major Code - POS)**

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A).....35 CREDITS</b>		
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy.....CIS 116 or CIS 120 .....	.....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
<b>LANGUAGE REQUIREMENT** .....</b>	<b>0-16 CREDITS</b>	
Non-English language	.....	
Fourth-semester proficiency	.....	

<b>CORE CURRICULUM .....</b>	<b>9 CREDITS</b>	
American National Government .....	POS 110 .....	3
World Politics .....	POS 230 .....	3
Comparative Politics .....	POS 240 .....	3

### **ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\***

### **TOTAL DEGREE REQUIREMENTS .....**

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

# Professional Administrative Assistant

The Associate of Applied Science degree in Professional Administrative Assistant prepares students for direct employment as administrative assistants and executive secretaries. The program provides graduates with a broad foundation of knowledge and skills needed for employment in business, industry, government, law and medical offices, and public and private agencies.

The Computerized Office Applications Certificate prepares students to utilize computer applications software in today's technologically oriented workplace. The courses provide skill training in data entry, operating systems, word processing, spreadsheets, database, and presentation software.

The Administrative Office Aide Entry-level Certificate is for individuals interested in entry or clerical type work in an office environment. The certificate will teach individuals the basic administrative office skills and procedures in an office environment.

The Office Assistant Certificate adds to the skill level of those students wishing to work in a modern office. Students learn to develop interpersonal skills, producing advanced computer applications, manage records, and use essential accounting procedures.

The Receptionist Certificate prepares students to perform entry-level tasks involving telephone, customer service, word processing, document preparation, business math, and English skills.

# **PROFESSIONAL ADMINISTRATIVE ASSISTANT**

## **Associate of Applied Science (Major Code - PAA)**

Graduation requirement: To satisfy graduation requirements for this degree, all courses require a grade of C or higher.

GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Business Communications .....	BUS 167 .....	3
Communication .....	BUS/CIS/ENG 179,	
	CIS/ENG 279,	
	ENG 101, or ENG 102 .....	3
Mathematics .....	MAT 122 or higher .....	3
Technology literacy .....	CIS 116 or CIS 120 .....	3
Liberal arts .....		6
<b>CORE CURRICULUM .....</b>	<b>46 CREDITS</b>	
Administrative Assistant Skills I .....	BUS 106 .....	4
Business English .....	BUS 111 .....	3
Introduction to Accounting .....	BUS 146 .....	3

Essential Workplace Success Skills .....	BUS 160 .....	3
Computer Applications .....	CIS 181 .....	3
Administrative Assistant Skills II .....	BUS 206 .....	4
Office Administration .....	BUS 207 .....	3
Business Speech Communications .....	BUS 209 .....	3
Automated Office Procedures .....	BUS 210 .....	3
Automated Office Practice .....	BUS 211 .....	3
Administrative Assistant Skills III .....	BUS 216 .....	4
Administrative Assistant Skills IV .....	BUS 217 .....	4
Technical Presentations .....	CIS 268 .....	3
Electives .....		3
<b>TOTAL DEGREE REQUIREMENTS .....</b>		<b>64 CREDITS</b>

## COMPUTERIZED OFFICE APPLICATIONS

### **Certificate (Major Code - COA)**

<b>CORE CURRICULUM .....</b>	<b>30 CREDITS</b>
Computer Essentials .....	CIS 116 .....
Introduction to Information Systems .....	CIS 120 .....
Internet Essentials .....	CIS 185.....
World Wide Web Development .....	CIS 287 .....
Administrative Assistant Skills II .....	BUS 206 .....
Automated Office Procedures.....	BUS 210 .....
Automated Office Practice.....	BUS 211 .....
Administrative Assistant Skills III .....	BUS 216 .....
Administrative Assistant Skills IV .....	BUS 217 .....
Technical Presentations.....	CIS 268 .....
Electives* .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS .....</b>	<b>30 CREDITS</b>

- \* Field experience hours are recommended. Any CIS or BUS course not listed in the certificate that uses technology. Elective course content cannot duplicate required course content for the certificate.

## ADMINISTRATIVE OFFICE AIDE

### **Certificate (Major Code - AOA)**

<b>CORE CURRICULUM</b>	.....	<b>16-18 CREDITS</b>
Essential Workplace Success Skills	.....	BUS 160 ..... 3
Computer Essentials	.....	CIS 116 ..... 3
Excel I	.....	BUS A193 ..... 1
Excel II	.....	BUS B193 ..... 1
Excel III	.....	BUS C193 ..... 1
Automated Office Procedures	.....	BUS 210 ..... 3
Word Processing	.....	BUS 213 ..... 3
Electives (business approved courses)	.....	1-3
<b>TOTAL CERTIFICATE REQUIREMENTS</b>	.....	<b>16-18 CREDITS</b>

## OFFICE ASSISTANT

### Certificate (Major Code - OAS)

Certificate prerequisites: Computer keyboarding, BUS 101, or demonstrated keyboarding skill, basic math, reading, and writing proficiency.
<b>CORE CURRICULUM.....30 CREDITS</b>
Business Communications ..... BUS/ENG 167 ..... 3
Business Math.....BUS 104 ..... OR
Introduction to Accounting.....BUS 146 ..... 3
Essential Workplace Success Skills.....BUS 160 ..... 3
Technical Presentations.....CIS 268 ..... 3
Administrative Assistant Skills II ..... BUS 206 ..... 4
Automated Office Procedures.....BUS 210 ..... 3
Administrative Assistant Skills III ..... BUS 216 ..... 4
Electives* ..... 7
<b>TOTAL CERTIFICATE REQUIREMENTS.....30 CREDITS</b>

\* Field experience course is recommended. Any CIS or BUS course not used in the certificate, except BUS 101. Elective course content cannot duplicate required course content for the certificate.

## RECEPTIONIST

### Certificate (Major Code - RCP)

<b>CORE CURRICULUM .....</b> 18 CREDITS
Computer Essentials.....CIS 116 ..... 3
Administrative Assistant Skills I ..... BUS 106 ..... 4
Business English.....BUS 111 ..... OR
Business Communications ..... BUS/ENG 167 ..... 3
Business Math.....BUS 104.....OR
Introduction to Accounting.....BUS 146 ..... 3
Essential Workplace Success Skills.....BUS 160 ..... 3
Electives*.....2-3
<b>TOTAL CERTIFICATE REQUIREMENTS.....18 CREDITS</b>

\* Field experience course is recommended. Any CIS or BUS course not used in the certificate. Elective course content cannot duplicate required course content for the certificate.

## Psychology

The Associate of Arts degree in Psychology is designed for students who wish to pursue a baccalaureate degree in psychology at a university. University specialty areas include chemical/counseling, developmental, school/educational, forensic, social, industrial/organizational, sports psychology and psychometry. Psychology coursework is beneficial for students interested in education, medicine, law, social work, business, or any of the human service fields especially mental health, nursing, child care and criminal justice. This degree does not directly lead to employment in psychology since career opportunities in the field often require a graduate degree. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## PSYCHOLOGY

### Associate of Arts (Major Code - PSY)

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A).....35 CREDITS</b>
Composition ..... ENG 101 ..... 3
English Composition ..... ENG 102 ..... 3
Mathematics ..... MAT 142 or higher ..... 3-5
Laboratory sciences ..... 8
Arts ..... 3
Humanities.....3
Social and behavioral sciences ..... 6
Technology literacy ..... CIS 116 or CIS 120 ..... 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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .
<b>LANGUAGE REQUIREMENT** .....</b> 0-16 CREDITS
Non-English language
Second- or fourth-semester proficiency
<b>CORE CURRICULUM .....</b> 13 CREDITS
Introduction to Psychology ..... PSY 101 ..... 3
Introduction to Psychological Research, Measurements and Statistics ..... PSY 250 ..... 3
Experimental Psychology ..... PSY 290 ..... 4

## SELECT ONE OF THE FOLLOWING:

Social Psychology .....	PSY 210 .....	3
Personality Theories and Research .....	PSY 230 .....	3
Developmental Psychology .....	PSY 240 .....	3

## ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

## TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Social Work

The Associate of Arts degree in Social Work enables students to fulfill university lower-division requirements for baccalaureate degrees in social work, human services and related fields. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

The Social Work Certificate improves basic skills for entry-level social work employment.

### SOCIAL WORK

#### Associate of Arts (Major Code - SCW)

## GENERAL EDUCATION REQUIREMENTS (AGEC-A)..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences*	.....	8
Arts .....	.....	3
Humanities.....	PHI 111 or PHI 130 .....	3
Social and behavioral sciences** .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a> .		
LANGUAGE REQUIREMENT† .....	.....	8-16 CREDITS

Non-English language

Second- or fourth-semester proficiency

## CORE CURRICULUM† .....

Introduction to Macroeconomics .....	ECN 201.....	3
Introduction to Psychology .....	PSY 101 .....	3

## Developmental Psychology .....

PSY 240 .....

3

## Introduction to Social Welfare .....

SOC 207 .....

3

## Social/Health Services Practicum .....

SSV 121 .....

6

## SELECT ONE

Introduction to Psychological Research,

Measurements and Statistics .....

PSY 250.....OR

Business Statistics .....

BUS 219.....OR

Experimental Psychology .....

PSY 290 .....

3

## TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Laboratory sciences must include BIO 160 or BIO 201.

\*\* SOC 101, SOC 160, and/or AJS 101 are recommended for social and behavioral sciences.

\*\*\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

† University non-English language requirements vary. Check with your advisor.

†† University Social Work Major requirements vary. Check with your advisor.

## SOCIAL WORK

#### Certificate (Major Code - SCW)

## CORE CURRICULUM ..... 31 CREDITS

Composition .....

ENG 101 and ENG 102 .....

6

Introduction to Psychology .....

PSY 101 .....

3

Introduction to Sociology .....

SOC 101 .....

3

Introduction to Social Welfare .....

SOC 207 .....

3

Ethnic Groups and Minorities .....

SOC 160. ....

3

Introduction to Human Anatomy .....

BIO 160 .....

4

Ethics .....

PHI 130 .....

3

Technology literacy .....

CIS 116 or CIS 120.....

3

Developmental Psychology .....

PSY 240 .....

3

## TOTAL CERTIFICATE REQUIREMENTS ..... 31 CREDITS

## Sociology

The Associate of Arts degree program in Sociology has full transferability to all Arizona public universities and provides the first two years of a four-year program in sociology and human resources. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

## SOCIOLOGY

### Associate of Arts (Major Code - SOC)

#### GENERAL EDUCATION REQUIREMENTS (AGEC-A) ..... 35 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory sciences .....	.....	8
Arts .....	.....	3
Humanities.....	.....	3
Social and behavioral sciences .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	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](http://www.cochise.edu/AGEC).

#### LANGUAGE REQUIREMENT\*\* ..... 16 CREDITS

- Non-English language
- Fourth-semester proficiency

#### CORE CURRICULUM (SELECT 13 CREDITS) ..... 13 CREDITS

Introduction to Sociology .....	SOC 101 .....	3
Ethnic Groups and Minorities.....	SOC 160 .....	3
Social Problems .....	SOC 202 .....	3
Marriage and the Family.....	SOC 210 .....	3
Women and Men in a Changing Society .....	SOC 212 .....	3

#### ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)\*\*\*

#### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC).

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## BASIC BORDERLAND STUDIES

### Certificate (Major Code - BBS)

This certificate has an interdisciplinary focus on the study of the culturally, historically, politically, and ecologically rich cross-border region of southern Arizona and northern Sonora, Mexico. With a greater understanding of this unique region, students will be better able to devise productive solutions to socio-political and resource problems, and develop skills essential to international collaborative action.

CORE CURRICULUM*.....	20 CREDITS
History of Mexico II.....	HIS 230.....OR
Ethnic Groups and Minorities .....	SOC 160 .....
Society and Culture.....	ANT 102.....OR
Introduction to Psychology.....	PSY 101.....OR
Introduction to Sociology.....	SOC 101 .....
World Politics.....	POS 230 .....
Spanish .....	SPA 102,SPA 201, SPA 202,SPA 203, SPA 204,SPA 211, SPA 224,SPA 225, SPA 275,or SPA 276 .....

Environmental Biology .....

Ecology .....

Introduction to Human Geography .....

Environmental Geology.....

Electives\*\* .....

\* Prerequisites apply.

\*\* Select from an HON 250,SLE 192, or SLE 292 project related to borderland issues, an additional course from the core curriculum listing, or any course approved by the program coordinator.

## Teleservices

The Teleservices Certificate program is a program of study designed to prepare the entry-level teleservices employee with both the computer skills and the procedural knowledge necessary to fulfill the duties and responsibilities of the teleservices customer service representative.

Prerequisite(s): Sponsorship by a teleservices provider.

## TELESERVICES

### Certificate (Major Code - TELE)

CORE CURRICULUM .....	15 CREDITS
Introduction to Teleservices .....	TLS 101 .....
Teleservices Practicum .....	TLS 102.....1.5
Customer Service in the Teleservices Industry....	TLS 103 .....
Teleservices Practicum II .....	TLS 104.....1.5

TOTAL CERTIFICATE REQUIREMENTS ..... 15 CREDITS

## Theatre Arts

The Associate of Arts degree in Theatre Arts prepares students for transfer to a university program in drama production, education, or theory. It provides extensive training and experience in performance and in the various other aspects of producing a drama. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### THEATRE ARTS

#### Associate of Arts (Major Code - THE)

GENERAL EDUCATION REQUIREMENTS (AGEC-A) .....	35 CREDITS
Composition.....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 142 or higher ..... 3-5
Laboratory sciences .....	8
Arts .....	3
Humanities.....	3
Social and behavioral sciences .....	6
Technology literacy.....	CIS 116 or CIS 120 ..... 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 <a href="http://www.cochise.edu/AGEC">www.cochise.edu/AGEC</a>	
LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
CORE CURRICULUM***.....	12 CREDITS
Acting I .....	THE 101..... 3
Introduction to the Theatre .....	THE 103 ..... 3
Acting II .....	THE 201 ..... 3
Dramatic Structure .....	THE 220 ..... 3
RECOMMENDED ELECTIVES****.....	1-17 CREDITS
Theatre Dance.....	THE 105 ..... 2
Theatre Workshop .....	THE 110 ..... 1-3
Theatre Makeup .....	THE 203 ..... 3
Stagecraft .....	THE 213 ..... 3
Essentials of Communication .....	COM 102 ..... 3
Department approved electives .....	4-6
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

\* General education electives must be chosen from the general education list. See [www.cochise.edu/AGEC](http://www.cochise.edu/AGEC). Department recommends that this requirement be fulfilled using a 200-level literature course.

\*\* University non-English language requirements vary. Check with your advisor.

\*\*\* University theatre major requirements vary. Check with your advisor.

\*\*\*\*The department recommends courses from this list. Elective courses must be transferable to all Arizona public universities. See [www.aztransfer.com](http://www.aztransfer.com).

## Unmanned Aerial Vehicle (UAV)

### UNMANNED AERIAL VEHICLE FLIGHT OPERATOR

#### Associate of Applied Science (Major Code - UAVO)

The Unmanned Aerial Vehicle Flight Operator Associate of Applied Science degree is intended for current Unmanned Aerial Vehicle (UAV) flight operators seeking to improve their education and career prospects in the field. It focuses on aviation systems and the flight operation of UAVs.

#### GENERAL EDUCATION REQUIREMENTS .....

Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102.....OR
Written Communication and Reports .....	ENG 109.....OR
Critical Writing .....	ENG 206 ..... 3
Mathematics .....	MAT 122 or higher ..... 3-5
Liberal arts .....	6
Technology literacy.....	CIS 116 or CIS 120 ..... 3

#### CORE CURRICULUM .....

Private Pilot Ground School .....	PFT 101 ..... 5
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#### SELECT ONE OF THE FOLLOWING:

Unmanned Aerial Vehicle (UAV) Operator.....	PFT 271 ..... 29
Unmanned Aerial Vehicle (UAV) External Pilot ...	PFT 272 ..... 26

#### ELECTIVES\* .....

TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
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\* Electives must be selected from the following categories: aviation, avionics, computer science, electronics, and military science.

## UNMANNED AIRCRAFT SYSTEMS TECHNICIAN Associate of Applied Science (Major Code - UAVT)

The Unmanned Aircraft Systems Technician Associate of Applied Science degree is intended for current unmanned aircraft systems technicians seeking to improve their education and career prospects in the Unmanned Aerial Vehicle (UAV) field. It focuses on mechanical and electronic aircraft systems.

### GENERAL EDUCATION REQUIREMENTS ..... 18-20 CREDITS

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102.....	OR
Written Communication and Reports .....	ENG 109.....	OR
Critical Writing .....	ENG 206 .....	3
Mathematics .....	MAT 122 or higher .....	3-5
Liberal arts .....	.....	6
Technology literacy .....	CIS 116 or CIS 120 .....	3

### CORE CURRICULUM ..... 22-27 CREDITS

UAV Mechanical Technician .....	AMT 212 .....	13
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### SELECT ONE OF THE FOLLOWING:

UAV Maintenance Technician.....	AMT 210 .....	14
Unmanned Aerial Vehicle Avionics .....	AVT 211 .....	9

### ELECTIVES\* ..... 17-24 CREDITS

### TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

\* Electives must be selected from the following categories: aviation, avionics, computer science, electronics, and military science.

## Welding Technology

The Associate of Applied Science degree in Welding Technology is designed to prepare students to enter the workforce in almost any facet of the diverse field of welding technology. This program fulfills the needs of everyone from the beginner to the experienced welder looking to upgrade their skills and certifications.

The Aerospace Thermal Fusion Certificate program is designed to prepare students seeking employment in the rapidly growing fields of aircraft and aerospace welding. New regulations mandated by the Federal Aviation Administration have created strict certification requirements for welders in the aerospace, aircraft and missile industry. This program trains students to meet standards for employment.

The General Welding Technology Certificate prepares students to enter the workforce with diverse welding skills.

The Welding Technology Certificate prepares students to enter the workforce with diverse welding skills and knowledge of design concepts used in the welding industry.

The Aerospace Welding Technology Certificate program will prepare students with work entry skills required for the rapidly changing aviation and aerospace industries. Students will have the opportunity to certify under AWS or MIL STD welding codes.

## WELDING TECHNOLOGY

### Associate of Applied Science (Major Code - WLD)

### GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
Advanced Applied Technical Writing .....	CIS/ENG 279 .....	3
Mathematics .....	MAT 122 or higher .....	3
Liberal arts .....	.....	6
Technology literacy.....	.....	3

### CORE CURRICULUM ..... 47 CREDITS

Technical Graphics I .....	DFT 112 .....	3
Computer-Aided Drafting.....	DFT 150 .....	3
Manufacturing Materials and Processes .....	GTC 105 .....	3
Engineering Materials and Processes .....	GTC 206 .....	4
Oxyacetylene Welding .....	WLD 105 .....	3
Arc Welding .....	WLD 106 .....	3
Gas Metal Arc Welding .....	WLD 128 .....	3
Welding Survey .....	WLD 202 .....	4
Blueprint Interpretation.....	WLD 203 .....	3
Gas Tungsten Arc Welding .....	WLD 209 .....	3
Advanced Shield Metal Arc Welding .....	WLD 210 .....	3
Pipe Fitting and Welding.....	WLD 211 .....	3
Welding Design and Fabrication .....	WLD 215 .....	3
Pipe Layout and Fitting .....	WLD 217 .....	3
Advanced Gas Metal Arc Welding .....	WLD 228 .....	3

### TOTAL DEGREE REQUIREMENTS ..... 65 CREDITS

## GENERAL WELDING TECHNOLOGY

### **Certificate (Major Code - GWLD)**

CORE CURRICULUM .....	18 CREDITS
Oxyacetylene Welding .....	WLD 105 ..... 3
Arc Welding .....	WLD 106 ..... 3
Gas Metal Arc Welding .....	WLD 128 ..... 3
Blueprint Interpretation .....	WLD 203 ..... 3
Gas Tungsten Arc Welding .....	WLD 209 ..... 3
Advanced Shield Metal Arc Welding .....	WLD 210 ..... 3
TOTAL CERTIFICATE REQUIREMENTS .....	18 CREDITS

## WELDING TECHNOLOGY

### **Certificate (Major Code - WLD)**

CORE CURRICULUM .....	33 CREDITS
Technical Graphics I .....	DFT 112 ..... 3
Computer-Aided Drafting .....	DFT 150 ..... 3
Applied Technical Writing .....	BUS/CIS/ENG 179 ..... 3
Manufacturing Materials and Processes .....	GTC 105 ..... 3
Intermediate Algebra .....	MAT 122 ..... 3
Oxyacetylene Welding .....	WLD 105 ..... 3
Arc Welding .....	WLD 106 ..... 3
Gas Metal Arc Welding .....	WLD 128 ..... 3
Blueprint Interpretation .....	WLD 203 ..... 3
Gas Tungsten Arc Welding .....	WLD 209 ..... 3
Advanced Shield Metal Arc Welding .....	WLD 210 ..... 3
TOTAL CERTIFICATE REQUIREMENTS .....	33 CREDITS

## AEROSPACE THERMAL FUSION

### **Certificate (Major Code - AETF)**

CORE CURRICULUM .....	30 CREDITS
Applied Technical Writing .....	BUS/ENG/CIS 179 ..... 3
Manufacturing Materials and Processes .....	GTC 105 ..... 3
Intermediate Algebra .....	MAT 122 ..... 3
Oxyacetylene Welding .....	WLD 105 ..... 3
Arc Welding .....	WLD 106 ..... 3
Blueprint Interpretation .....	WLD 203 ..... 3
Gas Tungsten Arc Welding .....	WLD 209 ..... 3
Advanced GTAW Soft Metals .....	WLD 218 ..... 3
Advanced GTAW Hard Metals .....	WLD 219 ..... 3
Advanced GTAW Exotic Metals .....	WLD 220 ..... 3
TOTAL CERTIFICATE REQUIREMENTS .....	30 CREDITS

## AEROSPACE WELDING TECHNOLOGY

### **Certificate (Major Code - AEWT)**

CORE CURRICULUM .....	18 CREDITS
Oxyacetylene Welding .....	WLD 105 ..... 3
Blueprint Interpretation .....	WLD 203 ..... 3
Gas Tungsten Arc Welding .....	WLD 209 ..... 3
Advanced GTAW Soft Metals .....	WLD 218 ..... 3
Advanced GTAW Hard Metals .....	WLD 219 ..... 3
Advanced GTAW Exotic Metals .....	WLD 220 ..... 3
TOTAL CERTIFICATE REQUIREMENTS .....	18 CREDITS



# Arizona Department of Corrections

The following programs have been designed for the inmates of the Arizona Department of Corrections in Douglas:

## Aquaculture

The Aquaculture Certificate provides real world demand occupation skills in the aquaculture industry. Students will use the onsite lab to learn about tilapia rearing, culture management, environmental practices, water quality impact, and disease and parasite recognition and treatment. In addition, skills in marketing, economics, daily management, and production will give students the experience to gain employment in the aquaculture industry.

### AQUACULTURE

#### **Certificate (Major Code - AQU)**

CORE CURRICULUM.....	16 CREDITS
Introduction to Aquaculture .....	AQU 101 .....4
Business Practices of Aquaculture .....	AQU 102 .....4
Environmental Practices of Aquaculture .....	AQU 103 .....4
Treatment of Tilapia/Theory and Practice .....	AQU 110 .....4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## Automotive Technology

The Basic Automotive Technology Certificate provides academic information and hands-on experience in four critical areas in preparation for Automotive Service Excellence (ASE) certification and employment in the demand occupation field of automotive maintenance and repair.

The Advanced Automotive Technology Certificate prepares students for ASE certification in five categories and enhances their employability in the demand occupation field of automotive technology.

## BASIC AUTOMOTIVE TECHNOLOGY

#### **Certificate (Major Code - BATC)**

CORE CURRICULUM.....	12 CREDITS
Automotive Electrical Fundamentals.....	AUT 102 .....3
Internal Combustion Engines .....	AUT 103 .....3
Automotive Brake Systems .....	AUT 104 .....3
Automotive Manual Drive Systems.....	AUT 106 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS

## ADVANCED AUTOMOTIVE TECHNOLOGY

#### **Certificate (Major Code - AATC)**

CORE CURRICULUM.....	15 CREDITS
Automotive Suspension and Steering Systems ..	AUT 105 .....3
Automotive Electrical Systems and Equipment ..	AUT 201 .....3
Automatic Transmission/Transaxle Diagnostics and Rebuilding.....	AUT 204 .....3
Automotive Heating, Ventilation and Air Conditioning .....	AUT 205 .....3
Engine Performance .....	AUT 206 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	15 CREDITS

## Building Construction Technology

Students in the Basic Building Construction Technology Certificate will receive an introduction to the building trades through carpentry, blueprint reading, building codes and math in preparation for industry certification and eventual employment in the field.

Students in the Advanced Building Construction Technology Certificate will acquire additional skills in the building trades industry through coursework and hands-on participation in electrical, plumbing, painting and carpentry activities in preparation for National Center for Construction Education and Research (NCCER) certification and eventual employment in the construction trades.

## BASIC BUILDING CONSTRUCTION TECHNOLOGY

### **Certificate (Major Code - BBCT)**

CORE CURRICULUM.....	12 CREDITS
Technical Mathematics .....	BCT 100 .....3
Carpentry Level 1.....	BCT 102 .....3
International Residential Building Codes .....	BCT 103 .....3
Blueprint Reading and Estimating.....	BCT 127 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS

## ADVANCED BUILDING CONSTRUCTION TECHNOLOGY

### **Certificate (Major Code - ABCT)**

CORE CURRICULUM.....	12 CREDITS
Residential Electric I .....	BCT 104 .....3
Plumbing I .....	BCT 111 .....3
Carpentry Level II.....	BCT 201 .....3
Painting and Finishing Techniques .....	GTC 121 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS

## Computer Technology

The Basic Computer Technology Certificate prepares students for direct employment in technology-related fields involving computer applications, and prepares them for industry-specific certification.

Students in the Advanced Computer Technology Certificate will acquire hands-on skills with operating systems, networks, and computer repair; and preparation for A+ Certification testing, a widely accepted certification in computer hardware and software technologies for employment in the computer field.

## BASIC COMPUTER TECHNOLOGY

### **Certificate (Major Code - BCPT)**

CORE CURRICULUM.....	12 CREDITS
Computer Essentials.....	CIS 116 .....3
Computer Applications.....	CIS 181 .....3
Advanced Computer Applications .....	CIS 281 .....3
Seminar: Career Planning.....	CPD 119 .....2
Seminar: Job Search Techniques .....	CPD 120 .....1
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS

## ADVANCED COMPUTER TECHNOLOGY

### **Certificate (Major Code - ACPCT)**

CORE CURRICULUM.....	14 CREDITS
Introduction to Operating Systems .....	CIS 140 .....3
Essentials of Networking .....	CIS 150 .....3
Microsoft Workstation Operating Systems.....	CIS 236 .....4
Service and Maintenance of Personal Computers. CIS 260 .....	4
TOTAL CERTIFICATE REQUIREMENTS.....	14 CREDITS

## Custodial Services

A student who completes the Custodial Services Certificate program will be qualified for an entry-level position in the custodial services, with the potential of self-employment in the field. The student will learn how to mix and use cleaning chemicals; how to clean and maintain all types of floors, carpets, and walls; and the special requirement of cleaning windows and rest rooms.

## BASIC CUSTODIAL SERVICES

### **Certificate (Major Code - BCS)**

CORE CURRICULUM .....	18 CREDITS
Introduction to Custodial Services .....	CMS 101 .....3
Custodial Chemicals, Usage and Safety.....	CMS 110 .....3
Floors and Floor-Care Equipment.....	CMS 120 .....3
Maintaining Walls, Windows, and Other Surfaces .	CMS 130 .....3
Cleaning Carpet and Fabric.....	CMS 140 .....3
Rest Room Cleaning .....	CMS 150 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	18 CREDITS

## ADVANCED CUSTODIAL SERVICES

### **Certificate (Major Code - ACS)**

Prerequisite: Basic Custodial Services Certificate

CORE CURRICULUM .....	16 CREDITS
Custodial Safety and Security Training .....	CMS 210 .....3
Custodial Personnel Policies .....	CMS 220 .....3
Custodial Hiring and Firing .....	CMS 230 .....3
Custodial Motivation and Training .....	CMS 240 .....3
Custodial Account Management .....	CMS 250 .....4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

# Electronics

The Basic General Electronics Certificate provides students with marketable skills in today's workplace and contributes toward seamless transfer to the College's Associate of Applied Science degree in Electronics Technology.

The Advanced General Electronics Certificate is the capstone certificate for the electronics repair program. Students put into practice the academic knowledge and hands-on skills they have already acquired, and complete additional coursework in communication electronics. Emphasis is on use of electronic test equipment relating to analysis and adjustment of receivers and transmitters, and on the use of diagnostic equipment.

Students who complete the Basic Electronics Technician Certificate will be qualified for an entry-level position in electronics. They will develop hands-on skills by working with AC/DC circuits and will learn specific diagnostics for direct and alternating current circuits.

The Advanced Electronics Technician Certificate continues to build on the skills achieved in the Basic Electronics Technician Certificate. It also provides an overview of consumer electronics repair, designed to provide both academic knowledge and advanced hands-on skills for entry into the electronics industry. The focus is on the practical application of academic and theoretical concepts in the electronics field.

## BASIC GENERAL ELECTRONICS

### **Certificate (Major Code - BGE)**

CORE CURRICULUM.....	14 CREDITS
Beginning Digital Electronics .....	ELT 101 ..... 3
Advanced Mathematics for Electronics.....	ELT 120 ..... 3
Electronic Circuits and Systems.....	ELT 125 ..... 4
Pulse Circuits.....	ELT 231 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	14 CREDITS

## ADVANCED GENERAL ELECTRONICS

### **Certificate (Major Code - AGE)**

CORE CURRICULUM.....	12 CREDITS
Digital Circuits and Systems .....	ELT 233 ..... 4
Communications Electronics I .....	ELT 245 ..... 4
Communications Electronics II.....	ELT 247 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS

## BASIC ELECTRONICS TECHNICIAN

### **Certificate (Major Code - BET)**

CORE CURRICULUM.....	13 CREDITS
Computer Essentials.....	CIS 116 ..... 3
Electronics Foundation .....	ELT 100 ..... 3
Introduction to DC Circuits .....	ELT 105 ..... 3
Introduction to AC Circuits .....	ELT 106 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	13 CREDITS

## ADVANCED ELECTRONICS TECHNICIAN

### **Certificate (Major Code - AET)**

CORE CURRICULUM.....	14 CREDITS
Radio Theory and Repair.....	CER 100 ..... 3
Math for Electronics .....	ELT 110 ..... 3
Semiconductors and Transistors .....	ELT 122 ..... 4
Modern Electronic Devices .....	ELT 243 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	14 CREDITS

## Facility Maintenance

A student who completes the Facility Maintenance Certificate program will be qualified to patch and paint surfaces, to understand and perform electrical wiring, to build and repair walls, to make and read blueprints, and to use the blueprints to accurately estimate materials required.

The Air Conditioning Maintenance Technician Certificate provides students with a broad understanding of the field and the knowledge necessary to enter the air conditioning and refrigeration industry.

## BASIC FACILITY MAINTENANCE TECHNICIAN

### **Certificate (Major Code - BFM)**

CORE CURRICULUM .....	18 CREDITS
Introduction to Facility Maintenance.....	GTC 119 ..... 3
Blueprint Interpretation and Basic Drafting.....	DFT 100 ..... 3
Painting and Finishing Techniques .....	GTC 121 ..... 3
Electrical Repair and Maintenance .....	GTC 123 ..... 3
Carpentry Repair Techniques.....	GTC 124 ..... 3
Plumbing and Climate Systems Maintenance.....	GTC 125 ..... 3
TOTAL CERTIFICATE REQUIREMENTS. ....	18 CREDITS

## AIR CONDITIONING MAINTENANCE TECHNICIAN

### **Certificate (Major Code - ACM)**

CORE CURRICULUM .....	16 CREDITS
Refrigeration I .....	GTC 122 ..... 3
Refrigeration II .....	GTC 222 ..... 3
Heating and Air Conditioning.....	GTC 223 ..... 4
Hazardous Materials and the EPA .....	GTC 128 ..... 3
Electricity and Wiring for HVAC/R .....	GTC 227 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## Horticulture

Students who complete the Horticulture Certificate will develop skills in horticultural practices, the safe use of insecticides, and ornamental design and maintenance. Focus will be on hands-on experience leading to entry-level employment in the horticulture industry.

### HORTICULTURE

### **Certificate (Major Code - HRT)**

CORE CURRICULUM.....	15 CREDITS
Basic Horticulture .....	HRT 101 ..... 3
Landscape Plant Material .....	HRT 110 ..... 3
Landscape Construction and Maintenance.....	HRT 111 ..... 3
Pest Control.....	HRT 120 ..... 3
Landscape Design.....	HRT 201 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	15 CREDITS

## Telecommunications

The Telecommunications Cable Installation Certificate is a comprehensive introduction to and preparation for employment in the modern field of voice and data transmission support. It provides introductions to basic computer applications, computer network environments, and network interfaces, including those involved with telephone and cable television.

### TELECOMMUNICATIONS CABLE INSTALLATION

### **Certificate (Major Code - TCI)**

CORE CURRICULUM.....	20 CREDITS
Essentials of Networking .....	CIS 150 ..... 3
Computer Applications.....	CIS 181 ..... 3
Fundamentals of Voice and Data Cabling I.....	NET 112 ..... 3

Fundamentals of Voice and Data Cabling II .....	NET 212 ..... 3
Digital Communications and Network Hardware .	CIS 232 ..... 4
Microsoft Workstation Operating System.....	CIS 236 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	20 CREDITS

## Welding

Students who complete the Basic Welding Certificate will achieve proficiency in basic welding techniques including oxyacetylene, arc, gas metal arc, gas tungsten arc, and shield metal arc. They will also study advanced techniques with an emphasis on hands-on experience leading to entry-level employment in the welding industry.

### BASIC WELDING

### **Certificate (Major Code - BWLD)**

CORE CURRICULUM.....	12 CREDITS
Oxyacetylene Welding .....	WLD 105 ..... 3
Arc Welding .....	WLD 106 ..... 3
Gas Metal Arc and Gas Tungsten Arc Welding...	WLD 207 ..... 3
Advanced Shield Metal Arc Welding.....	WLD 210 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS

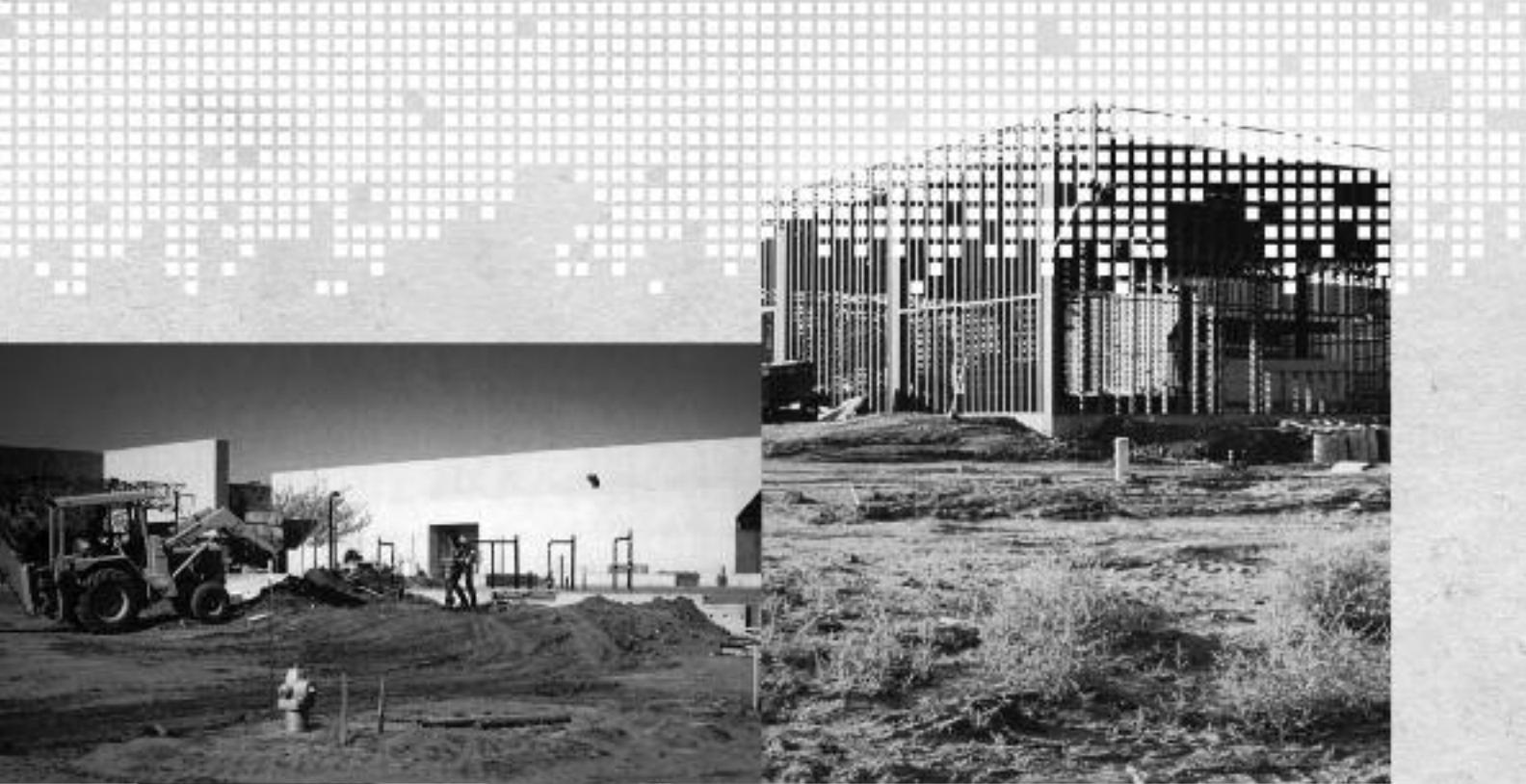
## Workforce and Community Transition Training

Students who complete the Workforce and Community Transition Training Certificate will have the basic life and employability skills necessary to be successful in society and the workplace.

### WORKFORCE AND COMMUNITY TRANSITION TRAINING

### **Certificate (Major Code - WCTT)**

CORE CURRICULUM.....	12 CREDITS
Computer Essentials.....	CIS 116 ..... 3
Dealing with Difficult People .....	COM 193D ..... 1
Building Self-Esteem .....	CPD 010 ..... 1
Men in Transition.....	CPD 111 ..... 2
Seminar: Career Planning.....	CPD 119 ..... 2
Seminar: Job Search Techniques .....	CPD 120 ..... 1
Time and Money Management .....	CPD 122 ..... 1
Family Communications.....	CPD 123 ..... 1
TOTAL CERTIFICATE REQUIREMENTS.....	12 CREDITS



# Course Descriptions

Course descriptions can be found online at [www.cochise.edu/catalog](http://www.cochise.edu/catalog).

**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). If you have questions regarding the use of these materials or any required protective equipment, ask your instructor or a member of the specific academic department.

## Agriculture

### **AGR 101 PRINCIPLES OF VETERINARY SCIENCE (3)**

Prerequisite(s): None.

An introduction to the veterinary sciences for potential pre-veterinary students as well as those students of animal science or husbandry interested in the care and health of all domestic animals and livestock.

3 hours lecture.

### **AGR 117 INTRODUCTION TO CONTROLLED-ENVIRONMENT AGRICULTURE (4)**

Prerequisite(s): None.

An introduction to the past, present, and future of controlled-environment agriculture and hydroponics, basic plant anatomy and physiology, as well as plant nutrition, integrated pest management, pollination, and fertilization. Covers topics such as bee management; fruit harvesting, grading, and storage; and irrigation systems.

3 hours lecture, 2 hours laboratory.

### **AGR 102 INTRODUCTION TO AGRICULTURE (3)**

Prerequisite(s): None.

An introductory class involving the overall concepts of agriculture. This class introduces the theoretical basis of agriculture in order that the student may better select career options.

3 hours lecture.

### **AGR 138 TEAM ROPING (3)**

Prerequisite(s): None.

This course will provide an opportunity for students to participate for pleasure and for later competition in rodeo team roping.

2 hours lecture, 3 hours laboratory.

### **AGR 105 RANGE MANAGEMENT I (3)**

Prerequisite(s): None.

A study of the history of rangeland use, the influences of use on plant physiology and ecology, and the interrelationships and coordination of rangeland uses for farm and ranch managers interested in plants, soils, and livestock.

3 hours lecture.

### **AGR 139 WESTERN HORSEMANSHIP (3)**

Prerequisite(s): None.

A course enabling students who now own or intend to buy a pleasure horse to handle and care for the animal in the western tradition; how to handle a western saddle, how to select appropriate equipment, how to evaluate a pleasure horse before purchasing, and how to provide for the general well-being of the animal.

2 hours lecture, 3 hours laboratory.

### **AGR 107 FARRIER SCIENCE (3)**

Prerequisite(s): None.

A study of the basic principles of farrier science, including an introduction to the physiology and anatomy of the horse's legs and hooves, horse shoeing, diagnosis of minor hoof and leg problems and proper methods for correcting stride and alignment.

2 hours lecture, 3 hours laboratory.

**AGR 142 VARSITY RODEO (1)**

Prerequisite(s): Students must try out for the varsity rodeo team.

This course is designed to provide the intermediate/advanced rodeo student-athlete with the skills, strategies, and knowledge of the rules necessary to compete at the intercollegiate level.

1 hour lecture, 4 hours laboratory.

**AGR 145 AGRICULTURE ISSUES (3)**

Prerequisite(s): None.

This course provides knowledge of staging and producing agriculture-related events. Emphasis is placed on animal-rights issues, promotions, rules and/or laws, and setting of goals and objectives.

3 hours lecture.

**AGR 201 ARTIFICIAL INSEMINATION OF DOMESTIC LIVESTOCK (3)**

Prerequisite(s): AGR 101 or permission of instructor.

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.

2 hours lecture, 3 hours laboratory.

**AGR 207 RANGE PLANTS (3)**

Prerequisite(s): None.

Introduction to the study of local grasses, shrubs, and forbs, including identification, forage value, and ecological use. Also, range plants will be studied that are toxic or have poisonous effects on animal life.

1 hour lecture, 3 hours laboratory.

**AGR 208 ANIMAL INDUSTRY (3)**

Prerequisite(s): AGR 101 or permission of instructor.

Recommended Preparation: ENG 100 and RDG 110.

Fundamental principles as applied to animal, dairy, and poultry science, and the marketing and distribution of animal products.

3 hours lecture.

**AGR 210 GENERAL WELDING I (3)**

Prerequisite(s): None.

Techniques of operating arc welding machines; oxyacetylene torches for fusion welding, heating, brazing, cutting, hardfacing, and soldering of all common types of metal. Emphasis on individual projects.

1 hour lecture, 3 hours laboratory.

**AGR 211 ECONOMICS IN AMERICAN AGRICULTURE (3)**

Prerequisite(s): ENG 100 or placement in ENG 101; and placement in, concurrent enrollment in, completion of RDG 122, or exemption.

Recommended Preparation: Sophomore standing.

A study of economic principles governing the production of agriculture, including the principles of supply and demand, pricing, investing, measuring and consuming with emphasis on theories and practical applications to current economic problems.

3 hours lecture.

**AGR 212 ADVANCED AGRICULTURAL WELDING (3)**

Prerequisite(s): None.

Techniques of operating arc welding machine in the various welding positions; flat, horizontal, vertical, and overhead, and the use of oxyacetylene equipment for fusion welding, brazing, cutting, hardfacing and soldering all common types of metal with emphasis on individual projects.

2 hours lecture, 3 hours laboratory.

**AGR 214 SOIL SCIENCE (3)**

Prerequisite(s): None.

Fundamental properties of soils, their relation to plant growth and soil amendment.

3 hours lecture.

**AGR 215 HOME GARDENING (3)**

Prerequisite(s): None.

The study of the care and maintenance of trees, shrubs, hedges, and flowers for those students who want to sharpen their skills in growing vegetable and flower gardens.

3 hours lecture.

**AGR 224 FIELD EXPERIENCE IN AGRICULTURE AND NATURAL RESOURCES (1 - 6)**

Prerequisite(s): A declared major in Agriculture and Natural Resources. Permission and approval of cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in agriculture and natural resources and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours with no more than six credits in a given semester.

**AGR 225 INTRODUCTION TO AGRI-BUSINESS (3)**

Prerequisite(s): ENG 100 or placement in ENG 101; and placement in, concurrent enrollment in, completion of RDG 122, or exemption.

This course will familiarize students with the basic concepts of agri-business from a functional and commodity approach.

3 hours lecture.

**AGR 230 ANIMAL FEEDING (3)**

Prerequisite(s): CHM 130, CHM 138, CHM 151, or one year of high school chemistry.

Recommended Preparation: RDG 122 and MAT 072 or higher.

Basic principles of animal nutrition and digestion and selection, evaluation, and use of feeds in balancing rations for livestock and poultry.

3 hours lecture.

**AGR 237 HORSE SCIENCE AND MANAGEMENT (3)**

Prerequisite(s): AGR 101.

Recommended Preparation: ENG 100 and RDG 110.

An introduction to the types, breeds, and management of horses with emphasis on feeding, breeding, and daily care.

3 hours lecture.

**AGR 243 LIVESTOCK PRODUCTION AND MANAGEMENT (3)**

Prerequisite(s): None.

Livestock Production and Management will teach the managerial skills necessary in the production, feeding, and care of livestock on farms and ranches. The economics of the livestock industry also will be emphasized.

3 hours lecture.

**AGR 250 PROJECT WELDING (3)**

Prerequisite(s): AGR 210, AGR 212, or permission of instructor.

Designed for students with demonstrated welding skills to work on a specific project. The project may be one selected by the student or one the instructor has assigned. The project will be made using the arc welding and/or the oxyacetylene equipment in the shop. May be repeated for non-transfer credit only.

2 hours lecture, 3 hours laboratory.

**AGR 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Permission of assistant dean and instructor.

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 assistant dean prior to initiation of the study.

## Administration of Justice

**AJS 100 YOUTH CITIZEN POLICE ACADEMY (3)**

Prerequisite(s): No prior felony convictions and no misdemeanor charges for offenses involving violence or weapons. No misdemeanor arrests within six months prior to Academy application.

Recommended Preparation: High school age.

An introduction to the police department and law enforcement in general, including the agency's role in the community and within the criminal justice system. This course is designed to better acquaint the youth of our community with the operation of the local criminal justice system and to foster law enforcement as a career choice.

3 hours lecture.

**AJS 101  INTRODUCTION TO ADMINISTRATION OF JUSTICE (3)**

Prerequisite(s): Completion of or concurrent enrollment in RDG 110 or RDG 122, or exemption.

Recommended Preparation: Completion of or concurrent enrollment in ENG 100 or higher.

A study of the history, philosophy, ethics, constitutional parameters, organization and terminology of the criminal justice system. Also includes an analysis of crime and social responses to crime; the social and psychological causes of crime; the law enforcement, judicial and corrections components of the criminal justice system; critical analysis of representative criminal justice cases/issues; agency jurisdiction; and career opportunities.

3 hours lecture.

**AJS 103 BASIC PUBLIC SAFETY COMMUNICATIONS OFFICER ACADEMY (6)**

Prerequisite(s): Sponsorship by a participating law enforcement agency or approval of Administration of Justice program director.

Designed to provide law enforcement communications employees with entry-level training in administrative policies and procedures, interpersonal skills, confidentiality, legal issues, telephone and broadcast functions, and departmental and external databases.

6 hours lecture.

**AJS 104 PHYSICAL TRAINING (2)**

Prerequisite(s): None.

This course will introduce the student to advanced principles of aerobic exercise, strength development and flexibility. It will emphasize methods of stress reduction, the value of nutrition awareness and the development of individual exercise programs.

1 hour lecture, 3 hours laboratory.

**AJS 109  SUBSTANTIVE CRIMINAL LAW (3)**

Prerequisite(s): AJS 101, and either RDG 122 or exemption or concurrent enrollment in RDG 122.

Recommended Preparation: ENG 100 or higher.

This course is the study of the philosophy of legal sanctions and their historical development, from common law to modern American criminal law. It includes the judicial process, classification of crimes, elements of and parties to crimes, general definitions of crimes, and common defenses.

3 hours lecture.

**AJS 110 DEFENSIVE TACTICS (2)**

Prerequisite(s): Student must pass pre-admission physical test, and must be enrolled in a certified police academy or is a sworn peace officer.

The focus of attention in this course will be the use of basic techniques. Each technique demonstrated by the instructor will have a variety of uses. All techniques will be designed to incapacitate the object of focus as quickly and professionally as possible. The importance of documentation followed by court testimony techniques will be strictly emphasized throughout the entire course.

1 hour lecture, 3 hours laboratory.

**AJS 113  TERRORISM AND COUNTERTERRORISM (3)**

Prerequisite(s): None.

Recommended Preparation: ENG 101.

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. Identical to IOS 113.

3 hours lecture.

**AJS 120 FIREARMS CERTIFICATION (2)**

Prerequisite(s): Student must be registered as part of a law enforcement or corrections program.

This course will prepare a student to use firearms safely. The course will be conducted in compliance with the curriculum set forth by the National Rifle Association Police Practical Course. It will cover areas such as semiautomatic handguns, shotguns, use of force, safe handling of guns, ballistics, malfunctions and overall safety.

1 hour lecture, 3 hours laboratory.

**AJS 122 THE POLICE PATROL FUNCTION (3)**

Prerequisite(s): None.

Recommended Preparation: RDG 110 or exemption.

A study of the history, theory, duties and responsibilities of the patrol division; communications and development of observational powers; care and use of protective weapons, patrol vehicles, and other equipment. Handling of emergency requests for assistance, vehicle stops, burglary, robbery, sex offenses, the mentally ill, and other kinds of situations.

3 hours lecture.

**AJS 124 CITIZEN POLICE ACADEMY (3)**

Prerequisite(s): Age 18 or older; no prior felony convictions and no misdemeanor charges for offenses involving violence or weapons; no misdemeanor arrests within six months prior to Academy application.

An introduction to the police department and law enforcement in general including the agency's role in the community and within the criminal justice system. Also emphasized: police department's history, mission, values, resources, skills and operational partnerships.

3 hours lecture.

**AJS 125  PRIVATE SECURITY, PRINCIPLES AND PRACTICES (3)**

Prerequisite(s): None.

This course is designed to present the history, nature and scope of private security in modern society. Also included are basic principles of physical security, internal loss prevention, defensive systems, fire prevention and safety, and security function in the corporate structure. Operations and career opportunities are exemplified in such specific areas as retail, hospital, cargo and computer security, and security services, both contract and proprietary.

3 hours lecture.

## AJS 140 AZ DETENTION OFFICERS BASIC TRAINING ACADEMY (6)

Prerequisite(s): Student must be employed by a recognized Arizona law enforcement agency.

This course provides the basic training required to become certified as an Arizona detention officer.

5 hours lecture, 3 hours laboratory.

## AJS 192 SPECIAL TOPICS IN ADMINISTRATION OF JUSTICE (0.5 - 3)

Prerequisite(s): Varies by topic. Permission of instructor or Administration of Justice department.

Seminars designed for professional development and personal skill enhancement within the criminal justice career field with emphasis on the mastery and effective utilization of the topic under study.

## AJS 192A VICTIMOLOGY AND CRISIS INTERVENTION (1.5)

Prerequisite(s): Permission of instructor or Administration of Justice department.

Preparation to serve as a Victim Witness, with focus on victim advocacy, victimology, victim rights, crisis theory, trauma, family/domestic violence and effective provision of services to victims of crime. Also incorporates a study of cultural parameters impacting the provision of services.

1.5 hours lecture.

## AJS 193 HAZMAT COMMUNICATIONS (1)

Prerequisite(s): None.

This course is a study of the 29 Codes of Federal Regulations (CFR), Section 1910.1200 and the Hazard Communications (Right-to-Know) Regulation. The course focuses on the impacts these regulations have on the occupational workforce. Requirements for implementation and monitoring of the regulations are examined. Also included are the studies of federal regulations cited in Section 301, Title III, Superfund Amendments and Reauthorization Act (SARA) of 1968, Right-to-Know Act of 1968.

1 hour lecture.

## AJS 204 ELEMENTS OF INTERCULTURAL COMMUNICATIONS (3)

Prerequisite(s): ENG 101 or permission of instructor.

This introduction to communication between cultures emphasizes understanding and applying practical communication strategies and skills so as to communicate effectively with people of diverse cultural backgrounds in a multicultural society and world. Identical to COM 204.

3 hours lecture.

## AJS 212 JUVENILE JUSTICE PROCEDURES (3)

Prerequisite(s): ENG 101 and either RDG 122 or exemption.

This course is a practical study of the history and development of juvenile justice theories, procedures and institutions.

3 hours lecture.

## AJS 215 PENOLOGY (3)

Prerequisite(s): AJS 101, AJS 112, ENG 101, and RDG 122 or exemption.

A study of correctional management topics including sentencing, classification, "good time" credit, discipline, prisoners' rights and security/control measures; additional emphases are placed on the guard's role, different management styles, and various correctional models.

3 hours lecture.

## AJS 224 FIELD EXPERIENCE IN ADMINISTRATION OF JUSTICE (1 - 6)

Prerequisite(s): A declared major in Administration of Justice. Permission and approval of a cooperative education program coordinator.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in law enforcement and related fields. Variable credit (1-6) is available by special arrangement. The course may be taken four times for a maximum of 16 credit hours with no more than six credits in a given semester.

**AJS 225 CRIMINOLOGY (3)**

Prerequisite(s): ENG 101 and either RDG 122 or exemption.

Recommended Preparation: SOC 101 or PSY 101.

This course is the study of deviance and society's role in defining behavior. It covers theories of criminality and the economic, social, and psychological impact of crime, victimization, and relationships between statistics and crime trends.

3 hours lecture.

**AJS 230  THE POLICE FUNCTION (3)**

Prerequisite(s): AJS 101 and ENG 101 and either RDG 122 or exemption.

This course examines the study of theories, procedures and methods of operation of public police with emphasis on discretionary powers. It includes a review of career opportunities and current trends in law enforcement.

3 hours lecture.

**AJS 240  THE CORRECTION FUNCTION (3)**

Prerequisite(s): RDG 122 or exemption.

This course examines the study of the history and development of correctional theories and institutions.

3 hours lecture.

**AJS 254  PSYCHOLOGY IN LAW ENFORCEMENT (3)**

Prerequisite(s): AJS 101, ENG 101, PSY 101, and either RDG 122 or exemption.

A study of the changing role of police, including the law enforcement attitude toward human behavior, normal personality conflicts, defense mechanisms, abnormal behavior, personality disorders, neuroses, psychoses, psychopathic, deviant, drug dependency, paranoia, violence, and suicidal behavior. Also studied are the behavioral aspects of disasters, riots, riot control and legal aspects of abnormal behavior.

3 hours lecture.

**AJS 260 PROCEDURAL CRIMINAL LAW (3)**

Prerequisite(s): AJS 109, ENG 101, and either RDG 122 or exemption.

This course is an introduction to major court holdings, procedural requirements that stem from these holdings, and their effect on daily operations of the criminal justice system.

3 hours lecture.

**AJS 265 CRITICAL ISSUES IN LAW ENFORCEMENT (0.5 - 1)**

Prerequisite(s): None.

Recommended Preparation: AJS 101 or concurrent enrollment and either RDG 110 or concurrent enrollment.

A rotating forum emphasizing current issues in the field of criminal justice. Topics vary in accordance with needs of the local law enforcement community.

**AJS 270 COMMUNITY POLICING (3)**

Prerequisite(s): AJS 101 and either RDG 122 or exemption.

A study of the police officer's role in attaining and maintaining public support. Includes recognition and understanding of community problems, community action programs, methods of coping with crisis situations, victimology, ethnic and minority cultures, environments, crime prevention and police operations.

3 hours lecture.

**AJS 275 CRIMINAL INVESTIGATIONS (3)**

Prerequisite(s): AJS 101, ENG 101, and either RDG 122 or exemption.

A study of the theory of criminal investigation, crime scene procedures, case preparation, interviewing, and basic investigative techniques.

2 hours lecture, 2 hours laboratory.

**AJS 290 INSTRUCTOR SKILL DEVELOPMENT (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption; or permission of instructor.

Designed to impart a wide range of teaching skills, concepts, and techniques specific to the law enforcement trainer. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques. Successful course completers will be eligible for certification as ALEOAC certified instructors. Identical to EDU 290.

3 hours lecture.

**AJS 295 FEDERAL LAW ENFORCEMENT ADVANCED PRACTICUM I (4)**

Prerequisite(s): Current employment by a federal law enforcement agency.

An advanced study of law enforcement policies and procedures essential to optimal performance as a federal law enforcement agent. Includes an in-depth study and practical application of effective casework techniques; juvenile, alien, criminal and field processing; performance evaluation; and effective application of constitutional, federal, state, and local legal principles.

3 hours lecture, 3 hours laboratory.

**AJS 296 FEDERAL LAW ENFORCEMENT ADVANCED PRACTICUM II (4)**

Prerequisite(s): AJS 295. Current employment by a federal law enforcement agency.

An advanced study of law enforcement policies and procedures essential to optimal performance as a federal law enforcement agent. Includes an in-depth study and practical application of reasonable suspicion/probable cause, search and seizure, elements of effective criminal prosecution, building relationships with other law enforcement agencies, vehicle pursuit tactics, material witness processing, community relations, and professional ethics.

3 hours lecture, 3 hours laboratory.

**Aviation Maintenance Technology****AMT 150 ♦ PHASE I GENERAL (19)**

Prerequisite(s): None.

A comprehensive study of general subjects required by the Federal Aviation Administration (FAA) for certification as an aviation maintenance technician.

9.5 hours lecture, 9.5 hours laboratory.

**AMT 160 ♦ PHASE 2 BASIC AIRFRAME (17)**

Prerequisite(s): AMT 150.

A comprehensive study of aircraft structures featuring wood and covering techniques, welding with emphasis on sheet metal structural repairs, composite construction, aircraft assembly, rigging and inspection, as well as radio, navigation and instrument.

8.5 hours lecture, 8.5 hours laboratory.

**AMT 192 ♦ AIRCRAFT PREVENTATIVE MAINTENANCE (0.5)**

Prerequisite(s): None.

These personal/professional skill enhancement workshops focus on aircraft preventative maintenance authorized under 14 CFR Part 43 Appendix A performed by owner/operators. Proper techniques, methods and practices will be the focal point of each module as applied to the actual aircraft and/or aircraft assemblies under study. Documentation and applicable regulations will also be included.

0.5 hour lecture.

AMT 192A Landing Gear Tires and Wheels

AMT 192B Servicing Landing Gear Shock Struts

AMT 192C Servicing Landing Gear Wheel Bearings

AMT 192D Small Repairs to Fairings and Other  
Non-structural Items

AMT 192E Replacing Side Windows and  
General Window Care

AMT 192F Inspection and Maintenance of  
Aircraft Spark Plugs

- AMT 192G Replacing and Servicing Aircraft Batteries
- AMT 192H Replacement or Adjustment of Non-structural Standard Fasteners
- AMT 192I Replacement of Elastic Shock Absorber Cords on Aircraft Landing Gear
- AMT 192J Aircraft Seat Belt Replacement or Repair

### **AMT 210 UAV MAINTENANCE TECHNICIAN (14)**

Prerequisite(s): PFT 101. Sponsored employee of the Department of Defense or of a DOD UAV contractor.

A practical study of Hunter short-range unmanned aerial vehicle (UAV) maintenance to include operational safety; basic flight principles; general and Army inspection, maintenance and servicing practices; UAV support equipment and operational procedures; and related voice communication systems.

5 hours lecture, 22.5 hours laboratory.

### **AMT 212 UAV MECHANICAL TECHNICIAN (13)**

Prerequisite(s): PFT 101. Sponsored employee of the Department of Defense or of a DOD UAV contractor.

A focused study of Hunter unmanned aerial vehicle (UAV) maintenance and repair. Includes an emphasis upon the power plant, fuel system, digital central processor assembly, flight control system operation, system support equipment and electrical power system. Development of the knowledge and skills of system performance criteria, inspection techniques, diagnosis, operational safety, and composite repair are also emphasized.

5.4 hours lecture, 18 hours laboratory.

### **AMT 260 ♦ PHASE 3 ADVANCED AIRFRAME (17)**

Prerequisite(s): AMT 150 and AMT 160.

A comprehensive study of aircraft systems on both private and commercial aircraft with emphasis on electrical, hydraulics, landing gear, fire protection, environmental atmosphere controls, fuel systems, ice and rain control.

8.5 hours lecture, 8.5 hours laboratory.

### **AMT 270 ♦ PHASE 4 POWERPLANT (17)**

Prerequisite(s): AMT 150.

An introductory study of aircraft powerplant theory, construction and maintenance, with emphasis on reciprocating engines, propellers, ignition systems, lubricating systems, and component overhaul.

8.5 hours lecture, 8.5 hours laboratory.

### **AMT 275 ♦ PHASE 5 ADVANCED POWERPLANT (17)**

Prerequisite(s): AMT 150 and AMT 270.

A continuation of the comprehensive study of advanced aircraft powerplants and related systems with emphasis on turbine engines, jet engines, propellers, lubrication systems, cooling, exhaust, starting and fire protection, fuel metering systems and electrical systems.

8.5 hours lecture, 8.5 hours laboratory.

### **AMT 280 ♦ HELICOPTER MAINTENANCE AND INSPECTION FUNDAMENTALS (4)**

Prerequisite(s): Completion of AMT 150, AMT 160, and AMT 260 or an FAA Airframe Mechanic Certificate or permission of the Aviation department airframe and powerplant instructors.

A study of helicopter inspection and maintenance techniques and basic rotary wing aerodynamics with emphasis on the exacting requirements of rotary wing aircraft maintenance.

4 hours lecture, 4 hours laboratory.

### **AMT 282 TRANSPORT CATEGORY AIRCRAFT FAMILIARIZATION COURSE (5)**

Prerequisite(s): Student must hold A & P Certificates or permission of instructor.

A lecture course focused on the operating systems of large FAR Part 25 certified aircraft.

5 hours lecture.

**AMT 284 ♦ COMPOSITE MATERIALS AND TECHNIQUES (4)**

Prerequisite(s): Completion of AMT 260 or permission of instructor based on field experience.

The use of composite materials has gained wide acceptance within many construction regimes, including aviation and aerospace, automotive, boating, medical and railroad industries, to name just a few. This course will provide the student with theoretical and practical application knowledge through lecture and lab project experience in the latest fiber and fiber placement technology, including wet lay-up techniques and pre-impregnated materials, and composite materials terminology. Knowledge and skills learned can be used in any situation requiring composite materials knowledge, not only the aviation situation on which the course work is based.

3 hours lecture, 3 hours laboratory.

**AMT 290 ♦ AIRFRAME AND POWERPLANT UPGRADE (6)**

Prerequisite(s): None.

This course is designed for those individuals who meet the experience requirement for the Airframe and Powerplant Certificate as stipulated in the Federal Aviation Regulation Part 65, and who qualify to take the Federal Aviation Administration's (FAA) written examination for airframe and/or powerplant. Course not open to AMT students.

6 hours lecture.

**AMT 294 FIELD EXPERIENCE IN AVIATION MAINTENANCE TECHNOLOGY (1 - 6)**

Prerequisite(s): A declared major in Aviation Maintenance Technology and completion of Phase 3 (AMT 260). Permission and approval of a cooperative education program coordinator.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in aviation maintenance technology and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

**AMT 295 ♦ PRACTICUM IN AVIATION MAINTENANCE TECHNOLOGY UPGRADING (6)**

Prerequisite(s): 1) has completed AMT 290 or 2) has passed written FAA Airframe and/or Powerplant Mechanic's exam or 3) holds current FAA Airframe and/or Powerplant license.

An upgrade or refresher course in aviation maintenance technology with emphasis on the development of practical skills required in the 43 subject areas of the aviation maintenance occupation as outlined in the FAA's Advisory Circular 65-2D. This course is not open to A & P students, as it does not meet degree requirements.

4 hours lecture, 6 hours laboratory.

**Anthropology****ANT 101  THE ORIGIN AND ANTIQUITY OF HUMANKIND (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 100 or placement in ENG 101, or permission of instructor.

A survey of human biological origins, based upon paleontological and archaeological records, including recent developments in physical anthropology.

3 hours lecture.

**ANT 102  SOCIETY AND CULTURE (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 100 or concurrent enrollment, or permission of instructor.

A theoretical and practical introduction to cultural anthropology designed to provide insight into cultural forces that affect the human way of life, and to examine the Western history of interpreting "the other." Contemporary issues are addressed. Included are the study of material culture, technology, religion and language, and social, political, and economic systems.

3 hours lecture.

**ANT 110 EXPLORING ARCHAEOLOGY (3)**

Prerequisite(s): RDG 122 or exemption; and ENG 100 or concurrent enrollment, or placement in ENG 101; or permission of instructor.

A non-technical introduction to archaeology tracing human cultural development from the earliest stone tools to the initial civilizations of the old and new worlds.

3 hours lecture.

**ANT 111 EXPLORING PHYSICAL ANTHROPOLOGY (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 100 or concurrent enrollment, or permission of instructor.

An introduction to human evolution for the non-science student. Also serves as an introduction to primatology and general anthropology, grounding the student in the methods and ideas of modern anthropology.

3 hours lecture.

**ANT 138 ARCHAEOLOGICAL SITE SURVEY (3)**

Prerequisite(s): ENG 100, placement in ENG 101, or permission of instructor.

An introduction to identifying, locating, and recording archaeological sites, with emphasis on gaining practical experience in documenting archaeological remains. Students participate in exploring areas in southern Cochise County.

1.5 hours lecture, 4.5 hours laboratory.

**ANT 140 ROCK ART OF THE AMERICAN INDIAN (3)**

Prerequisite(s): None.

The study of the prehistoric carvings and paintings on rock surfaces throughout North America with an emphasis on recording processes, field work, and the Southwest.

2 hours lecture, 3 hours laboratory.

**ANT 192 SPECIAL TOPICS IN ANTHROPOLOGY (0.5 - 1)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing anthropological topics of current regional significance which will vary with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs. The title of this course may differ each term, depending on the topic being covered when the course is offered.

**ANT 235 PRINCIPLES OF ARCHAEOLOGY (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

An introduction to the methods and theories used in archaeological research and interpretation with emphasis upon the practical aspects of archaeology.

3 hours lecture.

**ANT 285 PREHISTORIC CULTURES OF NORTH AMERICA (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

A survey of prehistoric cultures in North America. Included are basic anthropological, archaeological and ethnological theory methods and concepts.

3 hours lecture.

**ANT 286 HISTORIC INDIAN TRIBES OF NORTH AMERICA (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

A survey of historical Native cultures in the ten North American environmental regions from contact through the 20th century. Contemporary economic, political and cultural issues are addressed. Included are basic anthropological, historical and ethnological theory, methods and concepts.

3 hours lecture.

**ANT 287 ARCHAEOLOGY OF THE SOUTHWEST (3)**

Prerequisite(s): None.

A study of the prehistoric people of the American Southwest from the late Pleistocene to the Spanish conquest. The course includes discussions of local archaeological culture emphasizing the process for cultural development within key regions.

3 hours lecture.

**ANT 288 NATIVE PEOPLES OF THE SOUTHWEST (3)**

Prerequisite(s): ENG 101.

A survey of southwestern Native American cultures from historic times to the present. Includes Athabaskan, Puebloan, and O'odham societies; adaptations to their respective environments; and cultural effects from historic events.

3 hours lecture.

**ANT 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and the instructor.

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 dean prior to initiation of the study. May be repeated for credit.

## Aquaculture

The aquaculture courses are offered at the Arizona Department of Corrections in Douglas.

**AQU 101 INTRODUCTION TO AQUACULTURE (4)**

Prerequisite(s): None.

This course focuses on the basics of the aquaculture industry: feeding, production and growth, treatment and care of various aquatic species and their basic biological requirements. Introduction to daily rearing operations and the various cultures of the industry will give students a solid understanding of the basic skills needed for a career in the aquaculture industry.

3 hours lecture, 3 hours laboratory.

**AQU 102 BUSINESS PRACTICES OF AQUACULTURE (4)**

Prerequisite(s): None.

Recommended Preparation: AQU 101.

This course provides an introduction to the daily management of an aquaculture business. It emphasizes marketing and economics skills necessary to the management of a profitable operation.

3 hours lecture, 3 hours laboratory.

**AQU 103 ENVIRONMENTAL PRACTICES OF AQUACULTURE (4)**

Prerequisite(s): None.

Recommended Preparation: AQU 101 and AQU 102.

This course deals with feeding practices, nutritional requirements, disease and parasite management, and quality and pond management. An understanding of bottom soil conditions, water quality, and effluent pond water will prepare students to meet environmental standards in rearing aquaculture products.

3 hours lecture, 3 hours laboratory.

**AQU 110 TREATMENT OF TILAPIA/THEORY AND PRACTICE (4)**

Prerequisite(s): None.

Recommended Preparation: AQU 101, AQU 102, and AQU 103.

Intensive hands-on experience in culture techniques—reproduction and grow out from fingerling to market size products—using real-world tilapia rearing ponds. Students will acquire the knowledge and skills for an aquaculture career in the production of tilapia as a food source and for aquatic vegetation control.

3 hours lecture, 3 hours laboratory.

# Art

## ART 103 DESIGN FUNDAMENTALS (3)

Prerequisite(s): None.

An introduction to the basic elements of design: line, shape, value, texture and color. This includes skill development in arranging these elements according to the basic principles of organization (harmony and variety) within a two-dimensional framework. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

## ART 106 DRAWING I (3)

Prerequisite(s): None.

An elementary course in representational drawing and pictorial design. Students utilize the local landscape and various still-life objects as subject matter for individual projects. Freehand drawing is stressed to develop hand-eye coordination. Also encouraged is the use of imagination and memory in the development of ideas. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

## ART 107 SURVEY OF WORLD ART: PREHISTORIC - GOTHIC (3)

Prerequisite(s): RDG 122, concurrent enrollment, or exemption; or permission of instructor.

A survey presentation of the art and architecture of Western civilizations through the Gothic era, including prehistoric cultures of the world.

3 hours lecture.

## ART 108 SURVEY OF WORLD ART: RENAISSANCE TO THE TWENTIETH CENTURY (3)

Prerequisite(s): RDG 122, concurrent enrollment, or exemption; or permission of instructor.

A survey presentation of the art and architecture of Western civilizations from the Renaissance through the 20th century.

3 hours lecture.

## ART 120 APPRECIATION OF VISUAL ARTS (3)

Prerequisite(s): ENG 100, placement in ENG 101, or permission of instructor.

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.

## ART 130 PAINTING FOR PERSONAL DEVELOPMENT I (2)

Prerequisite(s): None.

An introduction to techniques of watercolor, oil or acrylic with emphasis on composition and materials. Students must complete several projects judged on the basis of individual skill and development. Not intended for transfer to a four-year institution. May be repeated for credit. For students interested in art for career opportunities as well as personal growth and self-expression.

1 hour lecture, 3 hours studio.

## ART 131 PAINTING FOR PERSONAL DEVELOPMENT II (2)

Prerequisite(s): ART 130 or permission of instructor.

The development of skills and techniques introduced in ART 130 with special emphasis on student projects and preparation of works for exhibition. May be repeated for credit. Not intended for transfer to four-year institutions. For students interested in art for career opportunities as well as personal growth and self-expression.

1 hour lecture, 3 hours studio.

## ART 192 SPECIAL TOPICS IN ART (0.5 - 4)

Prerequisite(s): None.

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. May be repeated for Cochise College credit. For students interested in art for career opportunities as well as personal growth and self-expression. The title of this course may differ each term, depending on the topic being covered when the course is offered.

**ART 216 DRAWING II (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 106 or permission of instructor.

An intermediate course in representational drawing and pictorial design. Students utilize the landscape, still life objects and individual initiative to develop subject matter for their projects. Freehand drawing is stressed to develop hand-eye coordination. Students are expected to have developed some basic drawing skills before taking this course. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 220 PRINTMAKING I (3)**

Prerequisite(s): ART 103, ART 106, or permission of instructor.

Recommended Preparation: ART 216 and ART 245.

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.

**ART 225 PRINTMAKING II (3)**

Prerequisite(s): ART 220 and either ART 103, ART 106, or permission of instructor.

Recommended Preparation: ART 216 and ART 245.

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.

**ART 230 COLOR AND DESIGN (3)**

Prerequisite(s): None.

Continued investigations into the elements and principles of design including line, shape, value, texture, and color within a two-dimensional framework. A variety of media and techniques will be used, and an emphasis will be placed on color and design theory.

2 hours lecture, 4 hours studio.

**ART 231 THREE DIMENSIONAL DESIGN AND SCULPTURE (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor.

An introduction to the basic elements of three-dimensional design: line, shape, texture, color, volume and mass. This includes skill development in arranging these elements according to the basic principles of organization (harmony and variety) within a three-dimensional framework as they exist in actual space.

2 hours lecture, 4 hours studio.

**ART 245 FIGURE DRAWING (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 106 or permission of instructor.

Drawing from the model and other subjects to develop pictorial and perceptual skills with an emphasis on the human figure in its environment. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 250 BEGINNING JEWELRY (3)**

Prerequisite(s): ART 103 and ART 231, or permission of instructor.

A studio course in basic jewelry-making processes, including fabrication, silver-soldering, lapidary and casting. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 255 BASIC METALWORK (3)**

Prerequisite(s): ART 103 and ART 231, or permission of instructor.

A studio course in essential aspects of metal-working processes, including silver soldering, brazing, welding, forging, and casting. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 270 CERAMICS I (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor. Additional preparation may include ART 231.

An introduction to clay, glaze and kiln processes and wheel-thrown techniques with a general historical survey of ceramics. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 270A RAKU WORKSHOP (1)**

Prerequisite(s): None.

Recommended Preparation: ART 270 or permission of instructor.

An introduction to the traditional and experimental raku processes. For students interested in art for career opportunities as well as personal growth and self-expression.

0.67 hour lecture, 1.33 hours studio.

**ART 275 CERAMICS II (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, ART 231, and ART 270; or permission of instructor. Additional preparation may include ART 245.

A more advanced course than ART 270, Ceramics I. Students will need to have a basic knowledge of hand-built and wheel-throwing techniques with various clay bodies, a basic knowledge of glazes and their application, and kiln loading and firing processes. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 276 SODA AND SALT FIRING (1)**

Prerequisite(s): ART 270 and concurrent enrollment in ART 231, ART 275, ART 290, or ART 292.

Recommended Preparation: ART 275.

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.

**ART 280 PAINTING I (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor.

A studio course in beginning oil and/or acrylic painting techniques with emphasis on color theory and color mixing. Preparation of painting surfaces is also introduced. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 281 PAINTING II (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, ART 231, and ART 280; or permission of instructor. Additional preparation may include ART 245.

An intermediate course in painting with an emphasis on developing individual expressive and pictorial skills in oil and/or acrylic media. Students must have a basic knowledge of the tools and materials of their chosen medium and a basic knowledge of color theory and color mixing. Students must also be skilled in preparing various painting surfaces. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 285 BEGINNING PHOTOGRAPHY (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103 or permission of instructor. Additional preparation may include DMA 266.

An introduction to the use and function of the camera and black-and-white darkroom technique. Students must have access to a fully adjustable 35mm camera. For students interested in beginning photography for career opportunities, as well as for personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 286 INTERMEDIATE PHOTOGRAPHY (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, and ART 285; or permission of instructor. Additional preparation may include DMA 266 and DMA 267.

An intermediate course in photography for students who understand the basics of black-and-white film exposure, development, and printing. Emphasis on photojournalism, art photography, portraiture, and landscapes. Students must have access to a fully adjustable 35mm camera. For students interested in photography for career opportunities as well as for personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 290 SCULPTURE (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have either ART 103 or ART 106, and ART 231; or permission of instructor.

An introduction to traditional and contemporary sculptural concepts, media and techniques, with student involvement from the raw materials to the finished product. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 292 ADVANCED TOPICS IN ART (0.5 - 4)**

Prerequisite(s): None.

Recommended Preparation: For art majors, ART 192.

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. May be repeated for Cochise College credit. 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.

**ART 295 WATERCOLOR PAINTING I (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, or permission of instructor.

An introductory course in watercolor painting, exploring basic materials and techniques, with an emphasis on color theory and color mixing. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 296 WATERCOLOR PAINTING II (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103, ART 106, ART 231, and ART 295, or permission of instructor. Additional preparation may include ART 245.

An intermediate course in watercolor painting, with an emphasis on developing individual and expressive pictorial skills. For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture, 4 hours studio.

**ART 297 PORTFOLIO REVIEW (1)**

Prerequisite(s): None.

Recommended Preparation: Three semesters of art coursework, including 200-level courses in chosen discipline, or permission of instructor.

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.

**ART 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

The student will complete a research problem or an outlined course of study under the direction of a faculty member. A contract for the individual study agreed upon by the student, the instructor and the assistant dean prior to initiation of the study must be signed. May be repeated for credit.

**American Sign Language****ASL 101 AMERICAN SIGN LANGUAGE I (4)**

Prerequisite(s): None.

American Sign Language includes principles, methods and techniques for communicating with deaf individuals who sign. Also includes a brief history of sign, introduction to deaf culture, development of receptive and expressive sign skills, manual alphabet, numbers and sign vocabulary. Class is conducted primarily without voice.

4 hours lecture, 1 hour laboratory.

**ASL 102 AMERICAN SIGN LANGUAGE II (4)**

Prerequisite(s): ASL 101 or permission of instructor.

Continuation of ASL 101. Includes sign vocabulary, numbers, finger spelling, and culture. Emphasis is on the enhancement of receptive sign skills, further development of expressive sign skills, and the application of rudimentary syntactical and grammatical structures. Class is conducted primarily without voice.

4 hours lecture, 1 hour laboratory.

**ASL 105 FINGERSPELLING AND NUMBERS (2)**

Prerequisite(s): ASL 101 or permission of instructor.

Focus on articulation of the American Manual Alphabet and Number System and its expressive and receptive use in conversational American Sign Language.

2 hours lecture.

**ASL 200 INTRODUCTION TO THE DEAF COMMUNITY (3)**

Prerequisite(s): ASL 102.

An in-depth exploration into the deaf community, this course examines the values, traditions, and rules of social behavior, as well as cross-cultural interaction between deaf and hearing people. Also analyzes the origins of American Sign Language.

3 hours lecture.

**ASL 201 AMERICAN SIGN LANGUAGE III (4)**

Prerequisite(s): ASL 102 or permission of instructor.

This continuation of ASL 102 includes an integration of ASL receptive and expressive skills using bilingual techniques. Also includes vocabulary expansion, idioms, manual and non-manual aspects of ASL, ASL linguistics, cross-cultural communication, and cultural knowledge of ASL. Class is conducted primarily without voice.

4 hours lecture, 1 hour laboratory.

**ASL 202 AMERICAN SIGN LANGUAGE IV (4)**

Prerequisite(s): ASL 201 or permission of instructor.

This continuation of ASL 201 includes continued expansion of sign vocabulary, sharpening of finger spelling and number skills, and review of and instruction in linguistical knowledge of ASL. Also includes an emphasis on conversational techniques and skills in ASL in a cross-cultural framework. This class is conducted primarily without voice.

4 hours lecture, 1 hour laboratory.

**ASL 203 LINGUISTICS OF AMERICAN SIGN LANGUAGE (3)**

Prerequisite(s): ASL 202 or permission of instructor.

A comparison of ASL and English syntax, phonology and morphology for hearing and Deaf students pursuing further studies in ASL, interpreting, and required English courses.

3 hours lecture.

**ASL 205 ADVANCED FINGERSPELLING AND NUMBERS (2)**

Prerequisite(s): ASL 201.

Recommended Preparation: ASL 210.

Advanced receptive and expressive fingerspelling and number skills. Includes lexicalized fingerspelling, advanced mathematical functions, major cities, proper nouns, and related acronyms.

2 hours lecture.

**ASL 215 CLASSIFIERS, MIMETIC DESCRIPTION AND ASL LITERATURE (3)**

Prerequisite(s): ASL 201 or third-semester proficiency.

Recommended Preparation: ASL 202 or fourth-semester proficiency.

Development of expressive and receptive skills through the use of classifiers, mime, and analysis of American Sign Language (ASL) literature, poetry and film. Includes direct address, physical representations, spatial representations, perspective, and traditional deaf folklore. This course is taught in ASL. Identical to ITP 215.

3 hours lecture.

## Astronomy

**AST 180  INTRODUCTION TO ASTRONOMY (4)**

Prerequisite(s): MAT 122.

A survey of astronomy, including the history of astronomy, celestial motion, terrestrial evolution, the solar system, structure and evolution of the stars, the Milky Way, galaxies and cosmology. Labs include nighttime observing sessions. Field trips to planetariums and observations will be included.

3 hours lecture, 3 hours laboratory.

# Automotive Technology

## AUT 100 KNOW YOUR AUTOMOBILE (3)

Prerequisite(s): None.

This course will cover the principles of basic automotive repair and maintenance. The essential concepts from buying an automobile to preventive maintenance will be covered.

2 hours lecture, 3 hours laboratory.

## AUT 101 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY (3)

Prerequisite(s): None.

This course provides an in-depth study of basic automotive vehicle systems. It includes basic operational knowledge concerning the care and maintenance of engine, fuel, ignition, suspension, brakes, electrical and drive-train systems.

2 hours lecture, 2 hours laboratory.

## AUT 102 AUTOMOTIVE ELECTRICAL FUNDAMENTALS (3)

Prerequisite(s): None.

This course provides a study of automotive electrical and electronic fundamentals with an emphasis on Ohm's Law and its application in solving electrical system failures. An in-depth study is given on how to properly use wiring and current-flow diagrams in electrical diagnosis and repair. Course includes using industry-standard diagnostic equipment and techniques. The student will receive training in preparation to take the ASE Certification Test on Electrical/Electronic Systems.

2 hours lecture, 2 hours laboratory.

## AUT 103 INTERNAL COMBUSTION ENGINES (3)

Prerequisite(s): None.

This course provides theory, diagnosis and service common to all automotive internal combustion engines. Course topics include engine rebuilding and performance testing. This course prepares students for the ASE Certification test on Engine Repair.

2 hours lecture, 3 hours laboratory.

## AUT 104 AUTOMOTIVE BRAKE SYSTEMS (3)

Prerequisite(s): None.

This course will provide students with the ability to diagnose and repair the automotive brake system. Disc, drum and anti-lock system operation and repair will be covered.

2 hours lecture, 3 hours laboratory.

## AUT 105 AUTOMOTIVE SUSPENSION AND STEERING SYSTEMS (3)

Prerequisite(s): None.

This course will provide students with a comprehensive study of automotive steering systems and front and rear suspension systems. Students will have the ability to diagnose, repair and align steering and suspension systems.

2 hours lecture, 2 hours laboratory.

## AUT 106 AUTOMOTIVE MANUAL DRIVE SYSTEMS (3)

Prerequisite(s): None.

This course will provide a study of automotive manual drive systems to include transmission/transaxle, differential and transfer case. This course is a classroom study of theory and hands-on strategy of repair procedures as well as a preparation for ASE testing.

2 hours lecture, 2 hours laboratory.

## AUT 107 AUTOMOTIVE SERVICE CONSULTANT (3)

Prerequisite(s): None.

This course will provide a study of the responsibilities of an automotive service consultant. It is designed to provide an understanding of how to maximize customer satisfaction and service facility profitability. Course content follows the tasks identified by Automotive Service Excellence (ASE) for Automotive Service Consultant testing.

3 hours lecture.

**AUT 108 AUTOMOTIVE PARTS SPECIALIST (3)**

Prerequisite(s): None.

This course will provide a study of the tasks performed by an automotive parts specialist in overseeing inventory responsibilities and in managing the flow of parts and accessories in and out of an automotive shop.

3 hours lecture.

**AUT 110 BASIC AUTO BODY REPAIR (3)**

Prerequisite(s): None.

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.

**AUT 201 AUTOMOTIVE ELECTRICAL SYSTEMS AND EQUIPMENT (3)**

Prerequisite(s): AUT 102.

This course provides a study of automotive starting, supplemental restraint (air bags) and charging systems and components. An emphasis is placed on electrical system diagnosis and electrical repair. Included is the use of various types of industry-standard diagnostic electrical equipment and testing techniques. Successful completion of this course is intended to prepare students to take the ASE certification test on Electrical/Electronic Systems.

2 hours lecture, 2 hours laboratory.

**AUT 204 AUTOMATIC TRANSMISSION/TRANSAXLE DIAGNOSTICS AND REBUILDING (3)**

Prerequisite(s): AUT 101.

An applied skills course on the principles and procedures for automatic transmission and transaxle overhaul. Topics include automatic transmission service and in-car diagnosis, out-of-vehicle repair techniques, and personal and environmental safety.

2 hours lecture, 2 hours laboratory.

**AUT 205 AUTOMOBILE HEATING, VENTILATION AND AIR CONDITIONING (3)**

Prerequisite(s): AUT 101 and AUT 102.

An examination of the basic operating principles, diagnosis, and service of modern automotive heating, ventilation and air conditioning systems, including R12 and 134a systems. Includes a concentrated examination of how air conditioning systems operate, their diagnostic and their service procedures, and environmental concerns.

2 hours lecture, 2 hours laboratory.

**AUT 206 ENGINE PERFORMANCE (3)**

Prerequisite(s): AUT 102 and AUT 103.

This course prepares students for Master Automotive Service Excellence (ASE) certification and correlates with the National Automotive Technicians Education Foundation's task list. It focuses on automotive fuel management systems, emission control, computer control, and drivability concerns. It provides hands-on techniques for troubleshooting automotive engine controls using specialized diagnostic equipment and tools.

2 hours lecture, 2 hours laboratory.

**AUT 207 AUTOMOTIVE SERVICE MANAGEMENT (3)**

Prerequisite(s): AUT 107 and AUT 108, or permission of instructor.

Designed for those interested in a career in automotive service, this course provides a study of the responsibilities of an automotive service manager/director.

3 hours lecture.

**AUT 210 ASE TEST PREPARATION (3)**

Prerequisite(s): AUT 103, 104, 105, 106, 201, 204, and 205; or permission of instructor.

This course reviews the skills and knowledge required to pass Automotive Service Excellence (ASE) certification tests A1 thru A8. This course is for experienced technicians as well as for students who have completed the required automotive courses.

3 hours lecture.

## **AUT 224 FIELD EXPERIENCE IN AUTOMOTIVE TECHNOLOGY (1 - 6)**

Prerequisite(s): Prior approval of cooperative education program coordinator.

Recommended Preparation: One semester of Cochise College AUT coursework and declared major in Automotive Technology.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career skills objectives in the automotive field. Variable credit (1-6) is available upon consultation with cooperative education coordinator. May be taken four times for a maximum of 16 credits, with no more than six credits in a semester.

# Avionics Technology

## **AVT 101 MATH FOR BASIC ELECTRONICS (3)**

Prerequisite(s): One year high school algebra.

A review of arithmetic and the study of algebraic principles necessary to provide the student with the tools needed to solve problems in electricity and electronics. This includes the real number system, linear equations, inequalities, functions, systems of equations, exponents, radicals and graphing.

3 hours lecture.

## **AVT 104 ♦ INTRODUCTION TO ELECTRONICS (7)**

Prerequisite(s): AVT 101, concurrent enrollment, or equivalent.

An introduction to direct and alternating current circuits, with emphasis on Ohm's Law, Kirchoff's Laws and network theorems used in the analysis of basic electronic circuits.

5 hours lecture, 6 hours laboratory.

## **AVT 107 ♦ AVIONICS FUNDAMENTALS TO INCLUDE UNMANNED AERIAL VEHICLES (5)**

Prerequisite(s): AVT 104 or concurrent enrollment.

An introduction to avionics fundamentals with emphasis on the navigation and communication systems required to support flight operations.

4 hours lecture, 2 hours laboratory.

## **AVT 112 ♦ ELECTRONIC DEVICES AND CIRCUITS I (8)**

Prerequisite(s): AVT 104.

The study of semiconductor devices to an operational level. Major emphasis will be placed on analysis of diodes, power supplies, filters, transistor, frequency responses, feedback and field effect transistor amplifiers. Stressing the importance of dc biasing, ac signal analysis, load lines, hybrid parameters, and troubleshooting multi-stage systems.

6 hours lecture, 4 hours laboratory.

## **AVT 115 ♦ DIGITAL AND MICROPROCESSOR FUNDAMENTALS (7)**

Prerequisite(s): AVT 104.

A study of digital concepts, logic elements, organization, programming, interfacing, control applications and logic with emphasis on combinational logic, sequential logic, memory circuits, and support circuits of various components that together form the microcomputer.

6 hours lecture, 3 hours laboratory.

## **AVT 202 ♦ ELECTRONIC COMMUNICATIONS TO INCLUDE UNMANNED AERIAL VEHICLES (8)**

Prerequisite(s): AVT 112.

The study of basic communication concepts and circuits including amplitude modulation techniques, frequency modulation techniques, radio transmitters, receivers, antennas, radar microwave techniques, filters, coupling, frequency synthesizers, phased locked loops, data communications techniques, fiber optics, high-tech communication components, circuits, and equipment. Data communications will include ground control stations to unmanned aerial vehicles (UAVs) and unmanned aerial vehicles (UAVs) to unmanned aerial vehicles (UAVs).

6 hours lecture, 4 hours laboratory.

**AVT 205 ♦ ELECTRONIC DEVICES AND CIRCUITS II (4)**

Prerequisite(s): AVT 112.

A continuation of Electronic Devices and Circuits I, including the study of MOSFET's, operational amplifiers, applications and analysis of practical amplifier circuits, negative feedback, oscillators, solid-state switching circuits, thyristors, optoelectronic devices, unijunction transistors, silicon controlled rectifiers and selected material covering other electronic devices.

3 hours lecture, 3 hours laboratory.

**AVT 208 FCC/FAA REGULATIONS (4)**

Prerequisite(s): AVT 112 and AVT 115.

An in-depth study of the Federal Communications Commission examination, preparing the student to take the FCC test. Also, an introduction to the Federal Aviation Administration and its rules and regulations.

4 hours lecture.

**AVT 211 UNMANNED AERIAL VEHICLE AVIONICS (9)**

Prerequisite(s): AMT 120 or concurrent enrollment, and sponsored employment with the Department of Defense or of a DOD UAV contractor.

A study of unmanned aerial vehicle avionics focusing on development of the knowledge and skills necessary to safely operate, inspect, troubleshoot, and repair Hunter Unmanned Aerial Vehicle (UAV) avionics systems and subsystems down to the lowest replaceable unit (LRU). Emphasis on shelter theory of operation, performance criteria, data link operation, electrical power systems, emergency recovery systems and ground support equipment.

4 hours lecture, 13 hours laboratory.

**AVT 218 ♦ PULSE AND DIGITAL SYSTEM CIRCUITS (8)**

Prerequisite(s): AVT 104.

A study of number systems, Boolean algebra, combinational logic, sequential logic, components and circuitry most often encountered for pulse shaping and time delay in microcomputer systems. Major emphasis will be placed on RC and RL networks, diodes and switching transistor circuits and their applications.

6 hours lecture, 4 hours laboratory.

**AVT 220 ♦ NAVIGATION SYSTEMS TO INCLUDE UNMANNED AERIAL VEHICLES (4)**

Prerequisite(s): AVT 202.

An in-depth study of avionics navigation, communication and interfacing of avionic systems required to support flight operations for various aircraft to include Unmanned Aerial Vehicles (UAVs).

3 hours lecture, 3 hours laboratory.

**AVT 224 AUTOPILOT AND CONTROL SYSTEMS TO INCLUDE UNMANNED AERIAL VEHICLES (4)**

Prerequisite(s): AVT 107.

An in-depth study of the principles, system analysis, and operation of Autopilot/Control systems to include Unmanned Aerial Vehicles (UAVs) systems.

4 hours lecture.

**AVT 228 ♦ AIRCRAFT RADAR SYSTEMS TO INCLUDE UNMANNED AERIAL VEHICLES (4)**

Prerequisite(s): AVT 218.

An in-depth study of avionics with emphasis on the radar and pulsed radar systems required to support flight operations for various aircraft to include unmanned aerial vehicles (UAVs).

3 hours lecture, 3 hours laboratory.

**AVT 294 FIELD EXPERIENCE IN AVIONICS TECHNOLOGY (1 - 6)**

Prerequisite(s): Sophomore standing in a declared major and prior approval of cooperative education program coordinator.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in avionics technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester. NOTE: Lower- and upper-division cooperative education courses may be combined but cannot exceed 16 credits.

# Building Construction Technology

## BCT 100 TECHNICAL MATHEMATICS I (3)

Prerequisite(s): None.

A review of arithmetic and the study of fundamentals of algebra and geometry applied to practical problems of the drafting room, machine shop, and engineering.

3 hours lecture.

## BCT 101 INTRODUCTION TO RESIDENTIAL CONSTRUCTION (3)

Prerequisite(s): None.

This course will introduce students to the basics of concrete and framing in residential construction. Students will learn about the tools involved in construction as well as their proper and safe use. Topics covered will include foundation excavation; reinforcement selection and placement; placing of concrete; layout and construction of wood-framed walls, roofs, and ceilings; and installation of windows, doors, and siding. The focus of this course will be on techniques used locally. In addition to plan reading and interpretation, safety during construction will be covered. Completion of this course will prepare a student for entry-level employment in the construction industry.

3 hours lecture, 1 hour laboratory.

## BCT 102 CARPENTRY LEVEL I (3)

Prerequisite(s): None.

This course will introduce students to basic carpentry in modern framing. Students will become familiar with, and learn the safe use of, various hand tools used in the trade. Topics covered will include elements of wall and roof framing, selection and cutting of wall and roof components, assembly and fastening of components, installation of wall bracing, leveling and straightening elements, roof layout, and roof sheeting. Completion of this course will prepare a student for entry-level employment in the carpentry field.

3 hours lecture, 1 hour laboratory.

## BCT 103 INTERNATIONAL RESIDENTIAL BUILDING CODES (3)

Prerequisite(s): None.

This course is an introduction to the current international residential building codes for one and two family dwellings. The codes' relationship to local code enforcement and blueprint reading will be covered. Inspectors, contractors, designers, draftsmen, and anyone associated with the building industry will benefit from this course.

3 hours lecture.

## BCT 104 RESIDENTIAL ELECTRIC I (3)

Prerequisite(s): None.

This course will introduce the student to beginning electrical wiring methods. This introduction to basic electrical theory and alternating current, the National Electric Code, and beginning wiring methods will provide a working knowledge of the electrical trade.

3 hours lecture, 1 hour laboratory.

## BCT 105 ELECTRICAL THEORY (3)

Prerequisite(s): None.

Concepts explained in this course on Electrical Theory are the foundation to understanding electricity in the electrical world. Ohms law, series and parallel circuit, power factor and efficiency, electrical fundamentals and meters, motors, generators, transformers, and harmonics will be some of the topics covered.

3 hours lecture.

## BCT 106 NATIONAL ELECTRICAL CODE I (3)

Prerequisite(s): None.

This course focuses attention on the National Electrical Code Articles 90 - 400. This course is for anyone in the electrical field to include electricians, inspectors, and maintenance workers. National Electrical Code I covers the general wiring requirements.

3 hours lecture.

**BCT 107 HOME MAINTENANCE (3)**

Prerequisite(s): None.

A "do-it-yourself" home maintenance course covering use of common hand and power tools for routine electrical, carpentry, and plumbing repairs.

3 hours lecture, 1 hour laboratory.

**BCT 108 BASICS IN CONSTRUCTION (2)**

Prerequisite(s): None.

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.

**BCT 110 CABINETMAKING (3)**

Prerequisite(s): None.

This course will provide the students with a basic working knowledge of cabinetmaking. Students will acquire competency in constructing and installing cabinets and countertops.

2 hours lecture, 3 hours laboratory.

**BCT 111 PLUMBING I (3)**

Prerequisite(s): None.

This course will provide students with a basic working knowledge of the plumbing industry. Students will acquire competency in repair, installation and application of plumbing.

3 hours lecture, 1 hour laboratory.

**BCT 122 REFRIGERATION I (3)**

Prerequisite(s): None.

A course designed to provide the student with basic understanding of the refrigeration process, types of refrigerants, tools and equipment, and refrigerant management. Emphasis will be placed on the recovery, recycling, and reclaiming of refrigerants.

2 hours lecture, 3 hours laboratory.

**BCT 123 ELECTRICAL REPAIR AND MAINTENANCE (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in maintaining, troubleshooting, and repairing existing residential and industrial circuitry and equipment.

3 hours lecture.

**BCT 127 BLUEPRINT READING AND ESTIMATING (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in reading and understanding blueprints and their use in locating plumbing, electrical and waste disposal systems. The student will learn the symbols and abbreviations used by architects and draftsmen, how to apply them to construction applications, and how to estimate material from architectural specifications.

3 hours lecture.

**BCT 200 TECHNICAL MATHEMATICS II (3)**

Prerequisite(s): BCT 100.

A comprehensive study of trigonometry as applied to electronics, construction and drafting industrial situations with an introduction to calculus.

3 hours lecture.

**BCT 201 CARPENTRY LEVEL II (3)**

Prerequisite(s): BCT 102 or permission of instructor.

This course will introduce students to intermediate-level carpentry techniques of modern framing. Students will become proficient with Skilsaws, reciprocating saws, drills, impact wrenches, hand power planers, pneumatic nail guns, and various hand tools used in the trade. Topics covered will include specialized wall and roof framing, selection and cutting of complex wall and roof components, assembly and fastening of components, installation of wall bracing, leveling and straightening elements, complex roof layout, and roof framing. The focus of this course will be on techniques used locally. Completion of this course will provide students with journeyman-level framing skills.

3 hours lecture, 1 hour laboratory.

**BCT 202 CARPENTRY LEVEL III (3)**

Prerequisite(s): BTC 127, BTC 103, and BCT 201; or permission of instructor.

This course will introduce students to advanced-level carpentry techniques of modern framing. Students will become highly proficient with Skilsaws, reciprocating saws, drills, impact wrenches, hand power planers, pneumatic nail guns, and various hand tools used in the trade. Topics covered will include detailed framing elements, such as soffits, arches, entertainment centers, and fireplaces. The focus of this course will be on complex carpentry techniques used locally. Completion of this course will prepare students with the skills necessary for supervisory-level employment in the carpentry field.

3 hours lecture, 1 hour laboratory.

**BCT 204 RESIDENTIAL ELECTRIC II (3)**

Prerequisite(s): BCT 104.

This course will take the knowledge acquired in Residential Electric I and apply it to the actual hands-on wiring of new homes. It will advance the student's understanding of the National Electrical Code. This is an advanced study of the regulations involved in residential electrical wiring.

3 hours lecture, 1 hour laboratory.

**BCT 206 NATIONAL ELECTRICAL CODE II (3)**

Prerequisite(s): BCT 106.

This is an advanced course covering the interpretation and application of the National Electrical Code. It is a continuation of BCT 106 and focuses on Articles 400 - 700.

3 hours lecture.

**BCT 210 CABINETMAKING II (3)**

Prerequisite(s): BCT 110.

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.

**BCT 211 CABINETMAKING III (3)**

Prerequisite(s): BCT 110 and BCT 210, or permission of instructor.

This course prepares students for employment in the areas of finish carpentry, cabinetmaking, cabinet installation, and counter-top manufacturing and installation.

2 hours lecture, 3 hours laboratory.

**BCT 220 GROUNDING AND BONDING (3)**

Prerequisite(s): None.

Recommended Preparation: BCT 104, BCT 105, BCT 106, BCT 204, and BCT 206.

This course covers Article 250 of the National Electric Code. It concentrates on the theories of grounding and bonding and on the wiring methods involved. This provides complete in-depth understanding of the differences between grounding and bonding of everything from service equipment to swimming pools.

3 hours lecture.

**BCT 222 REFRIGERATION II (3)**

Prerequisite(s): BCT 122.

A continuation of the fundamentals of refrigeration with an emphasis on the function of motors, controls, and the major components of the refrigeration system, to include evaporators, condensers, compressors, and expansion devices.

2 hours lecture, 3 hours laboratory.

**BCT 223 HEATING AND AIR CONDITIONING (4)**

Prerequisite(s): BCT 222.

An introduction to the various types of heating and air conditioning systems. Electrical devices, valves, controls and duct systems will also be explored. An emphasis will be placed on troubleshooting and repair.

4 hours lecture.

## BCT 224 FIELD EXPERIENCE IN BUILDING AND CONSTRUCTION TECHNOLOGY (1 - 6)

Prerequisite(s): Prior approval of cooperative education program coordinator.

Recommended Preparation: One semester of Cochise College BCT coursework and declared major in Building and Construction Technology.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career skills objectives in the building/construction field. Variable credit (1-6) is available upon consultation with Cooperative Education Coordinator. May be taken four times for a maximum of 16 credits, with no more than six credits in a semester.

# Biological Sciences

## BIO 092 SPECIAL TOPICS AND APPLICATIONS IN BIOLOGY – NON-TRANSFER (0.25 - 3)

Prerequisite(s): None.

Recommended Preparation: Permission of the instructor is strongly recommended.

A rotating forum/seminar/course or supplement to an existing biology course emphasizing biology or related topics. May be repeated for Cochise College credit. Cochise College credit only unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

## BIO 101 GENERAL BIOLOGY (FOR NON MAJORS) (4)

Prerequisite(s): None.

Recommended Preparation: MAT 082.

Selected biological topics including methods used by biologists to make discoveries and evaluate scientific data, principles and concepts of biology with reference to the organization and function of cells, inheritance and man. Not open to majors in the biological sciences or the pre-professional curricula.

3 hours lecture, 3 hours laboratory.

## BIO 105 ENVIRONMENTAL BIOLOGY (4)

Prerequisite(s): None.

Recommended Preparation: MAT 082 and ENG 101.

Fundamentals of ecology and their relevance to human impact on natural ecosystems. An introductory course in environmental biology with emphasis on the major themes of ecology and environmental biology. The student will receive instruction covering evaluation of scientific data, resource management, principles of ecology, human ecology, ethics and politics of the environment movement. Open to non-biology majors.

3 hours lecture, 3 hours laboratory.

## BIO 114 BIOLOGY SEMINAR SERIES (0.5 - 1)

Prerequisite(s): None.

A rotating forum/seminar emphasizing biological science topics of current regional or global significance, which will vary with scientific advance and changes in student needs and interests. May be repeated up to four times for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs. The title of this course may differ each term, depending on the topic being covered when the course is offered.

BIO 114G Flora and Fauna of Cochise County

BIO 114J  Dangerous Animals of Arizona

## BIO 118 INTRODUCTION TO BIOINFORMATICS (4)

Prerequisite(s): MAT 122 and CIS 116, or permission of instructor.

This is an interdisciplinary course covering biology, mathematics and computer science principles necessary for the study of bioinformatics. Installation, configuration and use of bioinformatics tools and resources in a scientific computing environment.

3 hours lecture, 3 hours laboratory.

**BIO 156 INTRODUCTORY BIOLOGY FOR ALLIED HEALTH (4)**

Prerequisite(s): None.

Recommended Preparation: RDG 110 or exemption; and MAT 082 or placement in, or completion of, MAT 122 or higher.

An introductory biology course for allied health majors with an emphasis on humans. Topics include fundamental concepts of biology, chemistry, cell biology, histology, microbiology and genetics.

3 hours lecture, 3 hours laboratory.

**BIO 160  INTRODUCTION TO HUMAN ANATOMY AND PHYSIOLOGY (4)**

Prerequisite(s): None.

Recommended Preparation: ENG 101 and MAT 082.

Not for biology or pre-med majors. Examination of the systems of the human body. For students in health occupation programs which require a one-semester anatomy and physiology course, or to fulfill a one-semester laboratory science requirement.

3 hours lecture, 3 hours laboratory.

**BIO 181 GENERAL BIOLOGY I (FOR MAJORS) (4)**

Prerequisite(s): None.

Recommended Preparation: MAT 082; ENG 101; and CHM 130, CHM 138, CHM 151, or one year of high school chemistry.

Principles of structure and function of living things at molecular, cellular, and organismic levels of organization.

3 hours lecture, 3 hours laboratory.

**BIO 182 GENERAL BIOLOGY II (4)**

Prerequisite(s): BIO 181.

Recommended Preparation: General Chemistry.

Additional principles of structure and function of living things at molecular, cellular and organismic and higher levels of organization.

3 hours lecture, 3 hours laboratory.

**BIO 192 SPECIAL TOPICS AND APPLICATIONS IN BIOLOGY (0.25 - 4)**

Prerequisite(s): None.

Recommended Preparation: Permission of the instructor is strongly recommended.

A rotating forum/seminar/course or supplement to an existing biology course emphasizing biology related topics. May be repeated for Cochise College credit. Cochise College credit only unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

BIO 192A Introduction to Bioinformatics I

BIO 192B Introduction to Bioinformatics II

BIO 192C Perl Scripting for Bioinformatics I

BIO 192D Perl Scripting for Bioinformatics II

BIO 192E Biology Field Trip With a Digital Camera - San Pedro River

BIO 192F Biology Field Trip With a Digital Camera - Ramsey Canyon

BIO 192G Biology Field Trip With a Digital Camera - Chiricahuas

BIO 192H Biology Field Trip With a Digital Camera - Huachucas

**BIO 201 HUMAN ANATOMY AND PHYSIOLOGY I (4)**

Prerequisite(s): BIO 156 or satisfactory score on the BIO 201 placement exam.

Recommended Preparation: CHM 138.

This course is an integrated study of the physical, structural, and functional features of cells and tissues, and of the skeletal, muscular, and nervous systems.

3 hours lecture, 3 hours laboratory.

**BIO 202 HUMAN ANATOMY AND PHYSIOLOGY II (4)**

Prerequisite(s): BIO 201.

This course provides an integrated study of the structural and functional features of the endocrine system, circulatory system, urinary system, respiratory system, digestive system, and reproductive system.

3 hours lecture, 3 hours laboratory.

**BIO 205 MICROBIOLOGY (4)**

Prerequisite(s): BIO 156, BIO 181, or satisfactory score on BIO 201 placement exam.

A survey of microbial life and fundamental biological types of all microorganisms; characteristics and importance of microorganisms; control of microorganisms and disease; and other aspects of applied microbiology.

3 hours lecture, 3 hours laboratory.

**BIO 226 ECOLOGY (4)**

Prerequisite(s): MAT 082, ENG 101, and either BIO 101, BIO 105, BIO 160, BIO 181, BIO 183, BIO 184, BIO 190, or BIO 201.

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.

**BIO 240  GENETICS AND EVOLUTION (3)**

Prerequisite(s): BIO 180, BIO 181, BIO 184, or BIO 190.

Recommended Preparation: BIO 181.

Fundamental concepts of inheritance, including genetic and chromosomal character determination, and natural selection leading to population changes and speciation.

3 hours lecture.

**BIO 250 BIOMEDICAL ETHICS (3)**

Prerequisite(s): ENG 101.

A brief introduction to major ethical theories and their importance to topical issues in biology and medical fields. Moral, social and legal principles that guide decision-making processes in such areas as access to health care, the beginning and end of life, biomedical research and technology and public health.

3 hours lecture.

**BIO 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to the initiation of the study. May be repeated for credit.

## Business Administration

**BUS 101 COMPUTER KEYBOARDING (3)**

Prerequisite(s): None.

Specifically designed for (but not limited to) students with no knowledge of touch keyboarding or prior computer experience. Skill development on keyboarding techniques will be utilized to develop speed and accuracy on the computer keyboard.

3 hours lecture.

**BUS 104 BUSINESS MATH (3)**

Prerequisite(s): None.

Recommended Preparation: Knowledge of basic mathematics.

This course examines the fundamentals of business mathematics and the use of the number language to communicate in the business world.

3 hours lecture.

**BUS 105 TECHNICAL REPORT WRITING (1)**

Prerequisite(s): None.

A practical overview of technical report writing with emphasis on clarity, conciseness, and precision of written language. Includes a review of English grammar and spelling, critical reading/summarizing techniques, and listening, note-taking, and proofreading.

1 hour lecture, 1 hour laboratory.

**BUS 106 ADMINISTRATIVE ASSISTANT SKILLS I (4)**

Prerequisite(s): CIS 116 and Keyboarding skills of 30 wpm.

Continued development of keyboarding and techniques needed to master letter styles, tables, memos, and reports with an expected outcome of 35 wpm for three minutes. Class will emphasize text-editing and text formatting techniques.

3 hours lecture, 2 hours laboratory.

**BUS 109<sup>❖</sup> SURVEY OF AMERICAN BUSINESS (3)**

Prerequisite(s): None.

This course examines the fundamental characteristics and functions of modern business, with emphasis on career opportunities.

3 hours lecture.

**BUS 110<sup>❖</sup> SURVEY OF INTERNATIONAL BUSINESS (3)**

Prerequisite(s): None.

A study of international business in a socio-political and multicultural context. This course focuses on the cultural, economic and political aspects of foreign environments and their effect on the operation of an international firm.

3 hours lecture.

**BUS 111<sup>❖</sup> BUSINESS ENGLISH (3)**

Prerequisite(s): None.

An in-depth study of the mechanics of English required for academic and workplace communication. Emphasis is placed on grammar, word usage, punctuation, spelling, conciseness and clarity in both spoken and written language. The rules and style recommendations covered are those that should prove helpful in the academic and/or business communities.

3 hours lecture.

**BUS 123<sup>❖</sup> HUMAN RESOURCE MANAGEMENT (3)**

Prerequisite(s): None.

A study of human resource management policies and techniques pertaining to the recruitment, selection, development, compensation, retention, evaluation, and promotion of personnel within an organization.

3 hours lecture.

**BUS 125 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR (3)**

Prerequisite(s): None.

Study of actions and attitudes of people in organizations. Focuses on the study of group behavior, interpersonal and inter-group relationships in an organization. Conceptual tools for analyzing behavior and managing group processes of conflict, communication and task accomplishments.

3 hours lecture.

**BUS 127<sup>❖</sup> LEADERSHIP AND SUPERVISION (3)**

Prerequisite(s): None.

In-depth study of the supervision and leadership functions in management. Case studies emphasized.

3 hours lecture.

**BUS 131<sup>❖</sup> INTERNATIONAL MANAGEMENT (3)**

Prerequisite(s): None.

An overview of managerial issues confronting managers doing business in the international sector, focusing on the design of the organization, political, legal, cultural and economic concerns, personnel issues and negotiating strategies.

3 hours lecture.

**BUS 134<sup>❖</sup> INTERNATIONAL MARKETING (3)**

Prerequisite(s): None.

An overview of the marketing principles involved in international business. This class will consider globalization, trade issues, and the application of the four Ps of marketing to the international business environment.

3 hours lecture.

**BUS 143 PRINCIPLES OF MANAGEMENT (3)**

Prerequisite(s): None.

A study of managerial challenges relating to such issues as people, diversity, quality, ethnicity, and the global environment. Managerial principles with emphasis on planning, organizing, motivating, and controlling for effective business decisions.

3 hours lecture.

**BUS 145<sup>❖</sup> PRINCIPLES OF MARKETING (3)**

Prerequisite(s): None.

A study of marketing principles involved in the distribution of goods and services from the producer to the ultimate consumer, including functions of wholesaling, retailing, direct selling, risk taking, and storage.

3 hours lecture.

**BUS 146<sup>❖</sup> INTRODUCTION TO ACCOUNTING (3)**

Prerequisite(s): None.

Recommended Preparation: BUS 104 or MAT 122.

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, 1 hour laboratory.

**BUS 149 MERCHANDISING MANAGEMENT (3)**

Prerequisite(s): None.

Examines the organization and operation of retail outlets, trends and concepts in retail selling, problems in retailing both goods and services, and solutions for buying, selling, stocking, servicing and controlling in retail outlets.

3 hours lecture.

**BUS 150 BUSINESS ETHICS (3)**

Prerequisite(s): None.

An introductory course in the application of moral philosophy to contemporary ethical and moral problems in business; an examination of individual, organizational, and macro-level issues in business ethics. It will provide students with a framework that they can use to identify, analyze, and control ethical issues in business decision making.

3 hours lecture.

**BUS 156 PRINCIPLES OF FINANCE (3)**

Prerequisite(s): BUS 146 or BUS 201.

A study of the world of finance dealing with the relationship of money to our economy and an in-depth study of the role and techniques of financial management within a company.

3 hours lecture.

**BUS 160 ESSENTIAL WORKPLACE SUCCESS SKILLS (3)**

Prerequisite(s): None.

A study of problem areas workers may encounter in obtaining and maintaining their employment, including job seeking skills, professional dress, decision making strategies, self-esteem, job stress, communication skills and coping with stress.

3 hours lecture.

**BUS 167<sup>❖</sup> BUSINESS COMMUNICATIONS (3)**

Prerequisite(s): CIS 116 and either BUS 111 or placement in ENG 101.

A study of business communications prepared in a business organization, including typical internal and external communications (letters, memos, proposals and reports). Emphasis will be on applying English fundamentals, usage, syntax, and organization ideas as well as on using technology appropriately to conduct research and to create documents. This course will also stress listening and speaking skills. Identical to ENG 167.

3 hours lecture.

## **BUS 168 CUSTOMER RELATIONS IN THE WORK PLACE (1)**

Prerequisite(s): None.

An exploration on the ways human beings relate to each other using specific typical problems that occur on a day-to-day basis within organizations. This course will serve as a foundation for improving human relations and personal management skills.

1 hour lecture.

## **BUS 170<sup>❖</sup> UNDERSTANDING AND MANAGING CONFLICT (3)**

Prerequisite(s): None.

A study of the causes of conflict and its personal and interpersonal effects. Includes an analysis of the impact of both healthy and unhealthy conflict on organizational and personal goal achievement. Provides conceptual and practical tools to effectively minimize, manage, and resolve conflict resulting from social interaction and interpersonal communication. Identical to SOC 170.

3 hours lecture.

## **BUS 172<sup>❖</sup> QUANTITATIVE METHODS IN BUSINESS (3)**

Prerequisite(s): MAT 151 or permission of instructor.

Recommended Preparation: Knowledge of Excel spreadsheets or completion of CIS 181.

This course concentrates on business applications of quantitative optimization methods in operations management decisions. Quantitative methods and modeling to support business decision making will be the focus.

3 hours lecture.

## **BUS 179 APPLIED TECHNICAL WRITING (3)**

Prerequisite(s): ENG 100 or placement in ENG 101, RDG 122 or exemption, and CIS 116 or CIS 120.

An applied skill course on writing clear organizational reports and communications. Assignments will stress the processes and products for reporting technical information, with emphasis on writing mechanics/syntax, forms/format and technical style. Identical to CIS 179 and ENG 179.

3 hours lecture.

## **BUS 180 COMPUTERIZED ACCOUNTING (3)**

Prerequisite(s): None.

Course includes the use of automated accounting software to complete general ledger, accounts payable, accounts receivable and payroll reports. Basic bookkeeping or accounting background is suggested prior to enrolling.

3 hours lecture.

## **BUS 183 STARTING A BUSINESS (3)**

Prerequisite(s): None.

Recommended Preparation: Computer and Internet literacy.

A primer on business success emphasizing investigation and evaluation of business opportunities. The course also will emphasize the acquisition of skills and knowledge to establish the business, including practical problems in marketing, financial analysis and control, and management and organization.

3 hours lecture.

## **BUS 192 APPLICATIONS IN MANAGEMENT DEVELOPMENT (0.5)**

Prerequisite(s): None.

Seminars designed for professional and personal skill enhancement with emphasis on the mastery and effective utilization of the topic under study. Each seminar provides a minimum of eight hours of instruction.

0.5 hour lecture.

BUS 192P Introduction to Grant Writing

BUS 192Q Intermediate Grant Writing

BUS 192V Starting a Small Business

BUS 192W Write a Winning Business Plan

BUS B192 QuickBooks for Windows, Part I

BUS C192 QuickBooks for Windows, Part II

**BUS 193 CURRENT OFFICE APPLICATIONS (1)**

Prerequisite(s): None.

One unit modules designed for personal/professional improvement. Principles and practice of various office applications; each session covering mastery of a particular application, with emphasis on the effective use of the application under study.

1 hour lecture.

BUS 193A Elementary Keyboarding

BUS 193B Intermediate Keyboarding

BUS 193C Advanced Keyboarding

BUS 193G Windows I

BUS 193H Windows II

BUS 193I Windows III

BUS 193M PowerPoint I

BUS 193N PowerPoint II

BUS 193O PowerPoint III

BUS 193U Introduction to Email

BUS 193V Word I

BUS 193W Word II

BUS 193X Word III

BUS 193Z Introduction to Outlook

BUS A193 Excel I

BUS B193 Excel II

BUS C193 Excel III

BUS D193 Access I

BUS E193 Access II

BUS F193 Access III

BUS M193 Speedbuilding I

BUS N193 Speedbuilding II

BUS O193 Speedbuilding III

**BUS 201  FINANCIAL ACCOUNTING (3)**

Prerequisite(s): BUS 104 and MAT 122 or MAT 123 (or MAT 123A and MAT 123B) or placement in MAT 151.

Recommended Preparation: Knowledge of Excel spreadsheets or completion of CIS 181.

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, 2 hours laboratory.

**BUS 202  MANAGERIAL ACCOUNTING (3)**

Prerequisite(s): BUS 201 and CIS 181.

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, 2 hours laboratory.

**BUS 206 ADMINISTRATIVE ASSISTANT SKILLS II (4)**

Prerequisite(s): BUS 106 or BUS 213.

A study of advanced formatting preparation skills needed to become proficient at typing business letters, printed forms, manuscripts, and tabulation problems in the employment field through the use of individualized units of work with an expected outcome of 40 wpm for 5 minutes.

3 hours lecture, 2 hours laboratory.

**BUS 207 OFFICE ADMINISTRATION (3)**

Prerequisite(s): CIS 116 and BUS 167, or permission of instructor.

An analysis of functions of office departments, their organization and administration; management principles and functions; problem-solving techniques; human relations issues, communication, employee selection, training, information technology tools, and legal implications for the office supervisor. This course is designed for prospective office supervisors, training directors, administrative assistants, and executive secretaries.

3 hours lecture.

**BUS 209 BUSINESS SPEECH COMMUNICATIONS (3)**

Prerequisite(s): None.

A study of the principles of business speech communications, choosing appropriate topics, researching techniques, organizing material, analyzing audiences, and delivering courtesy, information, demonstration, and persuasive speeches to small and large groups. This course will also integrate the skills of perception, listening, language, speech, nonverbal communication, one-on-one, and effective interviewing techniques.

3 hours lecture.

**BUS 210 AUTOMATED OFFICE PROCEDURES (3)**

Prerequisite(s): CIS 116 and CIS 181, or permission of instructor.

A project-oriented study of administrative office procedures including using computer applications, career, human relations, basic duties, information processing, special duties, administrative responsibilities, communication and professional growth. Workflow procedures and standards will be included. The course is designed to help develop the accuracy necessary to apply this knowledge to a variety of data entry situations: spreadsheets, databases, accounting, banking, on-line point-of-sale entries, and other numeric computer-related applications.

3 hours lecture.

**BUS 211 AUTOMATED OFFICE PRACTICE (3)**

Prerequisite(s): BUS 210 or BUS 216.

A project-oriented comprehensive study of administrative office practices including the career, human relations, basic duties, information processing, special duties, administrative responsibilities and professional growth. Workflow procedures, standards, written and oral communications and group problem solving will be included.

3 hours lecture, 1 hour laboratory.

**BUS 213 WORD PROCESSING (3)**

Prerequisite(s): CIS 116.

A study of current word processing concepts, systems, and equipment emphasizing text editing and text formatting techniques. Prerequisite keying speed of 25 wpm suggested. Course not required for the Professional Administrative Assistant AAS degree.

3 hours lecture, 1 hour laboratory.

**BUS 214 ADVANCED WORD PROCESSING (3)**

Prerequisite(s): BUS 213 or permission of instructor.

An advanced study of word processing concepts, software, equipment and required skills for career usage using special entry/editing techniques. Course not required for the Professional Administrative Assistant AAS degree.

3 hours lecture, 1 hour laboratory.

**BUS 216 ADMINISTRATIVE ASSISTANT SKILLS III (4)**

Prerequisite(s): CIS 116 and CIS 181, or permission of instructor.

This course covers intermediate microcomputer applications including word processing, spreadsheets, databases, presentations, and integration of the applications. Topics include form letters, merging, desktop publishing, financial functions, amortization schedules, data tables, creating and querying a worksheet database, templates, creating customized database reports/forms and managing switchboards, embedded visuals, and importing clips into presentation software. Student electronic employment portfolios will be developed.

3 hours lecture, 2 hours laboratory.

**BUS 217 ADMINISTRATIVE ASSISTANT SKILLS IV (4)**

Prerequisite(s): BUS 216 or permission of instructor.

This course covers advanced applications including word processing, spreadsheet, database, presentation, and integration of the applications. Word processing topics include creating an index, a table of contents, online forms, merging e-mail form letters using a database, and using VBA with word processing. Spreadsheet topics include macros, Visual Basic for Applications (VBA), Solver, data validation, password protection, Scenario Manager, PivotCharts, PivotTables, PivotTable lists, importing data, tracking

changes, Send To command, and Data Maps. Database topics include creating a report using design view, customizing forms using VBA, working with charts and PivotTable objects, administering a database, SQL, and database data in other applications. Presentation topics include creating a self-running presentation using animation effects; using VBA with presentations; and distributing presentations to remote audiences. A capstone course electronic employment portfolio will be completed.

3 hours lecture, 2 hours laboratory.

### **BUS 219 BUSINESS STATISTICS (3)**

Prerequisite(s): MAT 142 or MAT 151.

Recommended Preparation: Knowledge of Excel spreadsheets or completion of CIS 181.

Business applications of descriptive and inferential statistics, measurement of relationships, and statistical process management.

3 hours lecture.

### **BUS 220 BUSINESS STATISTICS (3)**

Prerequisite(s): BUS 219.

Testing and estimation, statistical inference, variance analysis, regression, correlation, time series, and index number application.

3 hours lecture.

### **BUS 224 FIELD EXPERIENCE IN BUSINESS ADMINISTRATION (1 - 6)**

Prerequisite(s): A declared major in business administration and prior approval of a cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in business administration. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

**BUS 228 FINANCIAL PLANNING (3)**

Prerequisite(s): BUS 104, BUS 146, or BUS 201.

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.

**BUS 229 BUSINESS INVESTMENTS (3)**

Prerequisite(s): BUS 104, BUS 146, or BUS 201.

An introduction to the investment opportunities open to individual investors, including a description of available investment instruments, brokerage procedures, applicable rules and regulations, tax impacts, and analysis techniques.

3 hours lecture.

**BUS 233  THE LEGAL ENVIRONMENT OF BUSINESS (3)**

Prerequisite(s): None.

An examination of the legal framework governing rules of conduct among businesses and its impact on establishing business policy.

3 hours lecture.

**BUS 240 PRINCIPLES OF REAL ESTATE I (3)**

Prerequisite(s): None.

A course in basic real estate principles, including introduction to the profession and license law, definition of real property, legal descriptions, rights and interest in property, ownership, contracts, real estate economics, financing and foreclosures, use and valuation of property. This course is one of two courses required for the Arizona Real Estate salespersons' examination.

3 hours lecture.

**BUS 241 PRINCIPLES OF REAL ESTATE II (3)**

Prerequisite(s): BUS 240 or permission of instructor.

An advanced course in real estate, including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics and professional relationships, real estate codes and the commissioners' rules, investment, property management and government restrictions, and real estate mathematics.

3 hours lecture.

**BUS 245 SEMINAR: TRENDS AND PRACTICES IN BUSINESS (3)**

Prerequisite(s): None.

Recommended Preparation: Sophomore standing.

Applying problem-solving and decision-making techniques to practical business situations based on current readings in business. Designed to blend and apply current business theories and practices to meet class and individual needs. Course may be repeated for credit.

3 hours lecture.

**BUS 282 MANAGEMENT INFORMATION SYSTEMS (3)**

Prerequisite(s): CIS 116 or CIS 120.

A study of the management sciences involved in meeting the informational needs of business, industry, governmental and educational agencies; a study of skills and knowledge of man versus machine to develop and design data processing systems in a problem-oriented approach.

2 hours lecture, 1 hour laboratory.

**BUS 283 SMALL BUSINESS MANAGEMENT (3)**

Prerequisite(s): BUS 183.

Analysis of the practical problems of organizing and managing a successful small business. Practical problems in marketing, research, financial analysis and control, budgeting, management, and organization for small businesses are emphasized with the aid of the microcomputer.

3 hours lecture, 1 hour laboratory.

**BUS 285<sup>❖</sup> ELECTRONIC COMMERCE (3)**

Prerequisite(s): CIS 116, CIS 120, or CIS 185.

This is the final course for the International Business Certificate. Examines the components and practices of electronic commerce. Addresses advertising and marketing on the World Wide Web. Examines security and payment systems to support online transactions. Introduces writing web pages for business.

3 hours lecture.

**BUS 293 ADVANCED CURRENT OFFICE APPLICATIONS (1)**

Prerequisite(s): None.

One-unit modules designed for personal/professional improvement. Principles and practice of various computer applications, each session directed toward skills mastery of a particular instance of microcomputer applications software with emphasis on the effective use of the software under study.

1 hour lecture.

BUS 293A Advanced Word I

BUS 293B Advanced Word II

BUS 293C Advanced Word III

BUS 293H Medical Terminology

BUS 293I Medical Transcription

BUS 293L Advanced Office Professional I

BUS 293M Advanced Office Professional II

BUS 293N Advanced Office Professional III

BUS 293O Advanced Word Projects

BUS 293P Advanced Word Applications I

BUS 293Q Advanced Word Applications II

BUS 293R Advanced Word Applications III

BUS F293 Expert Office Professional III

## Cooperative Education

**CED 120 SEMINAR: JOB SEARCH TECHNIQUES (1)**

Prerequisite(s): None.

A course to assist students in acquiring knowledge and basic employment skills, including job-hunting techniques, job applications, resumes, and interviewing. Identical to CPD 120.

1 hour lecture.

**CED 124 FIELD EXPERIENCE IN COOPERATIVE EDUCATION (1 - 4)**

Prerequisite(s): Prior approval of a cooperative education program coordinator.

Recommended Preparation: One semester of Cochise College coursework and skills related to occupational area.

A supervised cooperative work experience in occupation-specific field, allowing students to apply entry-level skills gained in the classroom in a real world-of-work situation. Focus is on development of good work habits and practices and knowledge of career content and pathways. Variable credit is available by special arrangement. May be taken four times for a maximum of 16 credit hours.

CED 124A Field Experience in Agriculture

CED 124B Field Experience in Administration of Justice

CED 124C Field Experience in Business

CED 124D Field Experience in Computer Information Systems

CED 124E Field Experience in Educational Instruction

CED 124F Field Experience in Hospitality

CED 124G Field Experience in Recreation Occupations

CED 124H Field Experience in Journalism

CED 124I Field Experience in Nursing

CED 124J Field Experience in Office Technology

CED 124K Field Experience in Legal Procedures

CED 124L Field Experience in Social Services

CED 124M Field Experience in Welding

### **CED 224 FIELD EXPERIENCE IN COOPERATIVE EDUCATION (1 - 6)**

Prerequisite(s): A declared major at Cochise College. Permission and approval of a cooperative education program coordinator.

Recommended Preparation: Sophomore standing or sufficient coursework necessary for development of discipline-related skills.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in Liberal Arts and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than six units in a given semester.

## **Consumer Electronics Repair**

The consumer electronics repair courses are offered at the Arizona Department of Corrections in Douglas.

### **CER 100 RADIO THEORY AND REPAIR (3)**

Prerequisite(s): General Electronic Technician Certificate.

A course designed to teach students radio receiver theory, mechanical components, and electronic circuit operation of the AM/FM radio receiver, with special emphasis on alignment procedures, proper replacement parts selection and substitution using small tools, test equipment, and a soldering iron.

3 hours lecture.

### **CER 102 AUDIO TAPE RECORDER/PLAYER REPAIR (3)**

Prerequisite(s): CER 100.

A course designed to make students proficient in repairing audiotape recorder/player equipment. Students learn magnetic media storage, sound amplification, tape drive systems, types of record and playback heads, microphone and ear phone apparatus used in recording and playback, and how to use diagnostic equipment, diagnostic and repair techniques, hand tools, soldering equipment and repair procedures to facilitate repairs.

3 hours lecture.

### **CER 104 TELEVISION THEORY AND REPAIR (4)**

Prerequisite(s): CER 100.

A course designed to teach students television receiver theory and the diagnostic techniques used to repair malfunctions, with special emphasis on using test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs of television receivers.

4 hours lecture.

### **CER 200 VIDEO CASSETTE RECORDER REPAIR (4)**

Prerequisite(s): CER 104.

A course designed to make students proficient in videocassette recorder repair. Students learn video and sound recording and playback using magnetic media and how to troubleshoot defective circuits using materials, supplies and diagnostic procedures with emphasis on test equipment and alignment procedures to facilitate repairs.

4 hours lecture.

### **CER 202 COMPACT DISC PLAYER REPAIR (3)**

Prerequisite(s): CER 102.

A course designed to make students proficient in compact disc player repair. Students learn sound recording and playback using optical laser technology, as well as how to troubleshoot and repair defective equipment by safely using maintenance tools, gauges, materials and supplies, with emphasis on test equipment and alignment procedures to facilitate repairs.

3 hours lecture.

### **CER 204 MICROWAVE OVEN REPAIR (4)**

Prerequisite(s): General Electronic Technician Certificate.

A course designed to make the student proficient in microwave oven repair. The student learns to schedule maintenance, allot maintenance task hours, and the cost-efficient and safe use of maintenance tools, gauges, materials and supplies, with emphasis on test equipment and alignment procedures to facilitate repairs.

4 hours lecture.

**CER 205 POWER AMPLIFIER REPAIR (3)**

Prerequisite(s): CER 100.

A course designed to teach students advanced power amplifier theory such as integrated amplifiers, integrated stereo systems, graphic equalizers and high power amplifiers. Students learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment use, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.

3 hours lecture.

## Civil Engineering Technology

**CET 100 ENGINEERING SURVEY I (3)**

Prerequisite(s): None.

Mensuration through the application of surveying techniques; theory of errors and their analysis; fundamental concepts of horizontal, vertical, and angular measurements; basic surveying operations and computations, control systems, and datums for engineering surveys; locating and positioning man-made structures.

2 hours lecture, 4 hours laboratory.

## Chemistry

**CHM 092 SPECIAL TOPICS AND APPLICATIONS IN CHEMISTRY (0.25 - 3)**

Prerequisite(s): None.

Recommended Preparation: Permission of the instructor is strongly recommended.

A rotating forum/seminar/course or supplement to an existing chemistry course emphasizing chemistry related topics. May be repeated for Cochise College credit. Cochise College credit only unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

**CHM 128 FORENSIC CHEMISTRY (4)**

Prerequisite(s): MAT 081 (or MAT 081A and MAT 081B) or MAT 082; or placement in, or completion of, MAT 122 or higher.

A one-semester course introducing the fundamentals of chemistry with emphasis placed on principles important to understanding forensic science. Topics include an introduction to the interdisciplinary nature of forensic science, the identification, evaluation and preservation of physical and chemical evidence found at crime scenes, and methods for analyzing such evidence. Additional topics include an introduction to nuclear chemistry, the structure and analysis of drugs, and DNA structure and its importance in criminal investigation. Open to science and non-science majors.

3 hours lecture, 3 hours laboratory.

**CHM 130  FUNDAMENTAL CHEMISTRY (4)**

Prerequisite(s): MAT 081 (or MAT 081A and MAT 081B) or MAT 082 or higher, and RDG 122 or exemption.

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.

**CHM 138 CHEMISTRY FOR ALLIED HEALTH (4)**

Prerequisite(s): RDG 122 or exemption, and MAT 081 (or MAT 081A and MAT 081B) or MAT 082 or higher.

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.

**CHM 151 GENERAL CHEMISTRY I (4)**

Prerequisite(s): RDG 122 or exemption, MAT 122 or higher, and CHM 130, CHM 138, or one year of high school chemistry.

An introduction to the general principles of inorganic chemistry, with focus 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.

**CHM 152 GENERAL CHEMISTRY II (4)**

Prerequisite(s): CHM 151.

Introduction to the general principles of chemistry with emphasis on quantitative relationships, including acids and bases, equilibria, kinetics, nuclear chemistry, electrochemistry, and aspects of organic and biochemistry.

3 hours lecture, 3 hours laboratory.

**CHM 192 SPECIAL TOPICS AND APPLICATIONS IN CHEMISTRY (0.25 - 4)**

Prerequisite(s): None.

Recommended Preparation: Permission of the instructor is strongly recommended.

A rotating forum/seminar/course or supplement to an existing chemistry course emphasizing chemistry related topics. May be repeated for Cochise College credit. Cochise College credit only unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

**CHM 235 GENERAL ORGANIC CHEMISTRY I (4)**

Prerequisite(s): CHM 152.

An introduction to the naming, structure, and properties of organic compounds with an emphasis on alkanes, stereo chemistry, alkyl halides, alkenes, and NMR spectroscopy. Mechanisms and synthesis will be major themes studied in order to reveal the relationships between these different classes of compounds.

3 hours lecture, 3 hours laboratory.

**CHM 236 GENERAL ORGANIC CHEMISTRY II (4)**

Prerequisite(s): CHM 235.

A continuation of an introduction to the naming, structure, and properties of organic compounds with an emphasis on alcohols, ethers, epoxides, alkynes, aromatics, ketones, aldehydes, amines, carboxylic acids and their derivatives, enols, and enolate ions. Mechanisms and synthesis will be major themes studied in order to reveal the relationships between these different classes of compounds.

3 hours lecture, 3 hours laboratory.

**CHM 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of assistant dean and instructor.

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 assistant dean prior to the initiation of the study. May be repeated for credit.

# Computer Information Systems

## **CIS 091 COMPUTER BASICS (1)**

Prerequisite(s): None.

An introduction to computer basics, including file management (creating, saving, copying, moving and printing). Also included is an introduction to the operating system, the Internet, email and search techniques. This course is taught in a hands-on environment.

1 hour lecture.

## **CIS 105 INTRODUCTION TO INFORMATION SECURITY (1)**

Prerequisite(s): None.

Provides a concentrated examination of information security. Examines security models, auditing and intrusion detection, damage control and network security. Emphasis is on the impact of information security on an organization and its management.

1 hour lecture.

## **CIS 115 CUSTOMER SERVICE FOR THE HELP DESK PROFESSIONAL (3)**

Prerequisite(s): None.

This course focuses on "soft" and self-management skills for the help desk professional. Topics include customer satisfaction, listening and communication skills, technical writing, handling difficult customer situations, solving and preventing problems, business skills, teams and team players, minimizing stress and avoiding burnout.

3 hours lecture.

## **CIS 116<sup>❖</sup> COMPUTER ESSENTIALS (3)**

Prerequisite(s): Appropriate placement test score, CIS 091, or permission of department chair.

An introduction to the personal computer and its applications. Emphasis is placed on Word, Excel, Access, and PowerPoint, and on the integration of these applications. This course is taught in a hands-on environment.

3 hours lecture.

## **CIS 120<sup>❖</sup> INTRODUCTION TO INFORMATION SYSTEMS (3)**

Prerequisite(s): Appropriate placement test score, CIS 091, or permission of department chair.

An analysis of today's computer industry and a comprehensive study of computer concepts including network basics, file management and protection, Internet and local area network (LAN) technology, the World Wide Web, digital media, information systems analysis and design, databases, computer programming, hardware, and software. Hands-on experience using applications software on systems.

3 hours lecture.

## **CIS 128<sup>❖</sup> LINUX OPERATING SYSTEM (4)**

Prerequisite(s): None.

An introductory course in the Linux Operating System. Topics include the history, internal organization, directory and file system, vi editor, user commands and utilities, the shell, and an introduction to shell programming.

3 hours lecture, 3 hours laboratory.

## **CIS 128U<sup>❖</sup> UNIX OPERATING SYSTEM (4)**

Prerequisite(s): None.

An introductory course in the Unix operating system. Topics include the history, internal organization, directory and file system, vi editor, user commands and utilities, the shell, and an introduction to shell programming.

3 hours lecture, 3 hours laboratory.

## **CIS 129<sup>❖</sup> INTRODUCTION TO PROGRAMMING LOGIC (1)**

Prerequisite(s): None.

An introduction to software and programming concepts for students interested in visual or scripting languages. Topics include notations, data, operators, sequence, selection, repetition, and sub-programs.

1 hour lecture.

**CIS 130 PROGRAMMING LOGIC (3)**

Prerequisite(s): None.

A course in software and programming concepts. Topics include methodologies, notations, data, operators, sequence, selection, repetition, subprograms, composite data types, input/output, data files and the software development life cycle.

3 hours lecture.

**CIS 140<sup>WF</sup> INTRODUCTION TO OPERATING SYSTEMS (3)**

Prerequisite(s): None.

Recommended Preparation: CIS 116.

An introduction to, and comparative analysis of, operating systems, using MS-DOS, Linux, and Microsoft Windows. Includes discussion of the fundamentals of any operating system, as well as how those fundamentals apply to specific operating systems. Hands-on exercises familiarize students with Linux, and contribute to a more detailed understanding of both MS-DOS and Windows.

3 hours lecture, 1 hour laboratory.

**CIS 150<sup>WF</sup> ESSENTIALS OF NETWORKING (3)**

Prerequisite(s): None.

Networking is the fastest growing area of computer office automation, offering resource sharing and group productivity technologies. This course is presented as an introduction to networks and networking essentials. The student will study and compare the various methods used in PC communications and networking. Emphasis will be placed on the connectivity hardware and how it relates to the OSI model.

3 hours lecture.

**CIS 160<sup>WF</sup> INTRODUCTION TO INFORMATION SECURITY (3)**

Prerequisite(s): None.

This course provides a broad review of the entire field of information security, from needs and threats to security technologies and legal requirements. An emphasis is placed on understanding where the various pieces of a properly developed information security defense fit within an organization's overall information security policy.

3 hours lecture.

**CIS 161 NETWORKING SECURITY FUNDAMENTALS (4)**

Prerequisite(s): CIS 140, CIS 150, and CIS 160; or permission of the instructor.

This course is designed to provide students with a fundamental understanding of network security principles and the implementation of those principles. This class will include security concepts, communications security (focusing on remote access, email, and wireless data), infrastructure security (focusing on perimeter topologies, intrusion detection systems, and physical security), as well as how to manage and troubleshoot these technologies. There will be a variety of hands-on exercises and case studies to reinforce the key concepts covered during the course.

3 hours lecture, 3 hours laboratory.

**CIS 179<sup>WF</sup> APPLIED TECHNICAL WRITING (3)**

Prerequisite(s): ENG 100 or placement in ENG 101, RDG 122 or exemption, and CIS 116 or CIS 120.

An applied skills course on writing clear, applied organizational reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/format and technical style. Identical to BUS 179 and ENG 179.

3 hours lecture.

**CIS 181**  COMPUTER APPLICATIONS (3)

Prerequisite(s): CIS 116.

An introduction to the uses of spreadsheet and database software on the personal computer. Emphasis in the spreadsheet will be placed on the use of labels, values, formulas and functions; the development of charts and graphs; Creating a pivot table; and the role of the Internet in spreadsheets. Database emphasis will be on the design and maintenance of databases; doing data entry, creating queries, forms and reports.

3 hours lecture.

**CIS 183**  BASIC GAME DESIGN AND CREATION (3)

Prerequisite(s): None.

An introduction to game design and development. Topics include creating objects, events and multiple levels of game interaction. Students will learn the fundamentals of object-oriented game design while using a game development package that requires no writing of programming code.

3 hours lecture.

**CIS 185**  INTERNET ESSENTIALS (3)

Prerequisite(s): CIS 116.

A survey of the power of the Internet: real-time and mass communication, social networks, browser features, email management, security, and ecommerce. Emphasis on the World Wide Web as a research tool, including developing strategies for conducting research, evaluating resources, and citing sources. Includes an introduction to HTML. No programming experience is necessary.

3 hours lecture.

**CIS 192** COMPUTER APPLICATION ORIENTATION (0.5)

Prerequisite(s): None.

Personal/professional skill enhancement workshops focusing on various computer application software packages. Each session is dedicated to the mastery of a particular software application, with emphasis on the principles and effective use of the software under study.

0.5 hour lecture.

CIS 192Q Microcomputer Orientation

CIS C192 Using Adobe Photoshop

CIS D192 Beginning Excel

CIS E192 Intermediate Excel

CIS F192 Beginning Access

CIS G192 Intermediate Access

CIS H192 Advanced Topics in Access, Part 1

CIS I192 Advanced Topics in Access, Part 2

CIS J192 Beginning Word

CIS K192 Intermediate Word

CIS L192 Beginning PowerPoint

CIS O192 Outlook

CIS U192 Beginning Quickbooks

CIS V192 Intermediate Quickbooks

**CIS 193 CURRENT OFFICE APPLICATIONS (1)**

Prerequisite(s): None.

One-unit modules designed for personal/professional improvement. Principles and practice of various computer applications; each session covering a mastery of a particular application, with emphasis on the effective use of the application under study. Courses may be repeated for credit.

1 hour lecture.

CIS 193J Spreadsheets I

CIS 193K Spreadsheets II

CIS 193L Spreadsheets III

CIS 193M PowerPoint I

CIS 193N PowerPoint II

CIS 193O PowerPoint III

CIS 193Q Laptop Basics

CIS 193V Word Processing I

CIS 193W Word Processing II

CIS 193X Word Processing III

**CIS 202 COBOL PROGRAMMING (4)**

Prerequisite(s): CIS 130 or a score of 70 or higher on the waiver exam.

A detailed study of the COBOL programming language and the organization of a COBOL program. Computer organization, data structure, program procedures, input/output, and operation considerations.

3 hours lecture, 3 hours laboratory.

**CIS 203 FORTRAN PROGRAMMING (4)**

Prerequisite(s): CIS 130 or score of 70 or higher on the waiver exam, and either MAT 151, placement in MAT 187, or MAT 220.

A detailed study of the FORTRAN programming language to include organization of data structures, input/output operations, and control considerations. Structured programming practices are used.

3 hours lecture, 3 hours laboratory.

**CIS 204  C PROGRAMMING (4)**

Prerequisite(s): CIS 130 or score of 70 or higher on the waiver exam.

A beginning course in the C programming language. Topics include syntax and semantics, data types, operators, looping structures, decision structures, functions, arrays, pointers and file handling.

3 hours lecture, 3 hours laboratory.

**CIS 206 ASSEMBLER WITH ARCHITECTURE (4)**

Prerequisite(s): CIS 221 and either CIS 130 or a score of 70 or higher on the waiver exam.

A detailed study of the 8088/8086 Assembly Programming language that takes individual instructions written in symbolic form and converts them into machine language. Includes an introduction to the organization and structure of the major hardware components of a microcomputer to include primary memory, the control unit and the arithmetic logic unit.

3 hours lecture, 3 hours laboratory.

**CIS 208 JAVA PROGRAMMING (4)**

Prerequisite(s): CIS 130 or a score of 70 or higher on the waiver exam.

A beginning course in the JAVA programming language. Topics will include object-oriented programming concepts, terminology, notation, and the syntax and semantics of the JAVA programming language.

3 hours lecture, 3 hours laboratory.

**CIS 209 ADVANCED JAVA PROGRAMMING (4)**

Prerequisite(s): CIS 208.

An advanced course in the JAVA programming language, covering such topics as JAVA networking implementations, JAVA security features, the JAVA foundation classes, World Wide Web components, and handling graphics and other media.

3 hours lecture, 3 hours laboratory.

**CIS 215 USER SUPPORT FOR THE HELP DESK PROFESSIONAL (3)**

Prerequisite(s): CIS 115 and CIS 116.

Recommended Preparation: Pre- or co-requisite CIS 260.

This course focuses on key skills for user support specialists, including decision making, communicating successfully with a client, determining the client's specific needs, and writing for the end user. It includes use of Web and e-mail-based support. Topics include introduction to end-user computing, introduction to computer user support, customer service skills for user support, troubleshooting computer problems, common support problems, help desk operation, user support management, product evaluation strategies and support standards, user needs analysis and assessment, installing end-user computer systems, training computer users, writing for end users, and computer facilities management.

3 hours lecture.

**CIS 217  INTRODUCTION TO VISUAL C#.NET PROGRAMMING (4)**

Prerequisite(s): CIS 129 or CIS 130.

A study of the fundamentals of computer programming using Visual C#.NET. An emphasis is placed on the Microsoft Integrated Development Environment (IDE) and the .NET environment, as well as proper programming strategies with Visual C#.NET.

3 hours lecture, 3 hours laboratory.

**CIS 218  VISUAL BASIC PROGRAMMING (4)**

Prerequisite(s): CIS 129 or CIS 130.

A study of the fundamentals of computer programming within the Windows environment. Emphasis is placed on the Visual Basic objects, projects and simple Windows programs.

3 hours lecture, 3 hours laboratory.

**CIS 220C DATA STRUCTURES-C (4)**

Prerequisite(s): CIS 204.

A course in data structures and advanced programming concepts. Topics include the design, implementation and application of stacks, queues, lists, trees, sequential and direct access to files. Students will implement the data structures in C.

3 hours lecture, 3 hours laboratory.

**CIS 220D DATA STRUCTURES-C++ (4)**

Prerequisite(s): CIS 227.

A course in data structures and advanced programming concepts. Topics include the design, implementation and application of stacks, queues, lists, trees, sequential and direct access to files. Students implement the data structures in C++.

3 hours lecture, 3 hours laboratory.

**CIS 220J DATA STRUCTURES-JAVA (4)**

Prerequisite(s): CIS 208.

A course in data structures and advanced programming concepts. Topics include the design, implementation and application of stacks, queues, lists, trees, sequential and direct access to files. Students implement the data structures in JAVA.

3 hours lecture, 3 hours laboratory.

**CIS 221  DIGITAL LOGIC (3)**

Prerequisite(s): CIS 116 or CIS 120, and CIS 129 or CIS 130; or permission of instructor.

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.

### **CIS 223A ADVANCED VISUAL PROGRAMMING (VISUAL C#) (4)**

Prerequisite(s): CIS 217 or CIS 218.

An examination of advanced topics in Windows programming using the .NET framework and Visual Studio .NET. Topics include file access, data base access, help system development and graphics. Emphasis is placed on the development of Windows systems to include specification, development and documentation. Students will implement the covered topics using Visual C#.NET.

3 hours lecture, 3 hours laboratory.

### **CIS 223B ADVANCED VISUAL PROGRAMMING (BASIC) (4)**

Prerequisite(s): CIS 217 or CIS 218.

An examination of advanced topics in Windows programming using the .NET framework and Visual Studio .NET. Topics include file access, data base access, help system development and graphics. Emphasis is placed on the development of Windows systems to include specification, development and documentation. Students will implement the covered topics using Visual Basic .NET.

3 hours lecture, 3 hours laboratory.

### **CIS 224 INTRODUCTION TO GAME PROGRAMMING (4)**

Prerequisite(s): CIS 217 and CIS 283.

For students in the Game Design and Creation program, this course serves as an introduction to the role of the programmer in the development of a game. Topics include what a game looks like from a programmer's perspective and how programmers translate the game design document into a working program.

3 hours lecture, 3 hours laboratory.

### **CIS 227 C++ PROGRAMMING (4)**

Prerequisite(s): CIS 130 or score of 70 or higher on the waiver exam.

A beginning course in object-oriented programming using the C++ language. Topics include object-oriented concepts, terminology, notation, and the syntax and semantics of the C++ language.

3 hours lecture, 3 hours laboratory.

### **CIS 229 LINUX SYSTEM ADMINISTRATION (4)**

Prerequisite(s): CIS 128 and CIS 129.

An introductory course in Linux System Administration. Topics include: starting and stopping the system; security; administering users, groups, file systems, terminals, printers and disks; electronic mail; backing up the system; scripting; tuning and troubleshooting the system.

3 hours lecture, 3 hours laboratory.

### **CIS 232 DIGITAL COMMUNICATIONS AND NETWORK HARDWARE (4)**

Prerequisite(s): CNT 140 or CIS 150, and CIS 128 or CIS 236.

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.

### **CIS 236 MICROSOFT WORKSTATION OPERATING SYSTEMS (4)**

Prerequisite(s): CIS 140, CIS 160, and either CNT 140 or CIS 150.

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.

**CIS 238 INTRODUCTION TO TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL (3)**

Prerequisite(s): CIS 236.

This class gives students an understanding of the TCP/IP suite of protocols as it is currently implemented by the Windows operating system. This includes subnetting, Domain Name System (DNS), Windows Internet Name Service (WINS), and Dynamic Host Configuration Protocol (DHCP).

3 hours lecture, 1 hour laboratory.

**CIS 240 ADVANCED MICROSOFT SERVER (4)**

Prerequisite(s): CIS 236.

In this course, students will be exposed to the latest Microsoft Server Operating System Server. The class will include the installation of the Windows Server Operating System, configuration of the Windows Server Operating System environment, connection of Windows clients and other network resources. Students will create, edit and delete user accounts, profiles and groups; implement, configure and secure the NTFS file system; understand and configure security settings; configure network protocols for use in a multi-vendor environment; and identify and resolve network conflicts and connectivity issues using Windows Server Operating System troubleshooting tools.

3 hours lecture, 3 hours laboratory.

**CIS 241 INTRODUCTION TO MICROSOFT DIRECTORY SERVICES (4)**

Prerequisite(s): CIS 238 and CIS 240.

Students will be introduced to Microsoft's directory services including an introduction to the concepts involved with directory services, installation of directory services on a Windows server, and configuration of directory services in the Windows server environment. Students will create, edit and delete domain user accounts and domain groups, and implement and configure group policy. Focus will be on understanding and managing trees and forests and administration of network resources, identifying and resolving conflicts in directory services and troubleshooting issues using Windows server troubleshooting tools.

3 hours lecture, 3 hours laboratory.

**CIS 242 WORLD WIDE WEB PROGRAMMING (3)**

Prerequisite(s): CIS 287.

Provides learning opportunities in advanced Web programming. Emphasis is placed on server-side scripting, including using databases on Web sites. Also covered are foundational Web design and e-commerce issues. This is a capstone course for the Web Developer Certificate.

3 hours lecture, 1 hour laboratory.

**CIS 244 WORLD WIDE WEB GRAPHICS (3)**

Prerequisite(s): CIS 185.

Graphics are the heart of the World Wide Web. This course addresses creation and modification of graphics. Properties of web graphic formats and conversions are also addressed. Strategies for incorporating graphics into websites for effective presentation are covered.

3 hours lecture.

**CIS 248  PERL SCRIPTING (3)**

Prerequisite(s): CIS 129 or CIS 130 or pass the CIS 130 placement exam.

Provides Perl script creation and maintenance. Emphasis is on application of Perl scripts to the World Wide Web and web applications. Perl scripts are run on Unix and Windows NT systems.

3 hours lecture.

**CIS 250  DATABASE MANAGEMENT (4)**

Prerequisite(s): CIS 181.

A study of the management of data in business organizations. Students are presented with the opportunity to combine theory with a hands-on emphasis on techniques for developing and using databases.

4 hours lecture.

## **CIS 259 ADVANCED LINUX SYSTEMS ADMINISTRATION (4)**

Prerequisite(s): CIS 229 and CIS 248.

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.

## **CIS 260 SERVICE AND MAINTENANCE OF PERSONAL COMPUTERS (4)**

Prerequisite(s): CIS 140.

Designed to provide intermediate and advanced hands-on experience and information on computer servicing, enabling the student to diagnose and repair problems. Intermediate and complicated configuration and hardware problems will be covered. Some of the topics covered will be PC setup and configuration, floppy and hard disk drives, replacing and upgrading RAM chips, board level diagnosis and repair. This course is taught in a lab environment.

3 hours lecture, 3 hours laboratory.

## **CIS 261 WIRELESS SECURITY (4)**

Prerequisite(s): CIS 161.

This course provides theory and hands-on experience in understanding and securing wireless networks. Coverage includes wireless technologies and protocols, implementation guidelines, and use of wireless security utilities (both command line and graphical). There will be a variety of hands-on exercises and case studies to reinforce the key concepts covered during the course.

3 hours lecture, 3 hours laboratory.

## **CIS 262 NETWORK SUPPORT AND TROUBLESHOOTING (4)**

Prerequisite(s): CIS 232, CIS 236, and CIS 260.

This course is designed for individuals who intend to support a network. Topics include installation of network operating software, LAN diagnostic utilities, client software installation and configuration, adaptor card installation and configuration, common network physical and data link layer troubleshooting, bridging and routing, and application configuration problems. This is the capstone course for the networking program; it should be taken during the final semester of the networking degree or certificate program.

3 hours lecture, 3 hours laboratory.

## **CIS 265 IMPLEMENTING INTERNET/INTRANET FIREWALLS (4)**

Prerequisite(s): CIS 161 or permission of the instructor.

This course provides an examination of firewalls in context with the other elements needed for an effective defensive perimeter around a Local Area Network (LAN). The class will include coverage of various installation techniques, how to decide on firewall technology, and firewall troubleshooting. There will be a variety of hands-on exercises and case studies to reinforce the key concepts covered during the course.

3 hours lecture, 3 hours laboratory.

## **CIS 266 IMPLEMENTING OPERATING SYSTEM SECURITY (4)**

Prerequisite(s): CIS 128, CIS 161, and CIS 236; or permission of instructor.

Provides hands-on experience in securing the Linux and Windows operating systems. Topics include networking and security utilities (both command line and graphical), and the design and implementation of an effective security strategy in a network environment. A variety of hands-on exercises and case studies reinforce the course's key concepts.

**CIS 268**  **TECHNICAL PRESENTATIONS (3)**

Prerequisite(s): CIS 116 or CIS 120.

Recommended Preparation: Strong background in at least one application software (i.e., word processing etc.).

A study of the principles of effective communication skills integrating the latest electronic technology in order to prepare and deliver state-of-the-art business and technical speeches. Business speech course or equivalent is suggested prior to enrolling.

3 hours lecture.

**CIS 270**  **SYSTEMS ANALYSIS (4)**

Prerequisite(s): CIS 120.

A study of the structure methods used to analyze both existing and proposed information systems and projects; incorporating various software, techniques and methodologies.

3 hours lecture, 3 hours laboratory.

**CIS 279**  **ADVANCED APPLIED TECHNICAL WRITING (3)**

Prerequisite(s): CIS 179.

An applied skill course on writing effective, clear technical reports and communications with confidence, skill, and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing mechanics/syntax, forms/format and technical style are stressed. Identical to ENG 279.

3 hours lecture.

**CIS 281**  **ADVANCED COMPUTER APPLICATIONS (3)**

Prerequisite(s): CIS 181.

Advanced applications of spreadsheet and database software on the personal computer. Emphasis on the spreadsheet will be placed on the use of advanced formulas and functions, analyzing data, and using the World Wide Web for data reporting, importing data into spreadsheets, creating spreadsheet applications, and the use of macros. Database emphasis will be on the design of a relational database, enhanced querying techniques, creating forms using multiple tables, developing advanced report forms, and the use of macros.

3 hours lecture.

**CIS 282** **INTRODUCTION TO GAME LEVEL DESIGN (3)**

Prerequisite(s): CIS 183.

An introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balance, play testing, and storytelling.

3 hours lecture.

**CIS 283** **ADVANCED GAME DESIGN AND CREATION (3)**

Prerequisite(s): CIS 183.

This course provides students with an advanced look at game design and development. Topics include multi-player games, artificial intelligence, and advanced story line creation. Students will learn the fundamentals of the game development package design language.

3 hours lecture.

**CIS 284** **INTRODUCTION TO SIMULATIONS PROGRAMMING (4)**

Prerequisite(s): CIS 217 and CIS 283.

This course introduces students to the concepts used to apply simulations programming to the implementation of games. Topics include virtual worlds, graphics concepts, and application of game simulation techniques.

3 hours lecture, 3 hours laboratory.

**CIS 287** **WORLD WIDE WEB DEVELOPMENT (3)**

Prerequisite(s): CIS 185 and either CIS 129 or CIS 130.

Provides learning opportunities in web authoring. Emphasis is placed on cohesive web design and web authoring environments. Use and management of text, graphics, video, audio hyperlinks, and other Web elements are also covered. Also covered is the use of Cascading Style Sheets and JavaScript to create dynamic, interactive Web pages.

3 hours lecture.

### **CIS 289 ARTIFICIAL INTELLIGENCE THEORY AND PROGRAMMING (4)**

Prerequisite(s): CIS 224.

A study of many of the artificial intelligence challenges—including path finding, movement, agents, and strategy—involved in the creation of games. In addition to designing original games, students analyze current games to determine how to overcome these challenges.

3 hours lecture, 3 hours laboratory.

### **CIS 290 GAME DEVELOPMENT USING FLASH (4)**

Prerequisite(s): CIS 283 and DMA 211.

The application of Flash animation programming in the implementation of interactive games. Topics include game design and implementation, use of appropriate style, and debugging techniques for the creation of Web-based interactive games.

3 hours lecture, 3 hours laboratory.

### **CIS 291 PRACTICAL APPLICATIONS IN INFORMATION SECURITY (4)**

Prerequisite(s): CIS 265 and CIS 266.

This course provides the opportunity to combine the technical and management skills needed by any information security professional. Students will learn how to integrate the planning, implementation, maintenance, and defense of organizational network resources using a variety of tools and techniques. There will be extensive hands-on exercises and class presentations (individual and group) to reinforce the key concepts covered during the course.

3 hours lecture, 3 hours laboratory.

### **CIS 293 PRACTICAL APPLICATIONS IN GAME DESIGN (4)**

Prerequisite(s): CIS 282 and CIS 284.

The application of creative, project-management, and technical aspects in the game design process. Working in groups, students develop a game from initial concept to finished product.

3 hours lecture, 3 hours laboratory.

### **CIS 294 FIELD EXPERIENCE IN COMPUTER INFORMATION SYSTEMS (1 - 6)**

Prerequisite(s): A declared major in Computer Information Systems and permission and approval of a cooperative education program coordinator. Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in computer information systems and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

## **Custodial Maintenance Services**

The custodial maintenance services courses are offered at the Arizona Department of Corrections in Douglas.

### **CMS 101 INTRODUCTION TO CUSTODIAL SERVICES (3)**

Prerequisite(s): None.

A supervised cooperative work experience coordinated with coursework applying interpretation and translation skills on an intermediate level in a health-related setting (sight translation of forms, letters and standard documents such as simple contracts) and consecutive and simultaneous interpretation of conversations, interrogations, and frequently encountered court procedures. Focus is on understanding of ethics, protocol, cultural awareness, and the professional accuracy and appropriateness of the translation and interpretation. Variable credit is available. May be taken four times for a maximum of 8 credit hours.

3 hours lecture, 1 hour laboratory.

**CMS 110 CUSTODIAL CHEMICALS, USAGE AND SAFETY (3)**

Prerequisite(s): CMS 101 or permission of instructor.

Hands-on practical introduction to the types of cleaning chemicals, their proper use and safety, including the OSHA Hazard Communication standard. Covers the basic chemistry of cleaning chemicals, then explains the correct use of detergents, soaps, solvents, disinfectants, and other cleaning chemicals. Explains how chemicals are packaged, labeled, mixed and applied in order to make working with chemicals safer.

2 hours lecture, 3 hours laboratory.

**CMS 120 FLOORS AND FLOOR CARE EQUIPMENT (3)**

Prerequisite(s): CMS 101 or permission of instructor.

A practical analysis of the methods, skills, chemicals, equipment, and tools used in the maintenance and care of resilient, natural hard, synthetic hard, wood and special flooring.

1 hour lecture, 4 hours laboratory.

**CMS 130 MAINTAINING WALLS, WINDOWS AND OTHER SURFACES (3)**

Prerequisite(s): CMS 101 or permission of instructor.

A practical analysis of the methods, skills, chemicals, and tools used to clean and maintain wood, metal, painted surfaces, and fiberglass surfaces.

1 hour lecture, 4 hours laboratory.

**CMS 140 CLEANING CARPET AND FABRIC (3)**

Prerequisite(s): CMS 101 or permission of instructor.

A practical analysis of the methods and skills for the cleaning of carpet, upholstered furniture, draperies, and fabric wall coverings.

1 hour lecture, 5 hours laboratory.

**CMS 150 REST ROOM CLEANING (3)**

Prerequisite(s): CMS 101 or permission of instructor.

A practical analysis of the elements of routine rest room cleaning. Covers the specifics of cleaning rest room plumbing fixtures; describes the periodic tasks required to keep rest rooms in good condition; and stresses the importance of disinfecting rest rooms and how to perform this task safely.

1 hour lecture, 5 hours laboratory.

**CMS 210 CUSTODIAL SAFETY AND SECURITY TRAINING (3)**

Prerequisite(s): Completion of Custodial Services Program.

Covers custodial workplace issues dealing with employee behavior and well-being. These include drug and alcohol abuse, workplace hazards, security issues, and unionization.

3 hours lecture.

**CMS 220 CUSTODIAL PERSONNEL POLICIES (3)**

Prerequisite(s): Completion of Custodial Services Program.

Teaches the impact on business of the convergence of personnel policies and legal and regulatory mandates. Also addresses compliance with applicable federal and state laws.

3 hours lecture.

**CMS 230 CUSTODIAL HIRING AND FIRING (3)**

Prerequisite(s): Completion of Custodial Services Program.

Teaches the significance of selecting and hiring quality custodial employees; effectively training and directing employees; and termination.

3 hours lecture.

**CMS 240 CUSTODIAL MOTIVATION AND TRAINING (3)**

Prerequisite(s): Completion of Custodial Services Program.

Teaches the student/manager to get the greatest return from custodial workers. Shows the value of employees to a company.

3 hours lecture.

**CMS 250 CUSTODIAL ACCOUNT MANAGEMENT (4)**

Prerequisite(s): Completion of Custodial Services Program.

Teaches custodial management skills in many areas, from customer relations to workloading, from quality control programs to understanding responsibilities within an organization. This course is designed to help both new and experienced custodial managers.

4 hours lecture.

## Cisco Network Technology

**CNT 140 ♦ CISCO NETWORKING FUNDAMENTALS (4)**

Prerequisite(s): None.

Cisco Networking Fundamentals is an introductory course in the network technology field. Students will develop an understanding of the terminology and technology in this field through lecture, demonstration and hands-on use of Local Area Networks (LAN) and Wide Area Networks (WAN) in a personal computer laboratory environment. Topics covered include cabling, Ethernet, switching, routing fundamentals and the Transmission Control Protocol/Internet Protocol (TCP/IP) suite and IP addressing. At the end of the course, students build simple LAN topologies by applying basic principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. This is the first of four courses to prepare students to take the Cisco Certified Network Associate (CCNA) certification exam.

3 hours lecture, 3 hours laboratory.

**CNT 150 ♦ CISCO NETWORKING ROUTER TECHNOLOGIES (4)**

Prerequisite(s): CNT 140.

Cisco Networking Router Technologies expands on the knowledge base developed in CNT 140. Students will receive hands-on experience in connecting and configuring routers and switches in Local Area Network (LAN) and Wide Area Network (WAN) topologies. Topics will include Routing and Routing Protocols (Distance Vector and Link-State), Cisco Internetwork Operating System (IOS) Software, Intermediate TCP/IP. This is the second of four courses to prepare students to take the Cisco Certified Network Associate (CCNA) certification exam.

3 hours lecture, 3 hours laboratory.

**CNT 240 ♦ CISCO LAN SWITCHING AND WIRELESS (4)**

Prerequisite(s): CNT 140.

Cisco Local Area Network (LAN) Switching and Wireless provides a comprehensive, theoretical and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Topics covered include basic switch configuration; implementation of Virtual LANs, Virtual Trunking Protocol (VTP) and inter-VLAN routing in a converged network; the different implementations of Spanning Tree Protocol (STP) in a converged network; and implementation of a wireless LAN in a small-to-medium size network. This is the third of four courses to prepare students to take the Cisco Certified Network Associate (CCNA) certification exam.

3 hours lecture, 3 hours laboratory.

**CNT 250 ♦ CISCO WIDE AREA NETWORK (WAN) TECHNOLOGIES (4)**

Prerequisite(s): CNT 150 and CNT 240.

Cisco Wide Area Network (WAN) Technologies is the capstone course in the Cisco Certified Network Associate (CCNA) curriculum. Students receive hands-on experience in configuring routers and switches for use in WAN environments. Topics covered include scaling Internet Protocol (IP) addresses using Network Address Translation (NAT) and Private Address Translation (PAT), WAN standards, design and communications; network security; Access Control Lists (ACLs), and network troubleshooting. This is the final of four courses to prepare students to take the CCNA certification exam.

3 hours lecture, 3 hours laboratory.

# Communications

## **COM 100 INTRODUCTION TO COMMUNICATIONS (3)**

Prerequisite(s): None.

A study of and practice in basic oral communication for transitional students. The study includes basics of oral communication in interpersonal, small-group, and large-group situations. Included are: 1) a study of what is involved in oral communications; and 2) practice in communication both as a speaker and a listener.

3 hours lecture.

## **COM 102 ESSENTIALS OF COMMUNICATION (3)**

Prerequisite(s): ENG 100 or placement in ENG 101.

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.

## **COM 109 PUBLIC SAFETY COMMUNICATIONS (3)**

Prerequisite(s): ENG 100 or placement in ENG 101.

Theory and practice of encoding and decoding electronically-transmitted messages: radio, telephone, teletype, computer; FCC regulations; strategies to reduce ambiguity in messages; vocational report writing; telephone interviewing; call prioritization; police, fire, and medical dispatching; interagency cooperation; radio procedures for pilots.

3 hours lecture.

## **COM 110 PUBLIC SPEAKING (3)**

Prerequisite(s): COM 102 or permission of instructor.

A study of public speaking, beginning with a review of the fundamentals of speech as they relate to communicating with an audience, continuing with a study of theories and techniques of persuasion. Includes practical application and critical analysis of various oral presentations with emphasis on researching, constructing and delivering speeches.

3 hours lecture.

## **COM 115 ARGUMENTATION AND DEBATE (3)**

Prerequisite(s): COM 102 or permission of instructor.

A course in practical reasoning, appraisal and use of evidence, recognition of fallacies and application of debate forms and oral style of argumentation. Intercollegiate debate optional for class members.

3 hours lecture.

## **COM 193 SPECIAL TOPICS IN COMMUNICATIONS (1)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing a variety of communication skills ranging from telephone use to interpersonal and small-group skills to formal public speaking. Topics will vary according to changes in student need and interest. The title of this course may differ each term, depending on the topic being covered when the course is offered.

1 hour lecture.

COM 193B Diversity Issues

COM 193C Gender Differences in Communications

COM 193D Difficult People

## **COM 204 ELEMENTS OF INTERCULTURAL COMMUNICATION (3)**

Prerequisite(s): ENG 101 or permission of instructor.

This introduction to communication between cultures emphasizes understanding and applying practical communication strategies and skills so as to communicate effectively with people of diverse cultural backgrounds in a multicultural society and world. Identical to AJS 204.

3 hours lecture.

**COM 270 INTERPERSONAL COMMUNICATIONS (3)**

Prerequisite(s): ENG 101.

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. Identical to SSV 270.

3 hours lecture.

**COM 271 COMMUNICATIONS IN SMALL GROUPS (3)**

Prerequisite(s): SSV 270, COM 270, or permission of instructor.

A continuation of COM 270 and SSV 270 refining skills and techniques learned and adding analysis and presentation with emphasis on small-group communication processes. Identical to SSV 271.

3 hours lecture.

## Corrections

**COR 109 PRISONERS' RIGHTS (1)**

Prerequisite(s): None.

A practical overview of prisoners' procedural due process and substantive constitutional rights. Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.

1 hour lecture.

**COR 113 CRISIS INTERVENTION (1)**

Prerequisite(s): None.

A practical study of conflict-resolution techniques, including assertive communication, force, safety procedures, and referrals. Emphasis on appropriate use by police and correctional officers. Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.

1 hour lecture.

**COR 118 COMMUNICATIONS IN CRIMINAL JUSTICE (1)**

Prerequisite(s): None.

A practical study of effective intradepartmental and interdepartmental communication within the criminal justice profession, including barriers to effective communication, communication with the community, and communication within the courtroom. Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.

1 hour lecture.

**COR 119 FIREARMS (1)**

Prerequisite(s): None.

A practical approach to the moral aspects, legal provisions, safety precautions, and restrictions covering the use of firearms and the firing of the sidearm and shotgun. Restricted to law enforcement personnel.

1 hour lecture.

**COR 192 CRITICAL ISSUES IN PENOLOGY (0.5 - 1)**

Prerequisite(s): None.

A revolving seminar/forum emphasizing current areas of critical concern to corrections personnel. May be repeated for Cochise College credit.

## Counseling and Personal Development

**CPD 010 BUILDING SELF-ESTEEM (1)**

Prerequisite(s): None.

A course to help students become more aware of themselves and their relationships with others. Assists students in exploring personal strengths and resources. Includes assessment of values, feelings, attitudes and communication skills needed for improving self-confidence.

1 hour lecture.

**CPD 101 COLLEGE SEMINAR (1)**

Prerequisite(s): None.

A course designed to promote academic success by helping students enhance their motivation and learning strategies. Review of research and theory regarding motivation and learning lead to self-management studies. Students, traditional and nontraditional, will also have an opportunity to become familiar with a campus-wide support system.

1 hour lecture.

**CPD 105 THE CHALLENGE OF PARENTING (3)**

Prerequisite(s): None.

The application of principles and concepts of effective parenting to more effectively meet the challenges and problems of being a parent in a modern American society.

3 hours lecture.

**CPD 107 STRESS MANAGEMENT (2)**

Prerequisite(s): None.

A review of the various physiological and psychological approaches to the management of stress with emphasis on personal options and methodologies for coping with anxiety and stress.

2 hours lecture.

**CPD 111 MEN IN TRANSITION (2)**

Prerequisite(s): None.

A course designed to assist inmates in understanding the lifestyle change they face in moving from incarceration to freedom. The course will explain costs of living, modes of transportation, workplace challenges for ex-felons, and what to say about convictions and prison time. There will also be an overview of the sorts of jobs ex-felons can generally hold.

2 hours lecture.

**CPD 117 PERSONAL DEVELOPMENT (2)**

Prerequisite(s): None.

Students will learn skills that will enable them to more successfully participate in our society. Skills include: communication, budgeting, time management, and problem solving/decision making.

2 hours lecture.

**CPD 119 SEMINAR: CAREER PLANNING (2)**

Prerequisite(s): None.

A course to assist students in acquiring the information and skills necessary for effective career planning and decision making.

2 hours lecture.

**CPD 120 SEMINAR: JOB SEARCH TECHNIQUES (1)**

Prerequisite(s): None.

A course to assist students in acquiring knowledge and basic employment skills, including job-hunting techniques, job applications, resumes, and interviewing. Identical to CED 120.

1 hour lecture.

**CPD 121 CAREER AND LIFE PLANNING (3)**

Prerequisite(s): None.

An exploration of career opportunities to assist students in deciding on and planning for their chosen careers.

3 hours lecture.

**CPD 122 TIME AND MONEY MANAGEMENT (1)**

Prerequisite(s): None.

A course to assist students in understanding the principles of time and money management. Students will learn planning and evaluation, self-discipline, multitasking, and the joy of successful management.

1 hour lecture.

**CPD 123 FAMILY COMMUNICATIONS (1)**

Prerequisite(s): None.

A course to teach students the principles and concepts of effective family communications to better meet the challenges and problems of balancing a family and a job in the modern American society.

1 hour lecture.

**CPD 150<sup>◊</sup> ACADEMIC EXCELLENCE SEMINAR (3)**

Prerequisite(s): None.

An introduction to higher education learning, with focus on the development of critical thinking, research, time management, communication, and stress management skills. Incorporates academic and career goal-setting strategies, and develops financial literacy.

3 hours lecture.

**CPD 192 SPECIAL TOPICS IN COUNSELING AND PERSONAL DEVELOPMENT (0.5 - 3)**

Prerequisite(s): None.

A rotating series of modules designed to promote positive personal and/or human development. May be repeated for Cochise College credit. Elective credit only, unless otherwise designated in degree/certificate programs.

**CPD 192A ACTIVE PARENTING (0.5)**

Prerequisite(s): None.

A practical study of theoretically-based parenting strategies designed to instill the principles of cooperation, courage, responsibility, respect and self-esteem in children. Also includes techniques for promoting positive behaviors/attitudes and family enrichment.

0.5 hour lecture.

**CPD 192B MENTORING FOR EDUCATIONAL SUCCESS (1 - 3)**

Prerequisite(s): None.

A practical application of mentoring theory focused on building a supportive, trust-based relationship with one or more mentored individuals with the objective of encouraging and supporting educational and personal development. Includes training related to mentoring and tutoring theory and practice. Requires a minimum of 45 hours engaged in training and direct mentoring service per unit.

## Culinary Arts

**CUL 101 CAKE DECORATING (3)**

Prerequisite(s): None.

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.

**CUL 105 NUTRITION IN FOOD SERVICE (3)**

Prerequisite(s): None.

Principles of culinary nutrition. Includes scientific aspects, lifestyle impact on food consumption and production, and nutrition applications in food service.

3 hours lecture.

**CUL 107 RESTAURANT SANITATION (3)**

Prerequisite(s): None.

This course is an examination of techniques for controlling sanitation in the food service operations including ensuring product quality, and managing time and costs. Cochise County Food Handlers certificate is the test given at midterm. Industry certifications available on request with payment for test administration.

3 hours lecture.

**CUL 110 FOOD SERVICE MATH PRINCIPLES (3)**

Prerequisite(s): None.

This course includes the advanced use of culinary weights, measures and conversions, principles of converting standard recipes, sales checks, using the cashier's worksheet, pricing menus, maintaining perpetual and physical inventories, and budgeting.

3 hours lecture.

**CUL 204 FOOD SERVICE PURCHASING AND CONTROL (3)**

Prerequisite(s): None.

Principles in selecting sources, quality, and types of food, and in determining purchase quantities. Fundamentals of receiving operations and of volume assurance including planning, control systems, cost analysis, sales income, and labor costs.

3 hours lecture.

**CUL 210 GUEST SERVICES MANAGEMENT (3)**

Prerequisite(s): HAD 100.

Front desk management and operations of a hotel, including bell service, clerking, cashier functions, guest reception, reservation systems, guest and building security, night audit and inter-organizational liaison.

3 hours lecture.

**CUL 215 CULINARY PREPARATION I (3)**

Prerequisite(s): CUL 107.

Introduces 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, salads and salad dressings, sandwiches, garnishes, and bake shop creations.

2 hours lecture, 2 hours laboratory.

**CUL 216 CULINARY PREPARATION II (3)**

Prerequisite(s): CUL 215.

Reviews sanitation rules, modern kitchen equipment, cooking methods, seasoning, recipe creation, food cost, soups, sauces, vegetable cookery, and potatoes and other starches. Examines menu development, nutritional considerations, healthy alternatives, purchasing guidelines and government regulations, butchering of meat for quantity food preparation, and cuts and usage of pork, lamb, veal, and beef.

2 hours lecture, 2 hours laboratory.

**CUL 217 SAUCIER (3)**

Prerequisite(s): CUL 107.

This course expands on the cooking principles and methods presented in CUL 215 and 216, Culinary Preparation I and II, with a greater emphasis on 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.

**CUL 220 BAKING I (3)**

Prerequisite(s): CUL 107.

Introduction to the essentials of baking including basic principles and ingredients. Instruction in the preparation of quick breads, yeast doughs, syrups, creams, icings, and sauces; pastries, pies, cakes and their decorations, cookies, custards, puddings, mousses, and display pieces.

2 hours lecture, 2 hours laboratory.

**CUL 221 BAKING II (3)**

Prerequisite(s): CUL 220.

This course is a continuation of CUL 220. It includes advanced baking principles, baking processes, muffins and biscuits, yeast doughs, stages of cooking sugar, pastry cream, meringues, icings, pie doughs, puff pastry, eclair paste, phyllo dough, pie production, cakes, cookies and their characteristics, and souffles.

2 hours lecture, 3 hours laboratory.

**CUL 222 ADVANCED CONFECTIONS AND PASTRIES I (3)**

Prerequisite(s): CUL 221.

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, 2 hours laboratory.

**CUL 223 ADVANCED CONFECTIONS AND PASTRIES II (3)**

Prerequisite(s): CUL 222.

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, 2 hours laboratory.

**CUL 224 FIELD EXPERIENCE IN CULINARY ARTS (1 - 6)**

Prerequisite(s): A declared major in culinary arts, permission and approval of cooperative education program coordinator, and CUL 107.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in culinary arts and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

**CUL 225 GARDE MANGER I (3)**

Prerequisite(s): CUL 107.

Recommended Preparation: CUL 215 and CUL 240.

This course encompasses the creation and storage of salads, sandwiches, and appetizers. Includes purchasing practices, food platter layout and presentation, cooking methods, salads and dressings, poultry, seafood, meats, show pieces, and canapes and hors d'oeuvres.

2 hours lecture, 2 hours laboratory.

**CUL 226 GARDE MANGER II (3)**

Prerequisite(s): CUL 225.

This course is a continuation of CUL 225. It includes review of the garde manger department, aspic and chaud froid, garde manger department production, purchasing and procurement of specialty products, various force meats, dinner and theme buffets, ice carvings, plate presentations, cheeses, cured and smoked products, and charcuterie.

2 hours lecture, 3 hours laboratory.

**CUL 240 COMMERCIAL FOOD PREPARATION THEORY (3)**

Prerequisite(s): CUL 107.

A course outlining the basic principles of food selection and purchase, storage, menu planning, preparation, service, kitchen organization and sanitation in commercial food preparation.

3 hours lecture.

**CUL 241 ADVANCED COMMERCIAL FOOD PREPARATION AND LAB (4)**

Prerequisite(s): CUL 240.

Basic principles, procedures, operations and techniques in quantity commercial food preparation and service, including planning, storage, cooking equipment, sanitation and service.

2 hours lecture, 4 hours laboratory.

**CUL 242 DINING SERVICE MANAGEMENT (3)**

Prerequisite(s): CUL 107.

This course includes 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, basics of generic and varietal wines, wine and food affinities, bar service, sanitation and safety, and review/performance appraisals. The course does not include mixology or wine tasting.

3 hours lecture.

**CUL 280 ADVANCED TECHNIQUES IN GOURMET FOOD PREPARATION I (3)**

Prerequisite(s): CUL 226.

Recommended Preparation: CUL 110.

This course encompasses the preparation of haute cuisine, including proper flavorings, spirits, garnishes and flambe in gourmet food preparation.

2 hours lecture, 3 hours laboratory.

**CUL 281 ADVANCED TECHNIQUES IN GOURMET FOOD PREPARATION II (3)**

Prerequisite(s): CUL 280.

This course is a continuation of CUL 280, Advanced Techniques in Gourmet Food Preparation I, with emphasis on expanding student capabilities in preparing haute cuisine, including proper flavorings, spirits, garnishes and flambe in gourmet food preparation.

2 hours lecture, 3 hours laboratory.

# Drafting

**DFT 100 BLUEPRINT INTERPRETATION AND BASIC DRAFTING (3)**

Prerequisite(s): None.

Introductory course in blueprint reading and interpretation; basic drafting skills, including lettering, sketching, orthographic projection, dimensioning, and pictorial drawing, related to mechanical and architectural requirements.

2 hours lecture, 4 hours laboratory.

**DFT 112 TECHNICAL GRAPHICS I (3)**

Prerequisite(s): None.

Introductory course in technical drafting including orthographic and axonometric projection, geometric construction, sketching, lettering, dimensioning, and section conventions, with emphasis on industrial drafting standards.

2 hours lecture, 4 hours laboratory.

**DFT 113 TECHNICAL GRAPHICS II (3)**

Prerequisite(s): DFT 112.

Study of auxiliary and oblique surfaces, intersections, detailing standards, fasteners, materials, and dimensioning with emphasis on elements of descriptive geometry.

2 hours lecture, 4 hours laboratory.

**DFT 150 COMPUTER-AIDED DRAFTING (3)**

Prerequisite(s): None.

Recommended Preparation: Computer literacy.

An introduction to the computer as a drafting tool. Multi-view, pictorial and electronic drawings will be completed using computer graphics techniques.

2 hours lecture, 4 hours laboratory.

**DFT 170 ILLUSTRATION (3)**

Prerequisite(s): DFT 112.

A study of illustration and rendering techniques used to describe three-dimensional objects with special emphasis placed on graphic construction and the depiction of shade, shadow, and texture to assist the student in graphic communication.

2 hours lecture, 4 hours laboratory.

**DFT 201 TOPICS IN DRAFTING (4)**

Prerequisite(s): DFT 210.

A study of drafting related to industrial problems common to machine drafting and electro-mechanical drafting. Emphasis is placed on dimensioning standards, fabrication procedures, cable and wiring diagrams, and detailing.

3 hours lecture, 5 hours laboratory.

**DFT 210 SPATIAL RELATIONSHIPS (3)**

Prerequisite(s): DFT 112 or concurrent enrollment.

Solution of points, lines and planes, single-curved, double-curved and warped surfaces. Emphasis on mechanical, civil and mining engineering applications.

2 hours lecture, 4 hours laboratory.

**DFT 224 FIELD EXPERIENCE IN DRAFTING (1 - 6)**

Prerequisite(s): A declared major in drafting. Permission and approval of cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in drafting and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

**DFT 231 PRODUCT DESIGN (3)**

Prerequisite(s): DFT 112.

A study of the design process as applied to industrial design problems. Included are elements of human factors engineering, mechanical design, and systems design as a means to designing industrial design products.

2 hours lecture, 4 hours laboratory.

**DFT 232 DESIGN AND FABRICATION (3)**

Prerequisite(s): DFT 150 and DFT 231.

An advanced study of design applied to feasibility determination and prototype construction. Included are elements of ergonomics, anthropometry, and systems design. Feasibility is explored through cost estimation and manufacturability inquiry.

2 hours lecture, 4 hours laboratory.

**DFT 233 RESIDENTIAL ARCHITECTURE (3)**

Prerequisite(s): None.

Recommended Preparation: DFT 112 or DFT 150.

An introduction to American architectural styles and periods with emphasis on modern construction materials and methods. Professions and trades related to construction and design are explored with aspects of construction documentation. Case studies in residential architecture are introduced, and an applied project allows the student to concentrate on design, drafting, or historical aspects of residential architecture and design.

3 hours lecture, 2 hours laboratory.

**DFT 241 ENGINEERING DESIGN (4)**

Prerequisite(s): DFT 150 and DFT 210.

A study of standardized tooling components including jigs, fixtures, and gauges with emphasis on design of the various tooling elements. Included is a study of automation for manufacturing applications.

3 hours lecture, 5 hours laboratory.

**DFT 250 COMPUTER-AIDED DRAFTING II (3)**

Prerequisite(s): DFT 150.

A continuation of DFT 150 at an advanced level to include three-dimensional construction, pictorial drawings, and complex two-dimensional working drawings. This course also includes an introduction to solid modeling and animation techniques.

2 hours lecture, 4 hours laboratory.

## Digital Media Arts

**DMA 110 DIGITAL IMAGING I (3)**

Prerequisite(s): CIS 116, CIS 120, or permission of instructor.

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.

**DMA 111 COMPUTER ANIMATION I (3)**

Prerequisite(s): CIS 116, CIS 120, or permission of instructor.

A study of the beginning and intermediate features of animation software as they are developed through the practical application of basic computer animation skills.

3 hours lecture, 1 hour laboratory.

**DMA 112 3D COMPUTER-GENERATED IMAGERY (4)**

Prerequisite(s): None.

Introduction to using software to create 3D images for use on the computer. Basic and intermediate enhancement and manipulation techniques for images will be explored. This course is taught in a hands-on environment.

4 hours lecture.

**DMA 113 3D COMPUTER-GENERATED ANIMATION (4)**

Prerequisite(s): DMA 112.

Introduction to 3D animation software using beginning and intermediate features to prepare 3D animations for use on the computer. Basic and intermediate enhancement and manipulation techniques for images will be explored. This course is taught in a hands-on environment.

4 hours lecture.

**DMA 140  DIGITAL PHOTOGRAPHY FOR PERSONAL GROWTH (2)**

Prerequisite(s): None.

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.

**DMA 210 DIGITAL IMAGING II (3)**

Prerequisite(s): DMA 110.

Recommended Preparation: ART 103 or ART 106.

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.

**DMA 211 COMPUTER ANIMATION II (3)**

Prerequisite(s): DMA 111.

Recommended Preparation: ART 103 or ART 106.

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.

## **DMA 212 ADVANCED 3D COMPUTER-GENERATED IMAGERY (4)**

Prerequisite(s): DMA 112 and DMA 113.

Advanced class using software to create 3D images for use on the computer. Intermediate and advanced enhancement and manipulation techniques for images will be explored. This course is taught in a hands-on environment.

4 hours lecture.

## **DMA 213 COMPUTER-GENERATED VIDEO PRODUCTION (4)**

Prerequisite(s): DMA 112, DMA 113, and DMA 212.

This is the capstone course in the Digital Imagery and Video Production certificate. Intermediate and advanced enhancement and manipulation techniques learned in all of the prerequisite courses will be used while creating computer generated videos. This course is taught in a hands-on environment.

4 hours lecture.

## **DMA 214 CREATING MULTIMEDIA PRESENTATIONS (4)**

Prerequisite(s): DMA 110, DMA 111, DMA 210, and DMA 211.

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.

## **DMA 260 GRAPHIC DESIGN I (3)**

Prerequisite(s): ART 103, ART 106, or permission of instructor.

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.

## **DMA 261 GRAPHIC DESIGN II (3)**

Prerequisite(s): DMA 260 and either ART 103, ART 106, or permission of instructor.

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.

## **DMA 262 DIGITAL VIDEO PRODUCTION (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103 and DMA 266, or permission of instructor. Additional preparation may include ART 285.

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.

## **DMA 263 DIGITAL VIDEO PRODUCTION II (3)**

Prerequisite(s): DMA 262.

Recommended Preparation: ART 103.

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.

**DMA 266 DIGITAL PHOTOGRAPHY (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103 or permission of instructor. Additional preparation may include ART 285.

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.

**DMA 267 DIGITAL PHOTOGRAPHY II (3)**

Prerequisite(s): DMA 266.

Recommended Preparation: ART 103 and DMA 260.

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.

**Early Childhood Education****ECE 101 SAFETY IN EARLY CHILDHOOD EDUCATION (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of precautions and risk reduction in the 0-8 age level Early Childhood settings and programs.

1 hour lecture.

**ECE 102 HEALTH IN EARLY CHILDHOOD EDUCATION (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of appropriate health practices in 0-8 age level Early Childhood settings and programs.

1 hour lecture.

**ECE 103 NUTRITION IN EARLY CHILDHOOD (1)**

Prerequisite(s): Current employment with children 0-8 or placement in a practicum.

A study of the principles of childhood nutrition and their application in the Early Childhood Care setting.

1 hour lecture.

**ECE 104 PHYSICAL ACTIVITIES IN EARLY CHILDHOOD EDUCATION (1)**

Prerequisite(s): Current employment with children 0-8 or placement in position.

An overview of appropriate equipment, activities and opportunities to promote the physical development of children.

1 hour lecture.

**ECE 105 COGNITIVE ACTIVITIES IN EARLY CHILDHOOD EDUCATION (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of Early Childhood activities and experiences that encourage children's cognitive development.

1 hour lecture.

## **ECE 106 CREATIVE ACTIVITIES IN EARLY CHILDHOOD EDUCATION (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of appropriate activities and experiences that provide children opportunities to exercise their creative abilities, to appreciate the creativity of others, and to explore and experiment with a variety of media, not only through art, music and dramatic activities, but in all aspects of the program.

1 hour lecture.

## **ECE 107 SELF CONCEPT (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of appropriate activities and experiences that provide children, ages 0-8, opportunities to know, accept, and appreciate himself/herself as an individual by helping each child develop a sense of awareness and self-esteem, to express and accept his/her feelings, both good and bad, and to develop pride as an individual and a member of a cultural or ethnic group.

1 hour lecture.

## **ECE 108 SOCIAL CONCEPT (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of age appropriate activities and experiences that provide children opportunities to learn to get along with others and encourage feelings of mutual respect among the children in the group and the staff.

1 hour lecture.

## **ECE 109 GUIDANCE (1)**

Prerequisite(s): Current employment with children 0-8 or placement in practicum.

An overview of age appropriate activities and experiences that provide an environment in which children can learn and practice behaviors which are appropriate and acceptable individually and in a group.

1 hour lecture.

## **ECE 118 CHILD DEVELOPMENT ASSOCIATE (CDA) PROFESSIONAL PREPARATION (4)**

Prerequisite(s): ECE 158 or ECE 101, 102, and 103; and ECE 172 or ECE 104, 105, and 106; and ECE 152 or ECE 107, 108, and 109; and ECE 160, 161, and 173.

Apply to and complete final requirements to include writing six statements of competence, developing the 17-item resource file, and practicing for the Early Childhood Studies Review multiple choice exam and oral interview in preparation for the Child Development Associate (CDA) verification visit and resulting credential completion.

4 hours lecture.

## **ECE 150<sup>❖</sup> INTRODUCTION TO EARLY CHILDHOOD CARE AND EDUCATION (3)**

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.

An overview of early childhood, the early childhood teaching profession, and current issues in early childhood education with emphasis on the role, qualifications, and responsibilities in the classroom. Explanation of topics relevant to the classroom teacher, i.e., methods, ethics and current issues and trends.

3 hours lecture.

## **ECE 152 OBSERVATION, BEHAVIOR AND GUIDANCE (3)**

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.

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.

**ECE 155  CHILDREN'S LANGUAGE DEVELOPMENT (3)**

Prerequisite(s): Placement in or completion of ENG 100.

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.

An overview of children's language growth from birth to age five: the development of sounds, structures, and meaning. Implications of family and social input, including mixed or multiple languages. Consideration of special cases (hearing or vision impaired, for example) and of the relationship of spoken to written language. Application to childcare or preschool setting.

3 hours lecture.

**ECE 156 CHILDREN'S LITERATURE AND CHILDREN'S LITERACY (3)**

Prerequisite(s): Placement in or completion of ENG 100.

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.

An overview of the process by which children become literate (able to read and write), with emphasis on language growth from birth to age five. An extensive survey with key examples of literature and language activities which support children's readiness for literacy. Implications of family and social input, including mixed or multiple languages and inclusion of literature from a variety of languages and cultures. Consideration of special cases (hearing or vision impaired, for example) and of the relationship of spoken to written language. Application to childcare or preschool setting.

3 hours lecture.

**ECE 158 HEALTH, SAFETY AND NUTRITION FOR YOUNG CHILDREN (3)**

Prerequisite(s): None.

In-depth examination of comprehensive health, mental health, safety, and nutrition concepts and their applications and implications for developing quality child development and early childhood education programs.

3 hours lecture.

**ECE 160 EARLY CHILDHOOD GROWTH AND DEVELOPMENT (3)**

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.

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.

**ECE 161  UNDERSTANDING FAMILIES, COMMUNITY AND DIVERSITY (3)**

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.

An introduction to skills for early childhood caregivers and teachers to use with families through reading, classroom participation, lectures, discussions, observations, and practical experience. Emphasis will be placed on recognizing and understanding the role of cultural and community diversity in the education of young children.

3 hours lecture.

### **ECE 170 CURRICULUM DEVELOPMENT FOR EARLY CHILDHOOD EDUCATION (3)**

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.

Emphasis on methods of selecting and presenting developmentally appropriate practices and creating activities which enhance optimal growth for infants to age 8. Also included will be planning quality daily activities, establishing routines, and program assessment.

3 hours lecture.

### **ECE 172 TEACHING STRATEGIES FOR EARLY CHILDHOOD EDUCATION (3)**

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.

This course provides an overview of a variety of techniques to reach all learning styles, while utilizing developmentally appropriate practices when teaching young children. Emphasis will be on consistent planning and teaching activities which support development of all children creating an environment where children experience optimum growth.

3 hours lecture.

### **ECE 173 ADMINISTRATION OF EARLY CHILDHOOD CARE AND EDUCATION PROGRAMS (3)**

Prerequisite(s): ENG 100 or placement in ENG 101, and six credit hours in ECE coursework.

Topics include in-depth examination of child development and preschool program management principles and practices, legal responsibilities and mandates, and developmentally, culturally, and geographically sound programming.

3 hours lecture.

### **ECE 174 BEHAVIOR MANAGEMENT (3)**

Prerequisite(s): None.

Recommended Preparation: Concurrent working or work-study placement with young children.

Designed for teachers, prospective teachers, parents or caregivers of young children to learn behavior management techniques. Topics discussed will include learning styles, communicating and maintaining behavioral expectations, stress management, leadership styles, bias and prejudice, behavior modification, self-assessment, and setting up positive environments for young children.

3 hours lecture.

### **ECE 175 CREATIVITY IN EARLY CHILDHOOD EDUCATION PROGRAMS (3)**

Prerequisite(s): Placement in ENG 100 or higher.

Investigation into the multifaceted nature of the creative processes from a comprehensive review of the developmental, emotional, social, and physical realms; and promotion of creativity through movement and the visual, musical, and language arts.

3 hours lecture.

### **ECE 176 MATH AND SCIENCE FOR EARLY CHILDHOOD CARE AND EDUCATION (3)**

Prerequisite(s): None.

In-depth examination of analyzing the physical and emotional factors of the developing child that guide sound math and science curriculum development.

3 hours lecture.

## Economics

### **ECN 201 PRINCIPLES OF MACROECONOMICS (3)**

Prerequisite(s): ENG 101.

A broad overview of the national and international macroeconomy. The course focuses on the study of total supply and demand as applied to the macroeconomic problems of unemployment, inflation, and economic growth. Specific areas of study will include national income accounting, fiscal policy, monetary policy, and international trade theory.

3 hours lecture.

### **ECN 202 PRINCIPLES OF MICROECONOMICS (3)**

Prerequisite(s): ENG 101.

A study of individual market interaction with a 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.

### **ECN 221 INTERNATIONAL TRADE (3)**

Prerequisite(s): None.

The purpose of this course is to survey the basics of international trade and finance and to examine the effects of various international economics policies on domestic and world welfare.

3 hours lecture.

## Education

### **EDU 020 FUNDAMENTAL ACADEMIC SKILLS TRAINING (3)**

Prerequisite(s): Placement by Army Education Center Coordinator.

A review of basic skills for reading, spelling, grammar, composition, and mathematics with emphasis on improving test-taking skills. Upon successful completion, students will be prepared to enter ENG 100 and MAT 072 or higher.

3 hours lecture.

### **EDU 021 PREPARING FOR ASVAB TEST TAKING (1)**

Prerequisite(s): Placement by Army Education Center Coordinator.

Course is designed to improve basic test-taking skills for the Armed Services Vocational Aptitude Battery (ASVAB) with emphasis on arithmetic reasoning, word knowledge and reading comprehension.

1 hour lecture.

### **EDU 101 FUNDAMENTALS OF EDUCATION (3)**

Prerequisite(s): Enrollment in Arizona Tech Prep Education Professions program.

This course provides instruction in education career choices, education structure and systems, and the legal/ethical responsibilities of educators. It provides instruction in developmental stages of children in education theory and in pedagogy and methodology. This course is designed to articulate with high school Education Profession programs.

3 hours lecture.

**EDU 193 SPECIAL TOPICS IN EDUCATION (1)**

Prerequisite(s): None.

A forum/seminar emphasizing topics of current interest to public school and/or community college teachers, paraprofessionals and administrators. Seminars will focus on those topics having practical application for the improvement of classroom instruction and educational management. The title of this course may differ each term, depending on the topic being covered when the course is offered.

1 hour lecture.

EDU 193B Curriculum Development for Culturally Diverse Student Population

EDU 193G Professional Development of Instructional Staff

**EDU 195<sup>❖</sup> ENGLISH FOR EDUCATORS (3)**

Prerequisite(s): Appropriate English language proficiency test score.

Recommended Preparation: Two years of experience teaching English to speakers of other languages, college- or university-level study in a liberal arts field, ENG 100, and RDG 122 or exemption.

An overview of basic concepts, methods, and theories of second language acquisition as applied to the learning and teaching of English, with an emphasis on academic writing and critical reading skills and on the terminology and perspectives of the second or foreign language professional.

3 hours lecture.

**EDU 201 INTRODUCTION TO EDUCATION (3)**

Prerequisite(s): ENG 100 or concurrent enrollment, and RDG 122 or exemption.

This course provides an overview of public education, the educational profession, educational institutions, and educational systems within the American society. It includes the study of current educational issues and of the role, responsibilities and qualifications of educators. The course will combine classroom instruction with 32 hours of supervised classroom observation and internship in the public school setting, enabling the student to make connections between educational theories and methodologies. Students are responsible for obtaining the appropriate Department of Public Safety fingerprint clearance and fees.

2 hours lecture, 2 hours laboratory.

**EDU 218 INTRODUCTION TO STRUCTURED ENGLISH IMMERSION (3)**

Prerequisite(s): Arizona Teaching and/or Administrative certification or departmental approval.

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.

**EDU 220 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE EDUCATION (3)**

Prerequisite(s): None.

This course will provide the historical, theoretical, legal and sociological context of programs serving students with a non-English language background. Special focus will be on second language acquisition and cultural bias in the United States.

3 hours lecture.

**EDU 221<sup>❖</sup> ENGLISH AS A SECOND LANGUAGE/STRUCTURED ENGLISH IMMERSION TEACHING METHODS (3)**

Prerequisite(s): Arizona teaching and/or Administrative certification or departmental approval.

This course will provide the student with the methodologies of planning, developing and evaluating lesson plans in all content areas as they relate to Structured English Immersion (SEI) and English Language Learners (ELL) standards. Emphasis is placed on components of curriculum content, teaching strategies, SEI foundations, Assessment and Data analysis and the role of culture in learning. This course meets Arizona Department of Education requirements for SEI endorsement (45 contact hours) and Teaching/Administrator certificate renewal.

3 hours lecture.

**EDU 222 INTRODUCTION TO SPECIAL EDUCATION (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

The study of special education with emphasis on current educational practices and related educational theories; and on identification and characteristics of emotionally disabled, learning disabled, mentally disabled and gifted children. Includes a review of cultural considerations; autism; AA and ADHD; early childhood and K-12 special education; student transitioning within the school and between the school and the community; and appropriate classroom and community-based approaches to accommodating the special education student.

3 hours lecture.

**EDU 224 FIELD EXPERIENCE IN EDUCATION (1 - 6)**

Prerequisite(s): Declared major in education or closely related field. Approval by a cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised internship in a pre-school, elementary or secondary educational institution designed to provide hands-on classroom experience. Number of credits determined by the total hours to be spent at the job site in a given semester. May be taken four times for a maximum of 16 credits, with a maximum of six credits per semester.

**EDU 225 CREATIVE ARTS IN CONTEXT (3)**

Prerequisite(s): None.

Examines the theory and practice of using art activities to enhance learning in the elementary school classroom. Applies the philosophy of Discipline-Based Art Education to the design and implementation of lessons that integrate creative arts with the elementary education curricula. Encourages teachers to integrate art with other subjects as they develop meaningful art projects, and provides practical ideas for the use of creative arts to increase student learning.

2 hours lecture, 2 hours laboratory.

**EDU 226 CULTURAL DIVERSITY IN EDUCATION (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

An analysis of the relationship of cultural values to the formation of the child's self-concept and learning style as well as an examination of the impact of prejudice, stereotyping and cultural incompatibilities on the efficacy of the educational process. This course emphasizes preparing future teachers who will provide an equal educational opportunity to all students regardless of their racial/cultural group or background.

3 hours lecture.

**EDU 227 LITERACY IN ELEMENTARY SCHOOL (3)**

Prerequisite(s): None.

Explores a wide range of children's books, authors, and illustrators. Examines how K-8 children become literate, how teachers can use authentic literature effectively in the classroom, and how they can plan classroom activities that promote and develop literacy.

3 hours lecture.

**EDU 230<sup>✉</sup> CLASSROOM RELATIONSHIPS (3)**

Prerequisite(s): EDU 201.

Foundation in classroom management and communication techniques. Topics discussed will include learning styles, discipline, stress management, leadership styles, bias and prejudice, behavior management, self-assessment, and positive learning environments.

3 hours lecture.

**EDU 280<sup>✉</sup> METHODOLOGY FOR TEACHING AT THE COMMUNITY COLLEGE (1)**

Prerequisite(s): Cochise College instructor qualified.

Recommended Preparation: Basic computer skills.

An exploration of the role of the community college and its service to the community. Emphasized are teaching and learning styles, adult learning and motivation theory, teaching strategies, assessment techniques, and legal issues related to teaching on the community college level.

1 hour lecture.

### **EDU 280B ONLINE LEARNING MANAGEMENT SYSTEMS (1)**

Prerequisite(s): CIS 185 or permission of the instructor.

Practical experience in all facets of using the college's online learning management system. Using a case study, a variety of techniques will be addressed, including content areas, course tools and options, user management, and assessment. The student will become comfortable with all facets of creating and managing online classes.

1 hour lecture.

### **EDU 280C ONLINE TEACHING METHODS (1)**

Prerequisite(s): CIS 185 or permission of the instructor.

Practical experience and theoretical background in various facets of online instructional methods. Using a case study, a variety of methods will be addressed, including enhancing student participation, forming online communities, and assessing student performance.

1 hour lecture.

### **EDU 280D INTRODUCTION TO COCHISE COLLEGE (1)**

Prerequisite(s): None.

An introduction to the policies, processes, and personnel of Cochise College for instructors who are teaching online classes from remote locations.

1 hour lecture.

### **EDU 288 METHODOLOGIES FOR TEACHING BLENDED CLASSES (1)**

Prerequisite(s): Cochise College instructor qualified.

Recommended Preparation: Basic computer skills.

Discusses the theories, methodologies, logistics and software relevant to teaching blended courses at the community college.

1 hour lecture.

### **EDU 290 INSTRUCTOR SKILL DEVELOPMENT (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

Designed to impart a wide range of teaching skills, concepts, and techniques applicable to adult learning situations. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques. Identical to AJS 290.

3 hours lecture.

### **EDU 295 PRACTICUM IN TEACHING ENGLISH AS AN INTERNATIONAL LANGUAGE (1 - 3)**

Prerequisite(s): EDU 195 and completion of or concurrent enrollment in ENG 255 or EDU 230.

A practicum conducted in consultation with a faculty advisor on the application of language acquisition theory. Students identify their own unmet classroom learning and teaching needs and design, implement, assess, and report on changes made to meet these needs.

## **Engineering**

### **EGR 101 INTRODUCTION TO ENGINEERING DESIGN (3)**

Prerequisite(s): MAT 122 or MAT 123 (or MAT 123A and MAT 123B).

An introduction to the design process used by engineers and designers worldwide, this activity-based course focuses on student learning through instructor facilitation. Students learn to work in teams as they study the different facets of design including sketching, orthographic projections, dimensioning, modeling with software, reverse engineering, and engineering ethics through selected design problems.

3 hours lecture.

### **EGR 102 PRINCIPLES OF ENGINEERING (3)**

Prerequisite(s): MAT 187 or concurrent enrollment in MAT 220.

An introduction to the principles of engineering and their application to design and problem-solving. Working in teams, students use the design process to create and develop engineering projects that emphasize sustainability, and they investigate how engineers use spreadsheets as a problem-solving tool. They also explore career options and discuss personal and business ethics.

3 hours lecture.

# Electronics

## **ELT 100 ELECTRONICS FOUNDATIONS (3)**

Prerequisite(s): MAT 082 or equivalent.

An introduction to electronic principles including DC and AC circuits, passive and active circuits, and applications that will give the student a general concept of the electronics field.

3 hours lecture.

## **ELT 101 ♦ BEGINNING DIGITAL ELECTRONICS (3)**

Prerequisite(s): None.

A beginning course in digital electronics for students planning to enter the electronics field.

3 hours lecture.

## **ELT 102 BASIC INFORMATION SYSTEMS INSTALLATION COURSE (8)**

Prerequisite(s): Approval for enrollment from the Army Training and Doctrine Command.

A theoretical and practical study of the restoration and installation of information systems, focusing on standard practices and techniques of communications-electronics (C-E) installation. As an Army Training and Doctrine Command-recognized course of study, successful course completers will be awarded a skill identifier I.

3 hours lecture, 13 hours laboratory.

## **ELT 103 INFORMATION SYSTEMS EXTERNAL INSTALLATION (8)**

Prerequisite(s): Approval for enrollment from the Army Training and Doctrine Command, including secret security clearance.

Recommended Preparation: Qualification in the Military Occupational Specialty (MOS) 31L.

A theoretical and practical study of basic splicing operations for outside cable plants, focusing on installation of commercial and fiber optic communication cables on telephone poles, in manholes and underground structures, and as buried installations. Successful course completers will be certified in basic pole climbing, fiber optics and communication cable installation and connectorization.

3 hours lecture, 12.5 hours laboratory.

## **ELT 105 ♦ INTRODUCTION TO DC CIRCUITS (3)**

Prerequisite(s): ELT 110 or concurrent enrollment.

The analysis of direct current resistive circuits, emphasizing Ohm's Law, Kirchoff's Law, Thevenin's, Norton's and superposition theorems.

2 hours lecture, 3 hours laboratory.

## **ELT 106 ♦ INTRODUCTION TO AC CIRCUITS (4)**

Prerequisite(s): ELT 105.

An introduction to alternating current passive circuits, and the application of trigonometry and vectors to circuit solutions.

2 hours lecture, 3 hours laboratory.

## **ELT 107 ♦ BASIC COMPUTER PROGRAMMING (3)**

Prerequisite(s): MAT 122.

An introduction to computers and the BASIC language with emphasis on the concepts, writing and execution of computer programs, processing of data, and the development of algorithms for the computer solution to problem solving.

2 hours lecture, 3 hours laboratory.

**ELT 110 MATH FOR ELECTRONICS (3)**

Prerequisite(s): One year of high school algebra or equivalent.

A review of arithmetic and the study of algebraic principles necessary to analyze electronic circuitry and provide a firm background for advanced studies. Topics include fractions, decimals, fundamental concepts of algebra, scientific notation, graphing, linear equations and the solution of DC electric circuits.

3 hours lecture.

**ELT 120 ADVANCED MATHEMATICS FOR ELECTRONICS (3)**

Prerequisite(s): ELT 110 or equivalent.

Study of basic trigonometric relations to electronics with emphasis on network problems and analysis of alternating circuits.

3 hours lecture.

**ELT 122 ♦ SEMICONDUCTORS AND TRANSISTORS (4)**

Prerequisite(s): ELT 106, and ELT 110 or MAT 122.

A comprehensive study of semiconductor devices stressing the qualitative and quantitative analysis of semiconductor circuits with major emphasis on DC biasing, small signal analysis of diodes and transistors, load lines, approximate hybrid parameters, and multistage systems.

3 hours lecture, 3 hours laboratory.

**ELT 125 ♦ ELECTRONIC CIRCUITS AND SYSTEMS (4)**

Prerequisite(s): ELT 105, ELT 106, and concurrent enrollment in ELT 120 or equivalent.

A study of large signal diode and filter analysis, voltage and current regulations, with emphasis on the field effect transistor as an amplifier, the Miller effect, frequency response and feedback.

3 hours lecture, 3 hours laboratory.

**ELT 231♦ PULSE CIRCUITS (4)**

Prerequisite(s): ELT 122.

A study of waveforms, RC and RL networks, passive and active pulse circuitry, diode and transistor switching circuits, nonlinear waveshaping and multivibrators.

3 hours lecture, 3 hours laboratory.

**ELT 233 ♦ DIGITAL CIRCUITS AND SYSTEMS (4)**

Prerequisite(s): ELT 122.

A study of number systems, Boolean algebra, combinational and sequential logic, circuits and systems.

3 hours lecture, 3 hours laboratory.

**ELT 243 ♦ MODERN ELECTRONIC DEVICES (4)**

Prerequisite(s): ELT 122.

A study of the characteristics of differential and operational amplifiers, applications, and analysis of practical op amp circuits, photoconductive and photovoltaic devices, unijunction transistors, silicon controlled rectifiers, and selected materials covering other electronic devices.

3 hours lecture, 3 hours laboratory.

**ELT 245 ♦ COMMUNICATION ELECTRONICS I (4)**

Prerequisite(s): ELT 120, ELT 122, and ELT 125.

The application of qualitative and quantitative theoretical concepts to practical communications circuits, AM and FM receiver systems, voltage and power amplifiers, feedback, oscillators, resonance, filters, coupling, frequency synthesizers and phaselock techniques are studied.

3 hours lecture, 3 hours laboratory.

**ELT 247 ♦ COMMUNICATION ELECTRONICS II (4)**

Prerequisite(s): ELT 245.

A continuation of Communications Electronics I, including AM transmitters, frequency modulation systems, transmission lines, antennas and propagation. Laboratory emphasis on the use of electronic test equipment in the analysis and adjustment of receivers and transmitters.

3 hours lecture, 3 hours laboratory.

**ELT 265 ♦ MICROPROCESSORS AND MICROCOMPUTERS (4)**

Prerequisite(s): ELT 233.

An introduction to the architecture of microprocessors and the organization, programming, interfacing, and control application of microcomputers.

3 hours lecture, 3 hours laboratory.

## Emergency Medical Technology

**EMT 102 MILITARY FIRST RESPONDER MEDICAL TRAINING (2)**

Prerequisite(s): None.

Recommended Preparation: CPR certification at the health care provider level.

This six-week course provides basic life support medical training for the US Army and Intelligence Center's Non-Commissioned Officers Academy (NCOA). Course content incorporates elements of both the United States Department of Transportation's First Responder National Standard Curriculum and the US Army's Combat Lifesaver Training program.

1 hour lecture, 4 hours laboratory.

**EMT 174 ♦ EMERGENCY MEDICAL TECHNICIAN (8)**

Prerequisite(s): RDG 122 or exemption.

For successful completion of EMT 174, students must meet the following requirements:

- 1) Minimum age of 18 within six months of course completion (for state certification only)
- 2) Negative tuberculin (TB) skin test or negative chest x-ray report
- 3) Drug screen.

A study of signs and symptoms of illness and injury, procedures associated with the provision of emergency medical care, basic legal responsibilities, anatomy and physiology, patient assessment, triage, and basic life support systems. Prepares students with the necessary knowledge and skills, as 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-Basic. 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. Meets the ADHS-BEMS guidelines and is approved by the state of Arizona and the National Registry of EMTs.

Medical Direction: Arizona Certified EMT-Basics are authorized to provide treatment, perform procedures, and utilize skills—as defined by the National Highway Traffic Safety Administration – Department of Transportation (NHTSA-DOT) EMT curriculum—only under the medical control of an approved medical director or certified base hospital.

7 hours lecture, 3 hours laboratory.

**EMT 176 ♦ EMERGENCY MEDICAL TRAINING REFRESHER (2)**

Prerequisite(s): EMT 174.

A refresher course to maintain and update emergency medical technician skills. May be repeated as required for recertification.

2 hours lecture, 1 hour laboratory.

**EMT 201 ♦ PARAMEDICINE I (12)**

Prerequisite(s): Placement in, concurrent enrollment in, or completion of MAT 082 or higher; and placement in, completion of RDG 122, or exemption.

Recommended Preparation: BIO 160 or BIO 201.

Prior to enrollment in the paramedicine course, all students must pass written and practical exams as outlined by the ADHS-BEMS. A required oral interview is also used in determining admission to the program. The testing and interview process normally takes place the month prior to the class start date. Additional requirements are:

- 1) Current EMT-B or EMT-I certification
- 2) Valid Healthcare Provider CPR card from American Heart Association or American Red Cross with an expiration date no later than six months after course completion
- 3) Successful completion of the Hazmat First Responder Operations Course
- 4) Good physical condition
- 5) Negative tuberculin (TB) skin test or negative chest x-ray report
- 6) Measles, mumps, rubella (MMR) vaccination, birth prior to 1957, or positive titer
- 7) Varicella (chickenpox) vaccination waiver or positive titer
- 8) Hepatitis B series vaccination or positive titer
- 9) Drug screen
- 10) Background check.

This is the first of three courses that prepare the student to become a Nationally Registered Emergency Medical Technician-Paramedic (NREMT-P). Topics include the role and responsibilities of the EMT-P, medical and ethical issues, basic and advanced airway management, assessment of medical and trauma patients, Emergency Medical Services systems, pharmacology, vascular access techniques, and pre-hospital research.

10 hours lecture, 6 hours laboratory.

**EMT 202 ♦ PARAMEDICINE II (14)**

Prerequisite(s): EMT 201.

This course provides the second sequential step in achievement of student readiness to sit for the state certification exam in paramedicine as well as the National Registry of Emergency Medical Technician Paramedic exam. Emergency medical techniques are presented in the areas of pre-hospital management of illnesses and injuries, including medical treatments and special considerations, assessment-based management, and ambulance operations.

10 hours lecture, 12 hours laboratory.

**EMT 203 ♦ PARAMEDICINE III (2)**

Prerequisite(s): EMT 202.

This course provides the final clinical hours required to meet state requirements to sit for the State Certification Exam in Paramedicine as well as the National Registry Exam. The student will complete hours in rotations required by state mandate. These can be in vehicular rotations, emergency room rotations, pediatric trauma experiences in state metropolitan areas, and the like.

6 hours laboratory.

**EMT 204 ♦ PARAMEDIC REFRESHER (3)**

Prerequisite(s): Certification as an Arizona Paramedic or a National Registry Emergency Paramedic in good standing.

Paramedic refresher provides the required information and tests the student's ability to meet the college competencies set forth for the initial Paramedicine student. Topics include preparatory information, including roles and responsibilities of the EMT and medical and ethical issues, airway management and ventilation, patient assessment, trauma, and medical systems as related to emergency medical systems.

3 hours lecture, 1 hour laboratory.

# English

## **ENG 001 STUDY SKILLS (1)**

Prerequisite(s): None.

A review of basic techniques for success in college, including practical exercises in listening to lecturers, concentration, time management, note-taking, test-taking, textbook analysis and review, outlining, summarizing, writing essay questions, and using the library and the microcomputer to study spelling and vocabulary.

1 hour lecture.

## **ENG 078 SUCCESSFUL WRITING SKILLS (3)**

Prerequisite(s): Writing placement score and/or recommendation from previous instructor or academic advisor.

Recommended Preparation: Basic word processing proficiency.

Individualized practice in writing, based on student responses to articles in current periodicals. Practice will address specific error patterns to prepare students for success in class work at the college level and/or in direct employment. Use of word processing and group editing as a means of composition.

3 hours lecture, 2 hours laboratory.

## **ENG 090 ENGLISH FUNDAMENTALS I (3)**

Prerequisite(s): Placement test score or permission of instructor.

Intensive instruction in English grammar and mechanics, terminology and rules, writing and editing at the sentence level, and vocabulary development; emphasis on self-assessment, with the goal of helping students identify their own idiosyncratic patterns of grammar and mechanical errors, including extensive computer-based practice.

3 hours lecture.

## **ENG 092 ENGLISH FOR OCCUPATIONS (1)**

Prerequisite(s): Permission of instructor.

Intensive practice with English vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

## **ENG 094 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)**

Prerequisite(s): Permission of instructor.

An introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Experience working with both general language and materials in the student's occupational specialty.

2 hours laboratory.

## **ENG 095 ENGLISH FUNDAMENTALS II (3)**

Prerequisite(s): Placement test score, ENG 090, or permission of instructor.

A review of standard written English that continues the developmental sequence begun in ENG 090, with focus on grammar, mechanics, and the writing process at the paragraph level, including extensive computer-based practice.

3 hours lecture.

## **ENG 100 INTERMEDIATE WRITING (3)**

Prerequisite(s): Placement test score, ENG 095, or permission of instructor.

Recommended Preparation: Keyboarding skills.

Introduction to and review of paragraph and essay writing skills with emphasis on unity, support, and coherence of ideas. A general review of vocabulary, homophones, grammar, punctuation, and usage. An introduction to college-level research skills and analysis of short fiction.

3 hours lecture.

## **ENG 101 COMPOSITION (3)**

Prerequisite(s): Placement test score, or ENG 100 or its equivalent.

Study of and practice in the process of writing, methods of organization, expository patterns, and a documented paper based on library and other resources, with a review of usage and syntax.

3 hours lecture.

**ENG 101A COMPOSITION - FLEX A (3)**

Prerequisite(s): Placement test score, ENG 100, or previous English instructor recommendation.

Recommended Preparation: Keyboarding skills.

Study of and practice in the process of writing, methods of organization, expository patterns, and a documented paper based on library and other resources, with a review of usage and syntax.

3 hours lecture.

**ENG 101B COMPOSITION - FLEX B (3)**

Prerequisite(s): Placement test score, ENG 101A, or instructor recommendation.

Recommended Preparation: Keyboarding skills.

Study of and practice in the process of writing, methods of organization, expository patterns, and a documented paper based on library and other resources, with a review of usage and syntax.

3 hours lecture.

**ENG 102<sup>❖</sup> ENGLISH COMPOSITION (3)**

Prerequisite(s): ENG 101.

A continuation of ENG 101 with special emphasis on the techniques involved in writing argument, persuasion, and literary analysis.

3 hours lecture.

**ENG 102H ENGLISH COMPOSITION (3)**

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.

A continuation of ENG 101 with special emphasis on the techniques involved in writing argument, persuasion and literary analysis.

3 hours lecture.

**ENG 104 INTRODUCTION TO LITERATURE (3)**

Prerequisite(s): ENG 101 and ENG 102.

A study of major literary genres: drama, poetry, fiction, and criticism. Emphasis on writing critically about literature.

3 hours lecture.

**ENG 109 WRITTEN COMMUNICATIONS AND REPORTS (3)**

Prerequisite(s): ENG 101 or permission of instructor.

Development of the skills of effective written communications and reports with emphasis on clarity and accuracy. Assignments will be individualized by occupational discipline.

3 hours lecture.

**ENG 111 GRAMMAR, USAGE AND PUNCTUATION (3)**

Prerequisite(s): ENG 100, placement in ENG 101, or permission of instructor.

An in-depth study of the mechanics of English required for academic and workplace communication. Emphasis is placed on grammar, word usage, punctuation, spelling, conciseness and clarity in both spoken and written language. The rules and style recommendations covered are those that should prove helpful in the academic and/or business communities.

3 hours lecture, 1 hour laboratory.

**ENG 119<sup>❖</sup> CREATIVE WRITING (3)**

Prerequisite(s): ENG 102 or permission of instructor.

An introduction to creative writers and writing, using professional models of narrative prose, drama, fiction, and poetry, along with original student work to analyze and critique.

3 hours lecture.

**ENG 167  BUSINESS COMMUNICATIONS (3)**

Prerequisite(s): CIS 116 or equivalent proficiency, and either BUS 111 or placement in ENG 101.

A study of business communications prepared in a business organization, including typical internal and external communications (letters, memos, proposals and reports). Emphasis will be on applying English fundamentals, usage, syntax, and organization ideas as well as on using technology appropriately to conduct research and to create documents. This course will also stress listening and speaking skills. Identical to BUS 167.

3 hours lecture.

**ENG 179  APPLIED TECHNICAL WRITING (3)**

Prerequisite(s): ENG 100 or placement in ENG 101, RDG 122 or exemption, and CIS 116 or CIS 120.

An applied skills course on writing clear, applied organizational reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/format and technical style. Identical to CIS 179 and BUS 179.

3 hours lecture.

**ENG 206 CRITICAL WRITING (3)**

Prerequisite(s): ENG 101 and ENG 102, or permission of instructor.

A study of composition as an analytical, interpretative process requiring the student to make rational judgments based on valid criteria. For students who wish to pursue further composition and reading skills, to prepare for upper-division writing at the university level, or to improve critical-thinking skills.

3 hours lecture.

**ENG 209 INTRODUCTION TO POETRY (3)**

Prerequisite(s): ENG 102 or permission of instructor.

An exploration of selected traditional, modern, and contemporary world poetry.

3 hours lecture.

**ENG 210 THE BIBLE AS LITERATURE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A study of the Bible as a work of literature emphasizing historical development, types of literature, allusions, impact upon later writers and the literary expression of cultural values.

3 hours lecture.

**ENG 212 CHILDREN'S LITERATURE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A study of the nature and genres of classical and contemporary literature intended for children from infancy through adolescence. An emphasis on content encompassing relationships with nature, family, and diverse ethnic and cultural communities.

3 hours lecture.

**ENG 219  ADVANCED CREATIVE WRITING (3)**

Prerequisite(s): ENG 102, ENG 119, or permission of instructor.

This is the second semester of a one-year creative writing sequence beginning with ENG 119 and will address advanced student projects in prose or poetry. Students will continue to read and analyze the best professional models in creative writing from around the world.

3 hours lecture.

**ENG 220  BRITISH LITERATURE I (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A survey of the major British authors from the beginnings to the early 18th century.

3 hours lecture.

**ENG 221 BRITISH LITERATURE II (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A survey of the major British authors from the 18th century to the present.

3 hours lecture.

**ENG 222  INTRODUCTION TO SHAKESPEARE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

An exploration of selected histories, tragedies, and problem plays/comedies by William Shakespeare.

3 hours lecture.

**ENG 224  AMERICAN LITERATURE I (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A survey of major American authors from the colonial period to 1860. Works studied may include selections from Hawthorne, Poe, Melville, and Emerson.

3 hours lecture.

**ENG 225  AMERICAN LITERATURE II (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A survey of selected works by major American authors from post-Civil War to the present.

3 hours lecture.

**ENG 226 WORLD LITERATURE I (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A study of some of the master works of world literature through the Renaissance. Works studied may include selections from Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes and Shakespeare, as well as samplings from outside the western tradition.

3 hours lecture.

**ENG 227 WORLD LITERATURE II (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A study of eight major literary works from the Renaissance to the present, including selections of Voltaire, Goethe, Stendahl, Dickens, Dostoevsky, Turgenev, Flaubert, and Mann. ENG 226 is not a prerequisite(s) to ENG 227.

3 hours lecture.

**ENG 228  MYTHOLOGY AND FOLKLORE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A survey of beliefs, customs and symbols from Neolithic times to the present. Emphasis on Sumerian, Babylonian, Hebrew, Egyptian, Anatolian, Cretan, Greek, Roman, Celtic myths and legends. Belief systems and symbols traced through the ages to the present times.

3 hours lecture.

**ENG 230 LITERATURE OF THE SOUTHWEST (3)**

Prerequisite(s): ENG 102 or permission of instructor.

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.

**ENG 231 NATIVE AMERICAN LITERATURE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

Introduction to Native American literature, including oral traditions and stories, autobiographies, fiction, and poetry, with emphasis on the cultural and historical influences on indigenous themes and representations.

3 hours lecture.

**ENG 255  INTRODUCTION TO THE ENGLISH LANGUAGE (3)**

Prerequisite(s): ENG 101 and either ENG 102 or ENG 111, or permission of instructor.

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.

**ENG 257  LITERARY MAGAZINE PRODUCTION (3)**

Prerequisite(s): ENG 101.

Production of the College literary and arts magazine. Includes application of promotion, editing, design, layout, and production techniques. May be repeated for credit. Identical to JRN 257.

3 hours lecture.

**ENG 260 IRISH LITERATURE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

An exploration of selected traditional, modern, and contemporary Irish literary works.

3 hours lecture.

**ENG 265 MAJOR AMERICAN WRITERS (3)**

Prerequisite(s): ENG 102 or permission of instructor.

An exploration of selected works by major American authors from the last century to the present.

3 hours lecture.

**ENG 273  WOMEN AND LITERATURE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

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.

**ENG 279  ADVANCED APPLIED TECHNICAL WRITING (3)**

Prerequisite(s): CIS/ENG 179.

An applied skill course on writing effective, clear, technical reports and communications with confidence, skill and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing mechanics/syntax, forms/format and technical style are stressed. Identical to CIS 279.

3 hours lecture.

## English as a Second Language

**ESL 010 ESL GRAMMAR I (3)**

Prerequisite(s): Recommendation from placement test.

An introduction to basic English grammar for beginning/high-beginning students whose native language is not English, with emphasis on the syntax and structure of simple sentences.

3 hours lecture, 2 hours laboratory.

**ESL 012 ESL READING I (3)**

Prerequisite(s): Recommendation from placement test.

An introduction to basic reading skills for beginning/ high-beginning students whose native language is not English, with emphasis on vocabulary development, comprehension, and structure.

3 hours lecture, 2 hours laboratory.

**ESL 014 ESL WRITING I (3)**

Prerequisite(s): Recommendation from placement test.

A beginning/high-beginning level writing course for students learning English as a second language designed to preview the writing process with emphasis on writing paragraphs on simple, controlled topics which require mainly isolated tense usage.

3 hours lecture, 2 hours laboratory.

**ESL 016 ORAL COMMUNICATION I (3)**

Prerequisite(s): Recommendation from placement test.

An introduction to oral communication skills in English for beginning/high-beginning students whose native language is not English, with emphasis on vocabulary, fundamentals of English pronunciation and development of basic listening and speaking skills.

3 hours lecture, 2 hours laboratory.

**ESL 017 INTENSIVE READING AND WRITING LEVEL I (3)**

Prerequisite(s): Recommendation from placement testing.

An introduction to basic reading and writing skills for beginning/high beginning students whose native language is not English.

3 hours lecture.

**ESL 018 INTENSIVE GRAMMAR, LISTENING AND SPEAKING LEVEL I (3)**

Prerequisite(s): Recommendation from placement testing.

An introduction to basic grammar, listening and speaking skills for beginning/high beginning students whose native language is not English.

3 hours lecture.

**ESL 020 ESL GRAMMAR II (3)**

Prerequisite(s): ESL 010 or recommendation from placement test.

A review of basic English grammar and an introduction to fundamental English grammar for high-beginning/low-intermediate students whose native language is not English, with emphasis on the syntax and structure of simple and compound sentences.

3 hours lecture, 2 hours laboratory.

**ESL 022 ESL READING II (3)**

Prerequisite(s): ESL 012 or recommendation from placement test.

An introduction to basic reading skills and strategies for high-beginning/low-intermediate students whose native language is not English, with emphasis on vocabulary development, comprehension and structure.

3 hours lecture, 2 hours laboratory.

**ESL 024 ESL WRITING II (3)**

Prerequisite(s): ESL 014 or recommendation from placement test.

A high-beginning to low-intermediate writing course designed to introduce the writing process with emphasis on topic sentences, paragraph development, cognitive skills and logical organization.

3 hours lecture, 2 hours laboratory.

**ESL 026 ORAL COMMUNICATION II (3)**

Prerequisite(s): ESL 016 or recommendation from placement test.

A review and continuation of oral communication skills in English for high-beginning/low-intermediate students whose native language is not English, with emphasis on vocabulary, pronunciation, and development of basic listening and speaking skills.

3 hours lecture, 2 hours laboratory.

**ESL 027 INTENSIVE READING AND WRITING LEVEL II (3)**

Prerequisite(s): Either ESL 012 and ESL 014, or ESL 017 and ESL 018, or recommendation from placement test.

A continuation of basic reading and writing strategies for high-beginning/low-intermediate students whose native language is not English.

3 hours lecture.

**ESL 028 INTENSIVE GRAMMAR, LISTENING AND SPEAKING LEVEL II (3)**

Prerequisite(s): ESL 018.

A review and continuation of basic English structure as needed for general proficiency at the high-beginning/low-intermediate level for students whose native language is not English. The course also includes study of vocabulary, listening comprehension, and speaking in controlled communication practice.

3 hours lecture.

**ESL 030 ESL GRAMMAR III (3)**

Prerequisite(s): ESL 020 or recommendation from placement test.

A review of fundamental and an introduction to more complex English grammar for low-intermediate/intermediate students whose native language is not English, with emphasis on the syntax and structure of simple, compound, and complex sentences.

3 hours lecture, 2 hours laboratory.

**ESL 032 ESL READING III (3)**

Prerequisite(s): ESL 022 or recommendation from placement test.

A review of reading skills and strategies for low-intermediate/intermediate students whose native language is not English, with emphasis on vocabulary development, comprehension, structure and basic study skills.

3 hours lecture, 2 hours laboratory.

**ESL 034 ESL WRITING III (3)**

Prerequisite(s): ESL 024 or recommendation from placement test.

A low-intermediate level to intermediate level writing course for students learning English as a Second Language, designed to develop the writing process with emphasis on topic sentences, methods of multi-paragraph development, cognitive skills and logical organization.

3 hours lecture, 2 hours laboratory.

**ESL 036 ORAL COMMUNICATION III (3)**

Prerequisite(s): ESL 026 or recommendation from placement test.

A review and continuation of oral communication skills in English for low intermediate / intermediate students whose native language is not English, with emphasis on vocabulary, pronunciation, and development of listening and speaking skills.

3 hours lecture, 2 hours laboratory.

**ESL 037 INTENSIVE READING AND WRITING LEVEL III (3)**

Prerequisite(s): Either ESL 022 and ESL 024, or ESL 027, or recommendation from placement test.

A review of fundamental and an introduction to more complex reading and writing skills in English for low-intermediate/intermediate students whose native language is not English.

3 hours lecture.

**ESL 038 INTENSIVE GRAMMAR, LISTENING AND SPEAKING LEVEL III (3)**

Prerequisite(s): Either ESL 020 and 026, or ESL 028, or recommendation from placement test.

A review of fundamental and an introduction to more complex grammar, listening and speaking skills in English for low-intermediate/intermediate students whose native language is not English.

3 hours lecture.

**ESL 040 ESL GRAMMAR IV (3)**

Prerequisite(s): ESL 030 or recommendation from placement test.

A review of basic and intermediate and an introduction to advanced English grammar for intermediate/high-intermediate students whose native language is not English, with emphasis on the syntax and structure of simple, compound, and complex sentences.

3 hours lecture, 2 hours laboratory.

**ESL 042 ESL READING IV (3)**

Prerequisite(s): ESL 032 or recommendation from placement test.

A review of reading skills and strategies for intermediate/high-intermediate students whose native language is not English, with emphasis on expanding their vocabulary, increasing comprehension, understanding structure and using basic study skills.

3 hours lecture, 2 hours laboratory.

**ESL 046 ORAL COMMUNICATION IV (3)**

Prerequisite(s): ESL 036 or recommendation from placement test.

A review and continuation of oral communication skills in English for intermediate/high-intermediate students whose native language is not English, with emphasis on vocabulary, pronunciation, and development of academic listening and speaking skills in English.

3 hours lecture, 2 hours laboratory.

**ESL 047 INTENSIVE READING AND WRITING IV (3)**

Prerequisite(s): Either ESL 032 and ESL 034, or ESL 037, or recommendation from placement test.

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

3 hours lecture.

**ESL 048 INTENSIVE GRAMMAR, LISTENING AND SPEAKING LEVEL IV (3)**

Prerequisite(s): Either ESL 030 and ESL 036, or ESL 038, or recommendation from placement exam.

A review of fundamentals and an introduction to more complex grammar, listening and speaking skills in English for intermediate to high-intermediate students whose native language is not English.

3 hours lecture.

**ESL 070 ESL FOR PROFESSIONALS I (6)**

Prerequisite(s): No previous English necessary; placement is determined by test.

An integrated-skills, content-based course designed for students who have little or no knowledge of English. Introduction to the sounds and intonation patterns of English, elementary vocabulary, and the structure of English as used in simple sentences.

6 hours lecture.

**ESL 072 ESL FOR PROFESSIONALS II (6)**

Prerequisite(s): ESL 070; placement may also be determined by standardized test.

A continuation of ESL 070; an integrated-skills, content-based course designed to give high-beginner level students practice using English. Covers grammar, reading, vocabulary, listening comprehension, pronunciation and intonation patterns. Activities build on skills developed in ESL 070.

6 hours lecture.

**ESL 074 ESL FOR PROFESSIONALS III (6)**

Prerequisite(s): ESL 072; placement may also be determined by standardized test.

A continuation of ESL 072, this is an integrated-skills course designed to give low-intermediate students practice using English. The course covers grammar, reading, vocabulary, listening comprehension, pronunciation and intonation patterns. Activities build on skills developed in ESL 072.

6 hours lecture.

**ESL 076 ESL FOR PROFESSIONALS IV (6)**

Prerequisite(s): ESL 074; placement may also be determined by standardized test.

A continuation of ESL 074; an integrated-skills, content-based course designed to give high-intermediate students practice using English. Covers grammar, reading, vocabulary, listening comprehension, pronunciation and intonation patterns. Activities build on skills developed in ESL 074.

6 hours lecture.

**ESL 081 BASIC WORKPLACE ENGLISH (3)**

Prerequisite(s): None.

Beginning-level practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

**ESL 082 APPLIED WORKPLACE ENGLISH (3)**

Prerequisite(s): Recommendation from placement test or ESL 081 within the preceding six months, and concurrent enrollment in GTC 092.

High-beginner/low-intermediate level practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

**ESL 083 WORKPLACE ENGLISH IN CONTEXT (3)**

Prerequisite(s): Recommendation from placement test or ESL 082 within the preceding six months.

Low-intermediate to intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

**ESL 084 WORKPLACE ENGLISH IN A BILINGUAL SETTING (3)**

Prerequisite(s): Recommendation from placement test or ESL 083 within the preceding six months, and concurrent enrollment in ENG 094.

High-intermediate practice communicating in English with emphasis on those elements most useful in the workplace.

3 hours lecture.

**ESL 091 PRONOUNCING ENGLISH (1)**

Prerequisite(s): Recommendation from placement test or instructor assessment.

Introduction to the sounds, rhythm, stress patterns, and intonation of English, with emphasis on those aspects of the oral language that make it easier to understand and to be understood.

2 hours laboratory.

## Environmental Studies

**EVS 192 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (0.5)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing environmental topics of current interest to public and private sector organizations. Includes seminars based upon EPA and OSHA regulations.

0.5 hour lecture.

EVS 192A OSHA Hazmat and Emergency Response Refresher

## Family Consumer Services

**FCS 184 CHILDHOOD DEVELOPMENT (3)**

Prerequisite(s): ENG 101.

This course is designed to address growth, development, and socialization of the child within the family setting from conception to the middle school years. Includes childcare implications.

3 hours lecture.

## Food and Nutrition

**FON 101 NUTRITION (3)**

Prerequisite(s): RDG 110, placement in or completion of RDG 122, or exemption.

This course provides a study of basic nutrition principles and their application to the normal diet, and to health and cultural patterns. Some emphasis will be placed on diet modification in common health disorders, i.e., obesity, heart disease, and diabetes.

3 hours lecture.

**FON 201 APPLIED NUTRITION (3)**

Prerequisite(s): FON 101 or permission of instructor.

This course provides an understanding of the various aspects of nutrition and prepares students for further study of health and how it is related to nutrition and activity. Students will increase their awareness of nutrition, the structure and function of the digestive system, aspects of nutrition within our society, and methods to enhance health by dietary changes.

3 hours lecture.

**French****FRE 101 ELEMENTARY FRENCH (4)**

Prerequisite(s): None.

For beginning students: conversation, comprehension of the spoken language, pronunciation, grammar, reading and composition.

4 hours lecture, 1 hour laboratory.

**FRE 102 ELEMENTARY FRENCH (4)**

Prerequisite(s): FRE 101 or two years of high school French.

Continuation of FRE 101 with further development of conversation, grammar, reading and composition. Stress on language use and vocabulary development.

4 hours lecture, 1 hour laboratory.

**FRE 201 INTERMEDIATE FRENCH (4)**

Prerequisite(s): FRE 102 or three years of high school French.

A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language. Supplemental readings and assignments to enrich the student's vocabulary.

4 hours lecture, 1 hour laboratory.

**FRE 202 INTERMEDIATE FRENCH (4)**

Prerequisite(s): FRE 201 or four years of high school French.

A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language. Supplemental readings and assignments to enrich the student's vocabulary.

4 hours lecture, 1 hour laboratory.

**Fire Science****FST 101 FIREFIGHTER SAFETY AND ENTRY-LEVEL OPERATIONS (4)**

Prerequisite(s): None.

The first in a series of four courses designed to train the student for a career in fire service. The course will cover topics in firefighter orientation, firefighter safety, fire behavior, and building construction. All materials covered will be through didactic and hands-on learning.

3 hours lecture, 1.5 hours laboratory.

**FST 102 FIREFIGHTER RESCUE OPERATION (4)**

Prerequisite(s): FST 101 or permission of fire science program coordinator.

The second in a series of four courses designed to train the student for a career in fire service. The course will cover topics in rescue and extrication, vehicle extrication, forcible entry tools, forcible entry techniques and ground ladders. All materials covered will be through didactic and hands-on learning.

3 hours lecture, 1.5 hours laboratory.

**FST 103 FIREFIGHTER GROUND LADDERS AND HOSE PROCEDURES (4)**

Prerequisite(s): FST 102 or permission of fire science program coordinator.

The third in a series of four courses designed to train the student for a career in fire service. The course will cover topics in firefighter ladder application and basic fire hose techniques. All materials covered will be through didactic and hands-on learning.

3 hours lecture, 1.5 hours laboratory.

**FST 104 FIRE SUPPORT SERVICES (4)**

Prerequisite(s): FST 103 or permission of fire science program coordinator.

The fourth in a series of four courses designed to train the student for a career in fire service. The course will cover topics in fire detection systems, sprinkler systems, basic fire cause and origin information, and fire education practices. All materials covered will be through didactic and hands-on learning.

3 hours lecture, 1.5 hours laboratory.

**FST 106 FUNDAMENTALS OF FIRE PREVENTION (3)**

Prerequisite(s): None.

A survey of the basic principles of fire prevention with special emphasis on fire detection and extinguishing systems and on the interpretation and enforcement of fire regulations. Includes the study of hazards associated with heating equipment and building design as well as chemicals and explosives.

3 hours lecture.

**FST 110 FIRE FIGHTER I (6)**

Prerequisite(s): None.

An introduction to the operations and individual skills involved in the extinguishment of fire. Completion of this course will prepare the student for certification as Fire Fighter I by the Office of the State Fire Marshal.

6 hours lecture.

**FST 111 FIRE FIGHTER II (6)**

Prerequisite(s): FST 110 or permission of instructor.

A continuation of Fire Fighter I with emphasis on fire hydrants and pumps, use of ropes, ventilation, salvage, forcible entry tools, rescue techniques and record keeping in the fire service workplace. Completion of this course will qualify the student to take the Fire Fighter II certification exam through the State Fire Marshal's office.

6 hours lecture.

**FST 112 EMERGENCY VEHICLE OPERATIONS (1)**

Prerequisite(s): Valid driver's license, enrolled in a certified police academy or be sworn officer or certified EMS provider.

This course is designed for emergency and commercial vehicle operators. The course will emphasize the legal aspects of emergency vehicle operation, vehicle dynamics, vehicle maintenance, vehicle inspections and human dynamics. The practical exercise of the course will be conducted at an outdoor site where the student will practice then demonstrate individual proficiency in operating the type of vehicle appropriate for individual operation. The outdoor course will be set up in conformance with the recommended National Law Enforcement Drivers Training Guide and Federal Emergency Management Agency Training Guide.

1 hour lecture.

**FST 115 FIRE SERVICE APPARATUS DRIVER/OPERATOR (3)**

Prerequisite(s): None.

An introduction to the operation of different types of fire service apparatus. Includes driver/operator responsibilities, 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.

**FST 120 FIRE SERVICE HYDRAULICS (3)**

Prerequisite(s): FST 110 and FST 111, or permission of instructor.

A review of basic math, hydraulic laws and formulas as applied to the fire service with emphasis upon the application of formulas and mental calculations to hydraulic problems, water supply problems, underwriters requirements and pumbers.

3 hours lecture.

**FST 121 HAZMAT TECHNICIAN I (6)**

Prerequisite(s): Fire department affiliation.

This course is the first in a series of three courses designed to train students in advanced techniques of hazardous materials emergency response. Upon completion of the three-course segment, students will be eligible to test for state Technician Certification in Hazardous Materials Emergency Response (OSHA 1910.120 and NFPA 472) Safety and Entry Level Operations.

6 hours lecture.

**FST 124 CITIZEN FIRE ACADEMY (2)**

Prerequisite(s): Age 18 or older and live or work in Sierra Vista.

An introduction to the fire department in general, including the agency's role in the community and within emergency services arena. Also emphasized: fire department's history, mission, values, resources, skills and operational partnerships.

2 hours lecture.

**FST 200 FIRE APPARATUS AND EQUIPMENT (3)**

Prerequisite(s): FST 110 and FST 111, or permission of instructor.

A practical study of the selection, care, construction, operation and maintenance of fire department equipment. The basic principles of equipment, troubleshooting, and testing will be investigated.

3 hours lecture.

**FST 220 RESCUE PRACTICES (3)**

Prerequisite(s): FST 110 and FST 111, or permission of instructor.

A practical study of life-saving practices pertaining to the fire company. Emphasis is placed on training for resuscitator squads, rescue equipment, the fire department's role in civil defense and other disasters, chemicals and diseases that affect breathing, and breathing apparatus.

3 hours lecture.

**FST 222 HAZMAT TECHNICIAN II (5)**

Prerequisite(s): FST 121 and fire department affiliation.

This course is the second in a series of three courses designed to train students in advanced techniques of hazardous materials emergency response. Upon completion of the three-course segment, students will be eligible to test for state Technician Certification in Hazardous Materials Emergency Response (OSHA 1910.120 and NFPA 472) Safety and Entry Level Operations.

5 hours lecture.

**FST 223 HAZMAT TECHNICIAN III (5)**

Prerequisite(s): FST 121, FST 222, and fire department affiliation.

This course is the third in a series of three courses designed to train students in advanced techniques of hazardous materials emergency response. Upon completion of the three-course segment, students will be eligible to test for state Technician Certification in Hazardous Materials Emergency Response (OSHA 1910.120 and NFPA 472) Safety and Entry Level Operations.

5 hours lecture.

**FST 224 FIELD EXPERIENCE IN FIRE SCIENCE TECHNOLOGY (1 - 6)**

Prerequisite(s): A declared major in Fire Science Technology. Permission and approval of cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in fire science technology and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

**FST 240 FIRE FIGHTING TACTICS AND STRATEGY (3)**

Prerequisite(s): FST 110 and FST 111, or permission of instructor.

A practical study of the organization and use of manpower, equipment and apparatus in fire fighting with emphasis on practical methods of attacking, controlling and extinguishing various types of fires.

3 hours lecture.

**FST 265 SUPERVISORY TRAINING FOR FIREFIGHTERS (3)**

Prerequisite(s): FST 110 and FST 111, or permission of instructor.

A study of administrative methods and practices as applied to the fire service, including departmental organization, and personnel management. Emphasis is placed on employee selection procedures, employee discipline, performance evaluations, elements of supervision, labor relations, fire service planning and relationships with other organizational units.

3 hours lecture.

## Geography

**GEO 101  PHYSICAL GEOGRAPHY (4)**

Prerequisite(s): RDG 122 or exemption, and completion of or concurrent enrollment in MAT 081 or higher, and ENG 100 or concurrent enrollment.

An introduction to the various features of the earth's physical environment including the origin and development of landforms and the composition of the earth's crust, weather, climate, vegetation, soils and mineral resources.

3 hours lecture, 3 hours laboratory.

**GEO 102  INTRODUCTION TO HUMAN GEOGRAPHY (3)**

Prerequisite(s): None.

Recommended Preparation: ENG 101, and RDG 122 or exemption.

This course covers the basis of human geography: location, distance, space, place, culture, population, cities, politics, and the economy and the ways in which aspects of social and cultural difference vary geographically.

3 hours lecture.

**GEO 104  POLITICAL GEOGRAPHY (3)**

Prerequisite(s): ENG 100 or concurrent enrollment, and RDG 122 or exemption.

A study of political phenomena in different locations in conjunction with the physical features of the earth's landscape.

3 hours lecture.

**GEO 121 WORLD REGIONAL GEOGRAPHY (3)**

Prerequisite(s): ENG 101 or concurrent enrollment, and RDG 122 or exemption.

An exploration of major world geographical regions with emphasis upon human cultural adaptation to the physical habitat.

3 hours lecture.

## German

**GER 001 CONVERSATIONAL GERMAN (3)**

Prerequisite(s): None.

Essentials of German conversation in everyday situations designed for students who intend to use the language for business, pleasure or travel. Transferable to a four-year institution only upon satisfactory performance on a proficiency examination.

3 hours lecture.

**GER 101 ELEMENTARY GERMAN (4)**

Prerequisite(s): None.

Comprehension of the spoken language, understandable pronunciation, recognition of basic grammar structures, ability to converse, read and write in simple sentences on topics related to personal and classroom experiences.

4 hours lecture, 1 hour laboratory.

**GER 102 ELEMENTARY GERMAN (4)**

Prerequisite(s): GER 101, two years of high school German, or permission of instructor.

Comprehension of the spoken language, understandable pronunciation, recognition of basic grammar structures, ability to converse, read and write in simple sentences on topics related to personal and classroom experiences.

4 hours lecture, 1 hour laboratory.

**GER 201 INTERMEDIATE GERMAN (4)**

Prerequisite(s): GER 102, three years of high school German, or permission of instructor.

An intermediate course in speaking, writing, understanding, and reading German. Integration and utilization of new structures, with emphasis on longer non-technical essays and analysis of short stories and socially pertinent texts.

4 hours lecture, 1 hour laboratory.

**GER 202 INTERMEDIATE GERMAN (4)**

Prerequisite(s): GER 201, four years of high school German, or permission of instructor.

A continuation of GER 201, with emphasis on understanding of the usage and structure in the language and familiarity with German culture. Students will read material in such fields as art, literature and technology. Students will also write and present brief term papers.

4 hours lecture, 1 hour laboratory.

**Geology****GLG 101 INTRODUCTION TO GEOLOGY I (PHYSICAL) (4)**

Prerequisite(s): None.

Principles of physical geology for both general-interest students and those who plan to major in geology. Includes material of interest on recent trends in earth sciences and environmental sciences.

3 hours lecture, 3 hours laboratory.

**GLG 102 INTRODUCTION TO GEOLOGY II (HISTORICAL) (4)**

Prerequisite(s): None.

Recommended Preparation: GLG 101.

Presents the most current model of the development of the surface of our planet and the life found upon it. For general-interest students and those majoring in geology, archaeology, or the biological sciences.

3 hours lecture, 3 hours laboratory.

**GLG 110 ENVIRONMENTAL GEOLOGY (4)**

Prerequisite(s): None.

Recommended Preparation: GLG 101.

An introduction to understanding geologic events and environmental issues and their impact on populations. The course will include hazardous geologic aggrading and degrading processes; soils and land use; air, water and waste pollution; mining practices; energy and fossil and nuclear fuels. Population, economic, ecological and bioethical issues are also covered.

3 hours lecture, 3 hours laboratory.

## GLG 192 SPECIAL TOPICS AND APPLICATIONS IN GEOLOGY (0.25 - 4)

Prerequisite(s): None.

Recommended Preparation: Permission of the instructor is strongly recommended.

A rotating forum/seminar/course or supplement to an existing geology course emphasizing geology or related topics. May be repeated for Cochise College credit. Cochise College credit only unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

GLG 192A Geology Field Trip with a Digital Camera - Chiricahucas (0.5)

GLG 192B Geology Field Trip with a Digital Camera - Cochise County Road Cuts (0.5)

## General Technology

### GTC 001 HOME MAINTENANCE (2)

Prerequisite(s): None.

A "do-it-yourself" home maintenance course covering use of common hand and power tools for routine electrical, carpentry, and plumbing repairs.

1 hour lecture, 3 hours laboratory.

### GTC 025 SOLAR ENERGY SYSTEMS (3)

Prerequisite(s): MAT 122 and knowledge of basic hand tools.

Design, installation and operation of residential solar energy systems. Basic solar heating and cooling theory and laboratory experience to develop student understanding of solar energy systems. Emphasis on selection of components and operation of the system.

2 hours lecture, 3 hours laboratory.

### GTC 092 ENGLISH FOR OCCUPATIONS (1)

Prerequisite(s): Concurrent enrollment in ENG 012, ENG 013, or ENG 014; or permission of instructor.

Intensive practice with English vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

## GTC 100 TECHNICAL MATHEMATICS I (3)

Prerequisite(s): None.

A review of arithmetic and the study of fundamentals of algebra and geometry applied to practical problems of the drafting room, machine shop, and engineering.

3 hours lecture.

## GTC 103 INTERNATIONAL RESIDENTIAL BUILDING CODES (3)

Prerequisite(s): None.

This course is an introduction to the current international residential building code for one and two family dwellings. The codes relationship to local code enforcement and blueprint reading will be covered. Inspectors, contractors, designers, draftsmen, and anyone associated with the building industry will benefit from this course.

3 hours lecture.

## GTC 105 MANUFACTURING MATERIALS AND PROCESSES (3)

Prerequisite(s): None.

The study of manufacturing materials, their characteristics and applications; manufacturing processes including machining, forming, welding and automated manufacturing techniques with emphasis on their relationship to drafting and design.

3 hours lecture.

## GTC 119 INTRODUCTION TO FACILITY MAINTENANCE (3)

Prerequisite(s): None.

An introduction to construction/maintenance of exterior and interior walls, ceilings, floors, windows, doors, furniture, roofs, concrete, masonry, plumbing, and basic electricity. Emphasis on the proper use of hand and power tools with a focus on safety.

3 hours lecture.

**GTC 121 PAINTING AND FINISHING TECHNIQUES (3)**

Prerequisite(s): None.

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.

2 hours lecture, 4 hours laboratory.

**GTC 122 REFRIGERATION I (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in inspecting, troubleshooting, repairing and maintaining air conditioning and evaporative cooling systems with an emphasis on scheduling of seasonal maintenance, start-up and shut-down procedures.

2 hours lecture, 4 hours laboratory.

**GTC 123 ELECTRICAL REPAIR AND MAINTENANCE (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in maintaining troubleshooting, and repairing existing residential and industrial circuitry and equipment. The student will install original circuitry in newly remodeled spaces or additions.

3 hours lecture.

**GTC 124 CARPENTRY REPAIR TECHNIQUES (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in maintaining, repairing, replacing, and remodeling existing or new building components, including floor coverings, wall coverings, and glazing.

3 hours lecture.

**GTC 125 PLUMBING AND CLIMATE SYSTEMS MAINTENANCE (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in the maintenance, troubleshooting, repair, and replacement of liquid supply and waste removal or drainage systems.

3 hours lecture.

**GTC 126 FACILITY MAINTENANCE MANAGEMENT (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in scheduling maintenance, allotting maintenance task hours, and the cost-efficient and safe use of maintenance tools and materials with an emphasis on the cost of preventive maintenance versus unscheduled maintenance.

3 hours lecture.

**GTC 127 BLUEPRINT READING AND ESTIMATING (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in reading and understanding blueprints and their use in locating plumbing, electrical and waste disposal systems. The student will learn the symbols and abbreviations used by architects and draftsmen, how to apply them to maintenance techniques, and how to estimate material from architectural specifications.

3 hours lecture.

**GTC 128 HAZARDOUS MATERIALS AND THE EPA (3)**

Prerequisite(s): None.

An introduction to the safe handling of refrigerants and hazardous materials in relation to the air conditioning and refrigeration field. Emphasis will be placed on EPA regulations and guidelines.

3 hours lecture.

**GTC 129 COMMERCIAL ELECTRICAL WIRING (3)**

Prerequisite(s): None.

Upon completion of this course, students will be proficient in maintaining, troubleshooting, and repairing industrial circuitry, equipment, and three-phase wiring.

3 hours lecture, 1 hour laboratory.

**GTC 140 MACHINE TECHNOLOGY (3)**

Prerequisite(s): None.

A course in basic machine shop operations; to include drilling, milling, grinding and lathe processes.

2 hours lecture, 3 hours laboratory.

**GTC 206 ENGINEERING MATERIALS AND PROCESSES (4)**

Prerequisite(s): GTC 105.

Materials, their structures, properties, fabrication characteristics and applications. Material forming, joining and finishing processes. Automation and quality control.

5 hours lecture.

**GTC 222 REFRIGERATION II (3)**

Prerequisite(s): GTC 122.

A continuation of the fundamentals of refrigeration with an emphasis on the function of motors, controls, and the major components of the refrigeration system, to include evaporators, condensers, compressors, and expansion devices.

3 hours lecture.

**GTC 223 HEATING AND AIR CONDITIONING (4)**

Prerequisite(s): GTC 222.

An introduction to the various types of heating and air conditioning systems. Electrical devices, valves, controls and duct systems will also be explored. An emphasis will be placed on troubleshooting and repair.

4 hours lecture.

**GTC 227 ELECTRICITY AND WIRING FOR HVAC/R (3)**

Prerequisite(s): None.

A comprehensive study of electrical circuits and wiring diagrams used in the heating, ventilation, air conditioning, and refrigeration fields. This course will challenge students' understanding of electrical concepts, simple circuits, wiring techniques, troubleshooting, and repair strategies.

2 hours lecture, 2 hours laboratory.

**GTC 231 MANUFACTURING PROCESSES (4)**

Prerequisite(s): GTC 105 and GTC 206.

A course in both theoretical and practical experience related to the machining of ferrous and nonferrous metals. Designed to develop a basic understanding of machining operations related to drilling, milling, grinding and lathe processes.

3 hours lecture, 2 hours laboratory.

## Hospitality Administration

**HAD 100 INTRODUCTION TO THE HOSPITALITY INDUSTRY (3)**

Prerequisite(s): None.

An introductory course of the hospitality industry which includes the hotel-restaurant-resort career, a review of the industry's history, career opportunities, training and motivation, labor relations and management principles as they relate to the hospitality industry.

3 hours lecture.

**HAD 120 INTRODUCTION TO PROPERTY MANAGEMENT (3)**

Prerequisite(s): None.

An introductory course to professional housekeeping and housekeeping administration, including maintenance and logistical supply, employee supervision and safety.

3 hours lecture.

## **HAD 224 FIELD EXPERIENCE IN THE HOSPITALITY INDUSTRY (1 - 6)**

Prerequisite(s): A declared major in hospitality administration. Permission and approval of cooperative education program coordinator and CUL 107.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in hospitality administration and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

## **HAD 235 HOSPITALITY LAW (3)**

Prerequisite(s): HAD 100 and HAD 120.

Common law and its application to the hospitality industry, including basic contracts, administrative law and government regulations and legal concerns resulting from the innkeeper-guest relationship and the establishment and operation of a place of public accommodation. The impact of the legal environment and process on the day-to-day aspects of the hospitality industry, including preventative measures to limit or eliminate liability and litigation.

3 hours lecture.

## **HAD 250 HOSPITALITY FINANCIAL MANAGEMENT (3)**

Prerequisite(s): BUS 201.

A study of financial statement analysis, management of assets, ratio analysis, analytical techniques and investment decision making as they apply to the hospitality industry.

3 hours lecture, 2 hours laboratory.

## **HAD 270 HOSPITALITY AUTOMATION (3)**

Prerequisite(s): CUL 210.

An exploration and application of computer technology to front desk operations, including reservations, guest accounting and manager's reports.

3 hours lecture.

## **History**

### **HIS 110 HISTORY OF THE UNITED STATES 1607-1877 (3)**

Prerequisite(s): Concurrent enrollment in a collaborative RDG 110, or RDG 122 or exemption.

A study of the development of American characteristics and nationality from colonial beginnings through the period of Reconstruction, emphasizing the factors and forces which produced the Revolution, the Constitution, westward expansion, sectionalism, and the Civil War.

3 hours lecture.

### **HIS 111 HISTORY OF THE UNITED STATES SINCE 1877 (3)**

Prerequisite(s): Concurrent enrollment in a collaborative RDG 110, or RDG 122 or exemption.

A study of the social, economic, and political forces that moved the United States through changing times from the post-Reconstruction era to the present, focusing on both domestic and foreign affairs in the country's last century of development.

3 hours lecture.

### **HIS 115 SURVEY OF THE AMERICAN WEST (3)**

Prerequisite(s): None.

A study of the methods of penetration and the patterns of westward expansion and settlement with emphasis on the Southwest. Analysis and criticism of the conquest, exploitation, and settlement of the last frontiers, including the contribution of minority groups in the American West.

3 hours lecture.

### **HIS 130 ARIZONA HISTORY (3)**

Prerequisite(s): None.

The history of Arizona from the entrance of the Spaniards in 1539 to its emergence as a modern state in the Southwest.

3 hours lecture.

**HIS 192 SPECIAL TOPICS IN HISTORY (0.5 - 1)**

Prerequisite(s): None.

Topics emphasizing local, regional, and international historical events vary according to student needs and interests. May be repeated one time for credit.

HIS 192E Women and the West

HIS 192R Perspectives on the Holocaust

**HIS 201 HISTORY OF WOMEN IN THE UNITED STATES (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

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.

**HIS 229 HISTORY OF MEXICO I (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

A study of political, economic, social, and cultural developments from pre-Columbian civilizations to the War for Independence.

3 hours lecture.

**HIS 230 HISTORY OF MEXICO II (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

A study of political, economic, social, and cultural developments from the War for Independence to modern times.

3 hours lecture.

**HIS 240 SURVEY OF WESTERN CIVILIZATION I (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

A study of major historical trends from the emergence of western civilization through the legacy of Rome, with emphasis on the cultural development of humankind and historical relationships.

3 hours lecture.

**HIS 241 SURVEY OF WESTERN CIVILIZATION II (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

A study of major historical trends in western civilization from the Middle Ages to the emergence of nation-states and the Enlightenment, with emphasis on the cultural development of humankind and historical relationships.

3 hours lecture.

**HIS 242 SURVEY OF WESTERN CIVILIZATION III (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

A study of major historical trends in western civilization from the eve of the French Revolution to the present, with emphasis on the cultural development of humankind and historical relationships.

3 hours lecture.

**HIS 260 A HISTORY OF RUSSIA (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

This course surveys Russian history from Kiev Rus to the present, and it studies Russia's geography, Orthodox Christian religion, ethnic minorities, culture, and economics. It traces Russia from its Slavic origins and czarist autocracy to the communist revolution, and it evaluates the collapse of the Soviet Union and Russia's present-day political, economic, and social structures.

3 hours lecture.

# Health Technology

## HLT 100 HEALTH TECHNOLOGY CAREERS (3)

Prerequisite(s): None.

An introduction to health careers including basic information such as ethics, professional conduct, infection control, safety, communication and job skills. Some hands-on skills will be taught and some class time will be spent in specialty areas of a health care facility and/or public health agency.

3 hours lecture.

## HLT 109 ♦ NURSING ASSISTANT (5)

Prerequisite(s): Appropriate placement test score, MAT 071 (or MAT 071A and MAT 071B), or MAT 072; and appropriate placement test score or RDG 020A.

A course approved by the Arizona Board of Nursing to prepare the basic level of nursing assistant to take the state exam for certification with emphasis on basic concepts of communication, patient safety, anatomy and physiology, nursing process, patient rights, legal and professional responsibilities, and specific patient care skills. The student will learn to recognize and meet basic physical, psychosocial, and cultural needs of patients especially those needs of the geriatric patient.

3 hours lecture, 5 hours laboratory.

## HLT 110 ♦ CPR (0.5)

Prerequisite(s): None.

A course offering health care provider level of cardiopulmonary resuscitation. CPR card awarded upon successful course completion.

0.5 hour lecture.

## HLT 111 ♦ CPR AND FIRST AID (1)

Prerequisite(s): None.

A course offering health care provider level of cardiopulmonary resuscitation and basic first aid. CPR and First Aid cards awarded upon successful course completion.

1 hour lecture.

## HLT 139 ♦ MEDICAL ASSISTANT I (8)

Prerequisite(s): Placement in, concurrent enrollment in, or completion of MAT 082 or higher; and placement in, completion of RDG 122, or exemption.

Recommended Preparation: BIO 160 or concurrent enrollment.

Prior to enrollment in the medical assistant course, 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) Measles, mumps, rubella (MMR) vaccination, birth prior to 1957, or positive titer
- 4) Varicella (chickenpox) vaccination waiver or positive titer
- 5) Hepatitis B series vaccination or positive titer
- 6) Background check.

This course provides the student with an understanding of the concepts, basic skills and terminology to function as a medical assistant. The student will gain an understanding of the regulations, guidelines, responsibilities, and liabilities of being a medical assistant. The student will gain an understanding of his/her role in the administration of the medical office, and a knowledge of the basic principles of human behavior and how it affects client interactions. The skills laboratory classes are designed to give the student hands-on application of the procedures in a medical office.

7 hours lecture, 1 hour laboratory.

## HLT 140 ♦ MEDICAL ASSISTANT II (8)

Prerequisite(s): BIO 160, HLT 139, and either CIS 116 or concurrent enrollment.

This course will continue to provide the student with an understanding of the concepts and skills required to function as a medical assistant. The student will gain an understanding of the medical assistant's role in caring for clients with common health needs and problems throughout the life span. The student will gain an understanding of assessment, medication administration, and advanced procedures and techniques used by the medical assistant.

6 hours lecture, 2 hours laboratory.

**HLT 141 MEDICAL ASSISTANT III (6)**

Prerequisite(s): CIS 116, HLT 111, and HLT 140.

This course provides the student with practical application of clinical skills required of the medical assistant in an ambulatory health care setting. It will give the student experience in the practice of communication and coping and therapeutic skills to assist them to effectively communicate with medical providers, professionals, and the general public. It will prepare the student for medical assistant certification/registration and employment as a medical assistant.

2 hours lecture, 4 hours laboratory.

## Honors Individual Project

**HON 220 MENTORING FOR SUCCESS (COOKIES) I (2)**

Prerequisite(s): 12 credits completed at Cochise College, minimum 3.5 GPA, and approval of the instructor and the Honors Committee.

Recommended Preparation: Completion of or concurrent enrollment in HON 255 or SLE 255.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) I is a formal civic engagement experience designed to hone leadership skills and service aptitudes. Students meet regularly with their instructor, provide a minimum of three hours per week of mentoring and academic support to area public school students, and serve as mentors to project participants. State law requires that they be fingerprinted and pass a background check prior to providing said services.

1 hour lecture, 3 hours applied learning.

**HON 221 MENTORING FOR SUCCESS (COOKIES) II (2)**

Prerequisite(s): HON 220 or SLE 220, minimum 3.5 GPA, and approval of the instructor and the Honors Committee.

Recommended Preparation: Completion of or concurrent enrollment in HON 255 or SLE 255.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) II is designed to further improve leadership skills, team-building strategies, mentoring abilities, and tutoring skills. Students meet regularly with their instructor, provide a minimum of three hours per week of mentoring and academic support to area public school students, and create individualized action plans for project participants. State law requires that they be fingerprinted and pass a background check prior to providing said services.

1 hour lecture, 3 hours applied learning.

**HON 222 MENTORING FOR SUCCESS (COOKIES) III (2)**

Prerequisite(s): HON 221 or SLE 221, minimum 3.5 GPA, and approval of the instructor and the Honors Committee.

Recommended Preparation: HON 255 or SLE 255.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) III is designed to provide an advanced experience in effective role modeling and group leadership, and in project design, management, and evaluation. Students meet regularly with their instructor, provide a minimum of three hours per week of mentoring and academic support to area public school students, and develop strategies for continuous project improvement. State law requires that they be fingerprinted and pass a background check prior to providing said services.

1 hour lecture, 3 hours applied learning.

**HON 250 HONORS: INDIVIDUAL PROJECT (1 - 4)**

Prerequisite(s): 12 credits completed at Cochise College, minimum GPA 3.5 or exception through petition of the Honors Committee.

A non-traditional project mutually agreed upon between student and mentor. Student must obtain an honors contract from the honors program secretary/treasurer.

**HON 251 HONORS SEMINAR (1)**

Prerequisite(s): Completion of 12 credits in a degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: Honors Committee approval.

A seminar for current and potential honors students to share information and participate in networking regarding individual honors projects.

1 hour lecture.

**HON 254A LEADERSHIP/SERVICE I (1)**

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: Completion of one one-credit Honors contract.

A theoretical and applied study of leadership within the context of service. Introduction to leadership, development of a personal leadership philosophy, articulating a vision, goal assessment, and the relationship between leadership and service.

1 hour lecture.

**HON 254B LEADERSHIP/SERVICE II (1)**

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: Completion of one one-credit Honors contract.

A theoretical and applied study of leadership within the context of service. Ethics within the context of leadership and leading through conflict management.

1 hour lecture.

**HON 254C LEADERSHIP/SERVICE III (1)**

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: Completion of one one-credit Honors contract.

A theoretical and applied study of leadership within the context of service. Team-building, group empowerment, change management, and leadership through service.

1 hour lecture.

**HON 255 LEADERSHIP/SERVICE (3)**

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: Completion of one one-credit Honors contract.

A theoretical and applied study of leadership within the context of service. Incorporates an introduction to leadership, development of a personal leadership philosophy, the relationship between leadership and service, leadership ethics, conflict management, team-building, group empowerment, change management, and leadership through service.

3 hours lecture.

**HON 256 LEADERSHIP PRACTICUM (1 - 4)**

Prerequisite(s): 3.5 grade point average and Honors Committee approval.

Recommended Preparation: Concurrent enrollment in, or completion of HON/SLE 254 A, B, and/or C, or HON/SLE 255.

A practical application of essential leadership skills for students holding campus and/or community leadership positions. Includes an extensive exploration of leadership issues and skills required in both professional and volunteer settings with a focus on conflict resolution, mediation, program planning, effective communication, and mentorship. Through a combination of direct instruction and applied learning activities, students will acquire increased self-confidence, new ideas in the area of leadership development, added professional networking opportunities, knowledge group and individual motivation, and information for future career choices. The number of student units received is determined by the scope and time commitment of the leadership activity(ies).

**HON 257 LEADERSHIP PRACTICUM II (1 - 4)**

Prerequisite(s): HON 256, 3.5 GPA, and Honors Committee approval.

Recommended Preparation: Concurrent enrollment in or completion of HON/SLE 254A, B, and C or HON/SLE 255.

A continued practical application of essential leadership skills for students holding campus and/or community leadership positions. Includes an extensive exploration of leadership issues and skills required in both professional and volunteer settings with a focus on conflict resolution, mediation, program planning, effective communication, and mentorship. Through a combination of direct instruction and applied learning activities, students will acquire increased self-confidence, new ideas in the area of leadership development, added professional networking opportunities, knowledge of group and individual motivation, and information for future career choices. May be offered in traditional face-to-face, blended, and online formats, with the number of student units received determined by the scope and time commitment of the leadership activity(ies).

**HON 258 LEADERSHIP IN THEORY AND PRACTICE (3)**

Prerequisite(s): HON/SLE 255 or HON/SLE 254 A, B, and C.

A structured application of leadership theory and skills within a college- or community-based project. Designed to promote leadership development, self-confidence, acquisition of new leadership skills/knowledge, application of successful group motivation techniques, networking opportunities, and career exploration.

3 hours lecture.

**HON 260 THE HUMAN QUEST FOR UTOPIA (3)**

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: ENG 102H and completion of one one-credit Honors contract.

Inclusive study of the history, literature, philosophy, technology, ecology, sociology, psychology, mythology, tradition, research, and economy of utopian communities.

3 hours lecture.

**HON 265 DIMENSIONS AND DIRECTIONS OF CONTEMPORARY ISSUES (3)**

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Adopt Phi Theta Kappa issue of the year and research from multiple perspectives.

3 hours lecture.

**HON 270 HONORS HISTORY AND LITERATURE (3)**

Prerequisite(s): Completion of 12 credits in an accredited degree program including ENG 102, with a GPA of 3.5 or higher (or petition to the Honors Committee).

Recommended Preparation: ENG 102H.

The study of literature in context of historical, philosophical and cultural perspectives.

3 hours lecture.

**Health and Physical Education****HPE 104A SCULPT AND STRETCH (1)**

Prerequisite(s): None.

An introduction to exercises and activities focusing on the development of muscular strength, muscular endurance, and overall flexibility. Also includes the discussion and practice of breathing and relaxation techniques that promote wellness.

1 hour lecture, 1 hour laboratory.

**HPE 104B SCULPT AND STRETCH - EXTENDED DURATION (2)**

Prerequisite(s): None.

An introduction to exercises and activities focusing on the development of muscular strength, muscular endurance and overall flexibility. Also includes the discussion and practice of breathing and relaxation techniques that promote wellness. HPE 104B is an extended duration version of HPE 104A and as such is devoted to optimizing physical fitness and wellness.

1 hour lecture, 2 hours laboratory.

**HPE 105A STEP AEROBICS (1)**

Prerequisite(s): None.

A practical introduction to step aerobic exercises and activities with emphasis upon the acquisition of basic skills and movement, as well as the improvement and maintenance of individual fitness. Recommended for the poorly conditioned, novice student.

1 hour lecture, 1 hour laboratory.

**HPE 106A CROSS TRAINING AEROBIC EXERCISE (1)**

Prerequisite(s): None.

A practical introduction to cross training aerobic exercise with emphasis upon the acquisition of basic skills and movements as well as the improvement and maintenance of individual fitness.

1 hour lecture, 1 hour laboratory.

**HPE 106B CROSS TRAINING AEROBIC EXERCISE - EXTENDED DURATION (2)**

Prerequisite(s): None.

A practical introduction to cross training aerobic exercises and activities with emphasis upon the acquisition of basic skills and movements, as well as the improvement and maintenance of individual fitness.

1 hour lecture, 2 hours laboratory.

**HPE 107 AQUA AEROBICS (1)**

Prerequisite(s): None.

Stretching and toning aerobic exercises conducted in a swimming pool, with emphasis upon cardiovascular fitness. Individual needs and limitations are considered, and each student progresses at his/her own rate. No swim skills necessary.

1 hour lecture, 1 hour laboratory.

**HPE 109 LATIN DANCE I (1)**

Prerequisite(s): None.

Introduction to the theory and practice of modern Latin dance, with a focus on development of movement and basic Latin dance steps. This course introduces students to five fundamental dance elements, including rhythm, timing, syncopation, form, and interpretation.

1 hour lecture, 1 hour laboratory.

**HPE 109A MODERN DANCE (1)**

Prerequisite(s): None.

This course will introduce students to the fundamentals of modern dance and will develop an aesthetic understanding of shape, level and space, muscular strength and coordination, and terminology associated with modern dance. It will also provide an introduction into the historical development of modern dance, an opportunity to create choreography, and the experience of dance as an expressive art form.

1 hour lecture, 1 hour laboratory.

**HPE 110A BODY CONDITIONING (1)**

Prerequisite(s): None.

A practical application of the accepted fitness principles and concepts conducive to the development and maintenance of an adequate level of overall fitness. The course introduces the student to aerobic and anaerobic activities that promote cardiovascular endurance, flexibility, and muscular endurance.

1 hour lecture, 1 hour laboratory.

**HPE 110B BODY CONDITIONING - EXTENDED DURATION (2)**

Prerequisite(s): None.

A practical application of the accepted fitness principles and concepts conducive to the development and maintenance of an adequate level of overall fitness. The course introduces the student to aerobic and anaerobic activities that promote cardiovascular endurance, flexibility, and muscular endurance.

1 hour lecture, 2 hours laboratory.

**HPE 111A BODY DYNAMICS (1)**

Prerequisite(s): None.

A practical application of the accepted fitness principles and concepts conducive to the development and maintenance of an adequate level of overall fitness. The course introduces the student to aerobic and anaerobic activities that promote cardiovascular endurance, flexibility, and muscular endurance.

1 hour lecture, 1 hour laboratory.

**HPE 111B BODY DYNAMICS - EXTENDED DURATION (2)**

Prerequisite(s): None.

A practical introduction to the principles and concepts of physical fitness through the use of various exercise equipment and activities.

1 hour lecture, 2 hours laboratory.

**HPE 112A WEIGHT TRAINING (1)**

Prerequisite(s): None.

An activity course introducing basic skills and knowledge necessary to develop a proper weight training program and cardiovascular development.

1 hour lecture, 1 hour laboratory.

**HPE 112B WEIGHT TRAINING - EXTENDED DURATION (2)**

Prerequisite(s): None.

An activity course introducing basic skills and knowledge necessary to develop a proper weight training program for cardiovascular development.

1 hour lecture, 2 hours laboratory.

**HPE 113 ATHLETIC CONDITIONING (2)**

Prerequisite(s): None.

A practical introduction to fitness activities conducive to the development of strength, flexibility, endurance and cardiovascular fitness. Designed to enhance athletic performance of the athlete.

1 hour lecture, 3 hours laboratory.

**HPE 114A WEIGHT LIFTING FOR WOMEN (1)**

Prerequisite(s): None.

The course will introduce female students to anaerobic activities related to the development of muscular strength, muscular endurance, and flexibility. It will provide the female student with exercise techniques related to the development of overall body strength and the reduction of body fat.

1 hour lecture, 1 hour laboratory.

**HPE 114B WEIGHT LIFTING FOR WOMEN - EXTENDED DURATION (2)**

Prerequisite(s): None.

The course will introduce female students to anaerobic activities related to the development of muscular strength, muscular endurance, and flexibility. It will provide the female student with exercise techniques related to the development of overall body strength and the reduction of body fat.

1 hour lecture, 2 hours laboratory.

**HPE 115 PERSONAL FITNESS (2)**

Prerequisite(s): None.

A practical introduction to the theory and skills of lifetime fitness with emphasis upon aerobic activities to maintain and/or improve the student's cardio-respiratory system and overall fitness level. Student fitness profiles are developed and utilized to determine an individualized exercise program in the exercise physiology lab.

1 hour lecture, 2 hours laboratory.

**HPE 116 PERSONAL FITNESS II (1 - 2)**

Prerequisite(s): HPE 115 or permission of instructor.

A continuation of the theory and skills of lifetime fitness introduced in HPE 115 Personal Fitness I. Student fitness profiles are developed and utilized to determine an individualized exercise program in the exercise physiology lab.

**HPE 117A INDIVIDUALIZED FITNESS (1)**

Prerequisite(s): None.

Recommended Preparation: Recent physical examination which identifies any physical activity limitations.

An introduction to the fundamentals of physical fitness with emphasis upon the theoretical principles of wellness and upon those physical activities and behavioral changes necessary to develop and sustain a high level of fitness. Includes the development of an individualized fitness program, involving a variety of physical activities.

1 hour lecture.

**HPE 117B INDIVIDUALIZED FITNESS (2)**

Prerequisite(s): None.

Recommended Preparation: Recent physical examination which identifies any physical activity limitations.

An introduction to the fundamentals of physical fitness with emphasis upon the theoretical principles of wellness and upon those physical activities and behavioral changes necessary to develop and sustain a high level of fitness. Includes the development of an individualized fitness program, involving a variety of physical activities.

1 hour lecture, 3 hours laboratory.

**HPE 118 WEIGHT TRAINING, BEGINNING RACQUETBALL AND JOGGING (2)**

Prerequisite(s): None.

An integrated activity course introducing basic skills and knowledge necessary to develop a proper weight training, racquetball, and jogging program.

1.5 hours lecture, 2 hours laboratory.

**HPE 121A TAI CHI (1)**

Prerequisite(s): None.

A highly philosophical internal system of Chinese martial art used to help develop proper movement of the body. Tai Chi is used to aid the body and mind to develop power and strength through slow, continuous movement.

1 hour lecture, 1 hour laboratory.

**HPE 122 BEGINNING KARATE (1)**

Prerequisite(s): None.

Introduction to basic karate with emphasis upon the underlying theory and practical application of beginning karate techniques.

1 hour lecture, 1 hour laboratory.

**HPE 124 PRACTICAL SELF DEFENSE (1)**

Prerequisite(s): None.

An introduction to the art of self defense with emphasis upon practical instruction in various self defense techniques and their appropriate situational applications and the prevention of dangerous or compromising situations.

1 hour lecture, 1 hour laboratory.

**HPE 125 HIKING (1)**

Prerequisite(s): None.

An introduction to wilderness trail and off-trail hiking with emphasis on the care and handling of equipment, the use of maps, the care and protection of wilderness trails, the use of emergency first aid, and the importance of physical conditioning.

1 hour lecture, 1 hour laboratory.

**HPE 130 BEGINNING SWIMMING (1)**

Prerequisite(s): None.

An introduction to the primary skills of swimming for the non-swimmer with emphasis upon water safety, basic strokes, and developing the ability to swim 30 yards.

1 hour lecture, 1 hour laboratory.

**HPE 131 INTERMEDIATE SWIMMING (1)**

Prerequisite(s): HPE 130 or permission of instructor.

A practical study of swimming designed to improve skills in the four fundamental strokes: crawl, breast, back, and side. Upon course completion, students will have the ability to swim continuously for five minutes on front, side, and back.

1 hour lecture, 1 hour laboratory.

**HPE 133 LIFE SAVING AND WATER SAFETY (1)**

Prerequisite(s): HPE 131 or permission of instructor.

A practical study of life saving skills and water safety with emphasis upon water extrication/rescue, emergency first aid, and cardiorespiratory resuscitation. American Red Cross Advanced Life Saving Certificate available to successful course completers.

1 hour lecture, 1 hour laboratory.

**HPE 134 WATER SAFETY INSTRUCTOR (2)**

Prerequisite(s): Current Red Cross Advanced Life Saving Certification, competency in swimming strokes and lifesaving skills.

Development of swimming and life-saving instructional skills. Meets the requirements for American National Red Cross Water Safety Instructor Certification.

2 hours lecture, 1 hour laboratory.

**HPE 135 OPEN WATER SCUBA DIVER (3)**

Prerequisite(s): Intermediate swimming ability.

The Open Water SCUBA Diver course adheres to the guidelines and requirements of PADI's Open Water Diver courses. This course provides the student with the training, knowledge and skills needed to safely experience the underwater environment.

2 hours lecture, 3 hours laboratory.

**HPE 136 FENCING (1)**

Prerequisite(s): None.

An introduction to foil fencing. Designed to provide a sound basic understanding of the history, rules, etiquette, and safety aspects of the sport of fencing. Develops basic technical and tactical skills needed for novice-level competition through emphasis on basic offense and defense, continuation of attack, compound attacks, and practical boutting. Course may be repeated for credit.

1 hour lecture, 1 hour laboratory.

**HPE 145 BEGINNING GOLF (1)**

Prerequisite(s): None.

A practical introduction to the basic skills, rules, and etiquette of golf to prepare the student for participation in a lifelong leisure.

1 hour lecture, 1 hour laboratory.

**HPE 146 INTERMEDIATE GOLF (1)**

Prerequisite(s): HPE 145.

A practical introduction to the advanced skills and strategies of golf with emphasis on the acquisition of a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 148 BEGINNING RACQUETBALL (1)**

Prerequisite(s): None.

A practical introduction to racquetball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in racquetball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 150 SOFTBALL (1)**

Prerequisite(s): None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational softball as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 151 BEGINNING TENNIS (1)**

Prerequisite(s): None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational tennis as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 152 INTERMEDIATE TENNIS (1)**

Prerequisite(s): HPE 151.

A practical introduction designed to provide the student with the advanced skills and strategies necessary to participate in recreational tennis as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 153 VOLLEYBALL (1)**

Prerequisite(s): None.

A practical introduction to the basic skills, rules, and strategies of recreational volleyball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 170 BASEBALL (1)**

Prerequisite(s): None.

Recommended Preparation: Try out for baseball team.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 171 MEN'S BASKETBALL (1)**

Prerequisite(s): None.

Recommended Preparation: Try out for men's basketball team.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete in basketball at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 172 WOMEN'S BASKETBALL (1)**

Prerequisite(s): None.

Recommended Preparation: Try out for women's basketball team.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 174 WOMEN'S SOCCER (1)**

Prerequisite(s): None.

Recommended Preparation: Try out for women's soccer team.

Designed to provide advanced female soccer athlete the opportunity to develop skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 179 LIFELONG WELLNESS (3)**

Prerequisite(s): None.

A practical and theoretical introduction to current practices necessary for wellness and optimum health. The student will develop an individualized program of diet and exercise supervised by the instructor.

3 hours lecture.

**HPE 185 ELEMENTARY SCHOOL PHYSICAL EDUCATION (3)**

Prerequisite(s): None.

A comprehensive overview of child development theories, general and specific physical education instructional procedures, and activity sequences.

3 hours lecture.

**HPE 186 SCHOOL AND COMMUNITY HEALTH (3)**

Prerequisite(s): None.

The basic plan of the school health program, health services, health instruction and healthful school environment. The role of the teacher in relation to the school health program and the community health program.

3 hours lecture.

**HPE 187 PERSONAL HEALTH (3)**

Prerequisite(s): None.

A survey of human adaptation emphasizing study of birth, growth and development, drugs, disease, lifestyle, marriage and parenthood, quality life and death.

3 hours lecture.

**HPE 189 FIRST AID AND SAFETY (3)**

Prerequisite(s): None.

A study of first aid and cardiopulmonary resuscitation skills for first responders in an emergency. American Red Cross First Aid and CPR certification and the option to qualify for instructor status will be awarded upon successful course completion.

3 hours lecture.

**HPE 190 SPORTS OFFICIATING (3)**

Prerequisite(s): None.

An overview of officiating skills in several sports, including baseball, basketball, football, and volleyball. Emphasis upon the acquisition of skills and knowledge essential to serve as a coach and/or as an official with the Arizona Interscholastic Association.

3 hours lecture.

**HPE 192 COACHING TEAM SPORTS (2)**

Prerequisite(s): None.

An overview of coaching skills and theory with emphasis upon coaching team sports at the youth and secondary levels. Introduces the student to career and professional opportunities in the coaching field. Basic and intermediate skills inherent in several team sports (as selected by the instructor) will be introduced to the student.

2 hours lecture.

**HPE 193 THEORY OF COACHING BASEBALL (3)**

Prerequisite(s): None.

An overview of coaching skills and theory with emphasis upon coaching baseball at the youth and secondary levels. Introduces the student to the aspects of coaching baseball at the collegiate level.

3 hours lecture.

**HPE 194 THEORY OF COACHING BASKETBALL (3)**

Prerequisite(s): None.

A theoretical and practical study of coaching with emphasis upon coaching basketball at the youth and secondary levels. Introduces the student to the aspects of coaching basketball at the collegiate level.

3 hours lecture.

**HPE 197 CARE AND PREVENTION OF ATHLETIC INJURIES (3)**

Prerequisite(s): None.

A theoretical and practical study of common athletic injuries including appraisal, treatment, prevention, psychological implications, and legal issues.

3 hours lecture.

**HPE 209 LATIN DANCE II (1)**

Prerequisite(s): HPE 109 or instructor permission.

Continuation of the theory and practice of Latin dance with a focus on precision and quality of movement. The course offers students comprehensive experience in rhythm, timing, syncopation, form, and interpretation.

1 hour lecture, 1 hour laboratory.

**HPE 224 FIELD EXPERIENCE IN RECREATION OCCUPATIONS (1 - 6)**

Prerequisite(s): A declared area of emphasis in Recreation Occupations. Permission and approval of a cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in recreation occupations. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

## Horticulture

The horticulture courses are offered at the Arizona Department of Corrections in Douglas.

**HRT 101 BASIC HORTICULTURE (3)**

Prerequisite(s): High school diploma, GED, or instructor approval.

An examination of the horticulture industry, including the study of safety measures, terminology, and tools with an emphasis on available occupational opportunities.

2 hours lecture, 3 hours laboratory.

**HRT 110 LANDSCAPE PLANT MATERIAL (3)**

Prerequisite(s): HRT 101.

Identification and utilization of plant materials used for landscaping purposes in the desert Southwest with emphasis on cultural requirements, soils and water-plant relationships.

2 hours lecture, 3 hours laboratory.

**HRT 111 LANDSCAPE CONSTRUCTION AND MAINTENANCE (3)**

Prerequisite(s): HRT 110.

A study of landscape materials, the planting and maintenance of commercial and residential landscapes, sprinkler systems and the use of concrete, brick and wood in landscape construction.

2 hours lecture, 3 hours laboratory.

**HRT 120 PEST CONTROL (3)**

Prerequisite(s): HRT 111.

A practical analysis of plant pest identification and control methods. Environmental protection agency regulations and pertinent federal laws will be covered.

2 hours lecture, 3 hours laboratory.

**HRT 201 LANDSCAPE DESIGN (3)**

Prerequisite(s): HRT 120.

The principles of landscape design focusing on the utilization of varied plant materials, environmental requirements, drawing and layout techniques and reading landscape blueprints.

3 hours lecture, 1 hour laboratory.

# Humanities

## **HUM 101<sup>❖</sup> HUMANITIES IN CONTEMPORARY LIFE (3)**

Prerequisite(s): ENG 100 or placement in ENG 101.

A study of contemporary thought, literature, art and music as they occur in mass media: journalism, motion pictures, and television. Students will be required to attend assigned concerts, plays, motion pictures, art exhibits, and will be required to submit written critical reports.

3 hours lecture.

## **HUM 104 HERITAGE FROM MEXICO (3)**

Prerequisite(s): None.

A study of the various facets of culture and their historical settings which have contributed to the traditions, lifestyle and uniqueness of Mexicans and Americans of Mexican heritage both past and present.

3 hours lecture.

## **HUM 105 BALLET FOLKLORICO (2)**

Prerequisite(s): None.

An introduction to the study and performance of Ballet Folklorico with emphasis upon basic dance steps, dances from different regions of Mexico, and group performances. Includes an overview of the history and cultural heritage of Ballet Folklorico. May be taught in a bilingual English/Spanish format.

1 hour lecture, 3 hours laboratory.

## **HUM 110<sup>❖</sup> INTRODUCTION TO FILM (3)**

Prerequisite(s): None.

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.

## **HUM 115<sup>❖</sup> CULTURAL HERITAGE OF THE SOUTHWEST (3)**

Prerequisite(s): ENG 101 or permission of instructor.

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.

## **HUM 167 CULTURAL VALUES IN THE BORDERLANDS WORKPLACE (3)**

Prerequisite(s): ENG 101.

Recommended Preparation: Concurrent enrollment in HUM 101 or HUM 104.

An overview of cultural patterns, values, beliefs and customs prevalent in business and industry on the United States/Mexico border, with emphasis on practical application.

3 hours lecture.

## **HUM 192 SPECIAL TOPICS IN HUMANITIES (1 - 3)**

Prerequisite(s): None.

A seminar/class emphasizing connections among literature, philosophy, and the arts. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit unless otherwise designated in degree program.

HUM 192A Science and Art

HUM 192B Irony, Satire, and Humor

HUM 192C Western and/or Southwestern Writers

HUM 192D Cultural Role of Film

## **HUM 200 FILM HISTORY (3)**

Prerequisite(s): ENG 101 and ENG 102.

Recommended Preparation: HUM 110.

Survey of film history focusing on the development of important themes, movements, and techniques in international narrative films.

3 hours lecture.

**HUM 205**  **MAJOR ANCIENT CULTURES (3)**

Prerequisite(s): ENG 102 or permission of instructor.

Art, architecture, literature, music and ideas in the western world from ancient times to the Middle Ages, with emphasis on people's relationship to their gods or God.

3 hours lecture.

**HUM 206**  **EUROPEAN CULTURE (3)**

Prerequisite(s): ENG 102 or permission of instructor.

Art, architecture, literature, music and philosophy from the Middle Ages to the Industrial Revolution with emphasis on the development of humanism and science.

3 hours lecture.

**HUM 207**  **THE MODERN WORLD (3)**

Prerequisite(s): ENG 102 or permission of instructor.

A global view of art, literature, music, philosophy, and ideas from the 18th century to the present time.

3 hours lecture.

**HUM 210** **FOREIGN FILM CLASSICS (3)**

Prerequisite(s): ENG 101 or permission of instructor.

A survey of major foreign films from 1893 through the present, emphasizing film criticism and theory.

3 hours lecture.

**HUM 299** **INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to the initiation of the study. May be repeated for credit.

**Intelligence Operations Studies****IOS 100**  **INTRODUCTION TO INTELLIGENCE OPERATIONS STUDIES (3)**

Prerequisite(s): None.

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.

**IOS 101**  **COUNTERINTELLIGENCE INVESTIGATIONS (3)**

Prerequisite(s): None.

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.

**IOS 102**  **SECURITY PROGRAMS (3)**

Prerequisite(s): None.

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.

**IOS 103 INTELLIGENCE LAW AND ADMINISTRATION OF JUSTICE (1)**

Prerequisite(s): None.

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.

**IOS 104 ANALYTICAL PROCESS AND PRODUCT (3)**

Prerequisite(s): None.

Introduces students to the basic knowledge to prepare and use the time-event chart, association matrix, activity matrix, and link diagram as tools to perform analysis and threat assessment. Includes training in conventional and nontraditional threat forces, various types of organizations, associated weapons and equipment, and tactics.

3 hours lecture.

**IOS 105  INTERROGATION OPERATIONS (3)**

Prerequisite(s): None.

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.

**IOS 106  MAP READING AND ANALYSIS (3)**

Prerequisite(s): None.

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.

**IOS 107 INTERNATIONAL MORSE CODE (3)**

Prerequisite(s): None.

A study of the International Morse Code and its process of transmission, including required formats used in a computer-based system to record, forward, and store the code. The course prepares students to format and copy International Morse Code letters, numbers, and special characters.

3 hours lecture.

**IOS 108  SIGNAL THEORY (3)**

Prerequisite(s): None.

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.

**IOS 109 SIGNAL ANALYSIS AND SECURITY (3)**

Prerequisite(s): None.

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.

**IOS 110  REMOTE SENSING (3)**

Prerequisite(s): None.

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.

## **IOS 111 INFORMATION SECURITY FOR INTELLIGENCE OPERATIONS (1)**

Prerequisite(s): None.

A brief overview of information security as it applies to intelligence operations in the military (INFOSEC). Topics include safe-keeping and storage of classified materials, application of classification markings to appropriate documents, and proper destruction of classified materials.

1 hour lecture.

## **IOS 112 IMAGERY ANALYSIS TECHNIQUES (3)**

Prerequisite(s): None.

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.

## **IOS 113 TERRORISM AND COUNTERTERRORISM (3)**

Prerequisite(s): None.

Recommended Preparation: ENG 101.

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. Identical to AJS 113.

3 hours lecture.

## **IOS 114 REPORTING OF INTELLIGENCE DATA (3)**

Prerequisite(s): None.

Identification of the essential elements of information, selection of reporting vehicle, and production of concise and timely technical summaries.

3 hours lecture.

## **IOS 115 BRIEFING SKILLS (1 - 4)**

Prerequisite(s): None.

Training in the skills required to perform the duties and operations necessary to conduct briefings in the intelligence operations field.

## **IOS 116 IMAGERY IDENTIFICATION (6)**

Prerequisite(s): None.

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.

## **IOS 117 SYMBOLOGY (3)**

Prerequisite(s): None.

Trains students in the skills necessary to translate incoming message traffic into military symbols.

3 hours lecture.

## **IOS 118 INTELLIGENCE PREPARATION OF THE BATTLEFIELD (3)**

Prerequisite(s): None.

Students learn to identify characteristics of the battlefield that will influence friendly and threat operations. They also learn to use this information to evaluate threats and to draft intelligence estimates of the battlefield.

3 hours lecture.

**IOS 120 RECORDS MANAGEMENT (3)**

Prerequisite(s): CIS 116.

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.

**IOS 121 COUNTERINTELLIGENCE INVESTIGATIONS II (3)**

Prerequisite(s): None.

A course in the collection, evaluation, and use of information to produce justifiable conclusions in support of the counterintelligence mission.

3 hours lecture.

**IOS 122 INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR) (3)**

Prerequisite(s): None.

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.

**IOS 123 TARGETING (3)**

Prerequisite(s): None.

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.

**IOS 124 CELLULAR COMMUNICATION FUNDAMENTALS (3)**

Prerequisite(s): None.

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.

**IOS 201 COLLECTION OPERATIONS (3)**

Prerequisite(s): IOS 101 or permission of instructor.

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.

**IOS 202 FORCE PROTECTION OPERATIONS AND SUPPORT (3)**

Prerequisite(s): IOS 101, IOS 102, IOS 103, or permission of instructor.

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.

**IOS 203 COMBATING TERRORISM (3)**

Prerequisite(s): IOS 101, IOS 102, IOS 103, or permission of instructor.

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.

**IOS 204 INTERROGATION AND INTERVIEWING TECHNIQUES (3)**

Prerequisite(s): IOS 104, IOS 105, or permission of instructor.

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.

**IOS 209 AUTOMATED INTELLIGENCE SYSTEMS (4)**

Prerequisite(s): CIS 116.

Covers the use of automated intelligence systems in the field of intelligence operations. Students learn basic system operations and conventions.

4 hours lecture.

**IOS 210 INTERMEDIATE REMOTE SENSING (3)**

Prerequisite(s): IOS 110.

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.

**IOS 211 MILITARY DECISION MAKING (2)**

Prerequisite(s): None.

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.

2 hours lecture.

**IOS 212 INTERMEDIATE IMAGERY ANALYSIS TECHNIQUES (3)**

Prerequisites(s): IOS 112.

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.

**IOS 214 REPORTING OF INTELLIGENCE DATA II (3)**

Prerequisite(s): ENG 102, ENG 109, or ENG 206.

A course in the preparation of intelligence reports using pertinent information to satisfy the appropriate requirements.

3 hours lecture.

**IOS 215 BRIEFING SKILLS II (1 - 3)**

Prerequisite(s): None.

Recommended Preparation: IOS 115.

An advanced course in the preparation and delivery of briefings in the intelligence operations field.

**IOS 220 REPORTING OF INTELLIGENCE DATA III (3)**

Prerequisite(s): ENG 102, ENG 109, or ENG 206.

Recommended Preparation: IOS 114.

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.

**IOS 221 COUNTERINTELLIGENCE INVESTIGATIONS III (3)**

Prerequisite(s): ENG 101.

Recommended Preparation: IOS 101.

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.

**IOS 223 INTELLIGENCE LAW AND ADMINISTRATION OF JUSTICE II (1)**

Prerequisite(s): None.

Recommended Preparation: IOS 103.

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.

**IOS 224 FORCE PROTECTION OPERATIONS AND SUPPORT II (3)**

Prerequisite(s): None.

Recommended Preparation: IOS 202.

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.

**IOS 225 ANALYTICAL PROCESS AND PRODUCT II (3)**

Prerequisite(s): None.

Recommended Preparation: IOS 104.

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.

**IOS 226 INTERROGATION AND INTERVIEWING TECHNIQUES II (3)**

Prerequisite(s): None.

Recommended Preparation: IOS 204.

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.

## Interpreter Training

**ITP 210 INTRODUCTION TO AMERICAN SIGN LANGUAGE INTERPRETING (3)**

Prerequisite(s): ASL 201 or third-semester proficiency.

Recommended Preparation: ASL 202 or fourth-semester proficiency.

Introduction to the field of sign language interpreting. Examines the interpreter's role, responsibilities, code of ethics, and professional support to the interpreter. Additional lab hours may be required outside of class.

3 hours lecture.

### **ITP 215 CLASSIFIERS, MIMETIC DESCRIPTION AND AMERICAN SIGN LANGUAGE LITERATURE (3)**

Prerequisite(s): ASL 201 or third-semester proficiency.

Recommended Preparation: ASL 202 or fourth-semester proficiency.

Development of expressive and receptive skills through the use of classifiers, mime and analysis of American Sign Language (ASL) literature, poetry and film. Includes direct address, physical representations, spatial representations, perspective, and traditional deaf folklore. This course is taught in ASL. Identical to ASL 215.

3 hours lecture.

### **ITP 220 AMERICAN SIGN LANGUAGE INTERPRETING I (4)**

Prerequisite(s): ASL 210 and either ASL 202 or fourth-semester proficiency.

Practical experience in consecutive and simultaneous interpreting in increasingly complex and diverse materials. Includes text analysis and review, development of interpreting skills such as cloze, short-term memory, chunking, shadowing, and dual-task training. Also includes feedback on sign selection, expressiveness, clarity, fluency and speed. Additional lab hours may be required outside of class.

4 hours lecture.

### **ITP 224A FIELD EXPERIENCE IN HEALTH-RELATED INTERPRETATION AND TRANSLATION (ENTRY LEVEL) (1 - 4)**

Prerequisite(s): SPA 211 and either ITP 278 or concurrent enrollment.

A supervised cooperative work experience coordinated with coursework applying interpretation and translation skills on an entry-level in the health-related workplace (simple sight translation of forms, signs or advertising and consecutive interpretation of structured dialogues or interviews). Focus is on development of good work habits and the professional accuracy and appropriateness of the translation and interpretation. Variable credit is available. May be taken up to four times for a maximum of 8 credit hours.

### **ITP 224B FIELD EXPERIENCE IN LAW-RELATED INTERPRETATION AND TRANSLATION (ENTRY LEVEL) (1 - 4)**

Prerequisite(s): SPA 211 and either ITP 278 or concurrent enrollment.

A supervised cooperative work experience coordinated with coursework applying interpretation and translation skills on an entry-level in the law-related workplace (simple sight translation of forms, signs or advertising and consecutive interpretation of structured dialogues or interviews). Focus is on development of good work habits and the professional accuracy and appropriateness of the translation and interpretation. Variable credit is available. May be taken up to four times for a maximum of 8 credit hours.

### **ITP 250 AMERICAN SIGN LANGUAGE INTERPRETING II (4)**

Prerequisite(s): ITP 220.

Continuation of ITP 220. Continued development of expressive and receptive interpreting skills in educational and community situations. Introduction to and development of transliterating skills. Includes an emphasis on educational and community situations. Additional lab hours may be required outside of class.

4 hours lecture.

### **ITP 268 AMERICAN SIGN LANGUAGE AND ENGLISH ETYMOLOGY (2)**

Prerequisite(s): ASL 202 or fourth-semester proficiency, and RDG 122 or exemption.

Designed to improve and increase English vocabulary and conceptual ASL correlates for the sign language interpreter. Includes use of structural analysis and contextual clues. Also includes English idioms, multiple meaning words, and multiple meaning ASL signs. Additional lab hours may be required outside of class.

2 hours lecture.

**ITP 270 BEGINNING AMERICAN SIGN LANGUAGE TO VOICE (4)**

Prerequisite(s): ITP 210 and either ASL 202 or fourth-semester proficiency.

Interpreting basic sign language structures into the spoken word. Includes receptive processing tools, voicing considerations, and vocabulary enhancement. Additional lab hours may be required outside of class.

4 hours lecture.

**ITP 278 WRITING AND LISTENING FOR INTERPRETATION AND TRANSLATION ENGLISH <> SPANISH (4)**

Prerequisite(s): SPA 211 and either ENG 100 or placement in ENG 101.

This course provides an intensive review and practice of listening, writing, and note-taking skills essential to develop and support the cognitive processes of interpretation and translation between English and Spanish for legal, healthcare, or social service agencies.

4 hours lecture, 1 hour laboratory.

**ITP 280 ADVANCED AMERICAN SIGN LANGUAGE TO VOICE (4)**

Prerequisite(s): ITP 270.

Interpreting complex sign language structures into the spoken word. Includes ASL/English comparisons, vocabulary enhancement, and improvement of technical performance skills. Additional lab hours may be required outside of class.

4 hours lecture.

**ITP 282 ENGLISH <> SPANISH MEDICAL TERMINOLOGY (4)**

Prerequisite(s): SPA 211 or concurrent enrollment, and ENG 100.

This course provides intensive English and Spanish vocabulary development and conversational practice for healthcare. Emphasis is on medical terminology and cultural awareness as well as the development of cognitive skills essential in medical translation and interpretation.

4 hours lecture, 1 hour laboratory.

**ITP 283 ENGLISH <> SPANISH LEGAL TERMINOLOGY (4)**

Prerequisite(s): SPA 211 or concurrent enrollment, and ENG 100.

This course provides intensive English and Spanish vocabulary development and conversational practice for legal settings. Emphasis is on legal terminology and cultural awareness as well as the development of cognitive skills essential in legal translation and interpretation.

4 hours lecture, 1 hour laboratory.

**ITP 284 ENGLISH <> SPANISH DOCUMENT TRANSLATION (4)**

Prerequisite(s): ITP 282 and either ITP 283 or concurrent enrollment.

This course focuses on translation theory, preparation and procedures, ethics and protocol for translators. It provides practice in translation for legal and medical venues as well as business, literary, colloquial, regional translation and varied registers. Introduction to and practice of sight translation.

4 hours lecture, 1 hour laboratory.

**ITP 285 AMERICAN SIGN LANGUAGE INTERPRETING AND TRANSLITERATING IN EDUCATION (4)**

Prerequisite(s): ITP 280 or ITP 250.

Interpreting in educational settings. Includes skill building, team building, transliterating, and issues specific to educational interpreting. Also includes interpreting in various content areas and certification issues. Additional lab hours may be required outside of class.

4 hours lecture.

### **ITP 286 SIGHT TRANSLATION AND CONSECUTIVE INTERPRETATION (4)**

Prerequisite(s): ITP 282 and either ITP 283 or concurrent enrollment.

This course provides practice in sight translation; introduction and practice in consecutive and simultaneous interpretation. Included are techniques in memory training/improvement and in terminology acquisition and retention as it applies to medical, legal, and business settings. Ethics, protocol and professionalism will also be discussed.

4 hours lecture, 1 hour laboratory.

### **ITP 289 SPECIAL TOPICS IN AMERICAN SIGN LANGUAGE INTERPRETING (2)**

Prerequisite(s): ITP 210.

Recommended Preparation: ITP 280 or ITP 250.

Continued development of interpreting and transliterating skills. Receptive and expressive skill refinement in consecutive and simultaneous interpreting situations. Includes an introduction and overview of specialized interpreting settings with an emphasis on terminology, roles, and special considerations. Additional lab hours may be required outside of class.

2 hours lecture.

### **ITP 290 AMERICAN SIGN LANGUAGE INTERPRETER TRAINING FIELD EXPERIENCE (2)**

Prerequisite(s): ITP 250 and ITP 280, or permission of instructor.

Supervised interpreting opportunities in community settings. Includes practicum experience, observations, and classroom discussions focusing on job preparation and current issues. Additional lab hours may be required outside of class.

1 hour lecture, 2 hours laboratory.

### **ITP 294A FIELD EXPERIENCE IN HEALTH-RELATED INTERPRETATION AND TRANSLATION (INTERMEDIATE LEVEL) (1 - 4)**

Prerequisite(s): ITP 224A and either ITP 284 (or concurrent enrollment) or ITP 286 (or concurrent enrollment); or approval of ITP advisor.

A supervised cooperative work experience coordinated with coursework applying interpretation and translation skills on an intermediate level in a health-related setting (sight translation of forms, letters and standard documents such as simple medical or health information) and consecutive and simultaneous interpretation of conversations, patient/client interviews and medical histories, and frequent health or health insurance procedures. Focus is on understanding of ethics, protocol, cultural awareness, and the professional accuracy and appropriateness of the translation and interpretation. Variable credit is available. May be taken four times for a maximum of 8 credit hours.

### **ITP 294B FIELD EXPERIENCE IN LAW-RELATED INTERPRETATION AND TRANSLATION (INTERMEDIATE LEVEL) (1 - 4)**

Prerequisite(s): ITP 224B and either ITP 284 (or concurrent enrollment) or ITP 286 (or concurrent enrollment); or approval of ITP advisor.

A supervised cooperative work experience coordinated with coursework applying interpretation and translation skills on an intermediate level in the legal setting (sight translation of forms, letters and standard documents such as simple contracts) and consecutive and simultaneous interpretation of conversations, interrogations, and frequently encountered court procedures. Focus is on understanding of ethics, protocol, cultural awareness, and the professional accuracy and appropriateness of the translation and interpretation. Variable credit is available. May be taken four times for a maximum of 8 credit hours.

### **ITP 297 CAPSTONE COURSE IN INTERPRETATION AND TRANSLATION (SPANISH <> ENGLISH) (4)**

Prerequisite(s): Completion of all general education and core requirements for the Associate of Applied Science Degree in ITP, and ITP 224A or ITP 224B, and ITP 286 or concurrent enrollment; or approval of ITP advisor.

Individual supervision by advisor/instructor of each student's completion of 1) all program requirements; and 2) collection and display in a portfolio (preferably electronic) of artifacts to be presented publicly to peers or to the college community.

4 hours lecture, 1 hour laboratory.

## **Journalism**

### **JRN 101 INTRODUCTION TO MASS COMMUNICATIONS (3)**

Prerequisite(s): ENG 101 or permission of instructor.

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.

### **JRN 102 ESSENTIALS OF NEWS WRITING (3)**

Prerequisite(s): ENG 101 or concurrent enrollment, and CIS 116 or concurrent enrollment.

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.

### **JRN 103 ADVANCED NEWS WRITING (3)**

Prerequisite(s): ENG 101 and JRN 102.

Writing and editing features, series and in-depth articles for newspapers and magazines. Special emphasis on generating ideas for articles, identifying possible publishers for articles, interviewing, research, and reporting real-life situations. Class supplies articles for the journalism workshop newsletter or college newspaper. Class members are also required to submit feature articles to commercial magazines for publication.

3 hours lecture.

### **JRN 201 ESSENTIALS OF NEWSPAPER PUBLISHING (3)**

Prerequisite(s): JRN 102 and CIS 116, or permission of instructor.

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. May be repeated two times for a maximum of nine credits.

2 hours lecture, 3 hours laboratory.

### **JRN 224 FIELD EXPERIENCE IN COMMUNICATION AND/OR MEDIA TECHNOLOGY (1 - 6)**

Prerequisite(s): Permission and approval of a cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in communication and media technology and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

### **JRN 257 LITERARY MAGAZINE PRODUCTION (3)**

Prerequisite(s): ENG 101 or permission of instructor.

Production of the college literary and arts magazine. Includes application of promotion, editing, design, layout, and production techniques. May be repeated for credit. Identical to ENG 257.

3 hours lecture.

**JRN 299 INDIVIDUAL STUDIES IN NEWSPAPER (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to the initiation of the study. May be repeated for credit.

## Korean

**KOR 115 CONVERSATIONAL KOREAN I (3)**

Prerequisite(s): None.

An introduction to beginning-level Korean, including its basic structures and Hangul (Korean script). Designed for students who wish to use Korean for business, pleasure, or travel, with some emphasis on traditions, culture and customs. May be used for elective credit toward an AA degree. Emphasis is on speaking, reading and writing.

3 hours lecture.

**KOR 116 CONVERSATIONAL KOREAN II (3)**

Prerequisite(s): KOR 115.

Continuation of conversational KOR 115 using similar methods and format. Essentials of Korean for conversational situations coupled with some reading skills to enable the reading of signs, etc., with a continuing emphasis on customs, traditions and culture. Designed for students who wish to use Korean for business, pleasure or travel. May be used for elective credit toward an AA degree. Emphasis is on speaking, reading and writing.

3 hours lecture.

## Latin

**LAT 101 ELEMENTARY LATIN (4)**

Prerequisite(s): None.

A study of grammar and vocabulary of Latin and of ancient authors with emphasis on the etymological indebtedness of English to Latin.

4 hours lecture.

**LAT 102 ELEMENTARY LATIN (4)**

Prerequisite(s): LAT 101, at least one year of high school Latin, or permission of instructor.

A study of grammar and vocabulary of Latin and of ancient authors; a continuation of LAT 101.

4 hours lecture.

**LAT 201 INTERMEDIATE LATIN I (4)**

Prerequisite(s): LAT 102, at least two years of high school Latin, or permission of instructor.

Review of Latin language through selected readings from the prose of the Golden Age (80 BC - AD 14) and Silver Age (AD 15 - 138) of Latin literature (e.g., Cicero, Caesar, Seneca, Tacitus, et al.).

4 hours lecture.

**LAT 202 INTERMEDIATE LATIN II (4)**

Prerequisite(s): LAT 201, at least three years of high school Latin, or permission of instructor.

Review of Latin language through selected readings from the poetry of the Golden Age (80 BC - AD 14) and the Silver Age (AD 15 - 138) of Latin literature (e.g., Catullus, Virgil, Horace, Martial, Juvenal).

4 hours lecture.

# Logistics

## **LGS 101 PRINCIPLES OF LOGISTICS (3)**

Prerequisite(s): None.

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.

## **LGS 102 INVENTORY CONTROL (3)**

Prerequisite(s): None.

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.

## **LGS 103 FREIGHT CLAIMS AND CONTRACTS (3)**

Prerequisite(s): None.

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.

## **LGS 104 COMPUTERIZED LOGISTICS (2)**

Prerequisite(s): None.

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.

## **LGS 105 WAREHOUSE MANAGEMENT (3)**

Prerequisite(s): None.

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.

## **LGS 106 TRANSPORTATION AND TRAFFIC MANAGEMENT (3)**

Prerequisite(s): None.

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.

## **LGS 107 INTRODUCTION TO PURCHASING (3)**

Prerequisite(s): None.

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.

## **LGS 108 INTERNATIONAL LOGISTICS (3)**

Prerequisite(s): None.

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.

## **LGS 109 READINESS SKILLS FOR LOGISTICS CAREERS (1)**

Prerequisite(s): None.

Facilitates the development of learning objectives and career goals in the field of logistics. Explores skills required in logistics careers. Reviews common job requirements, strategies for employment success, and the role of lifelong learning in career advancement.

1 hour lecture.

## **LGS 224 FIELD EXPERIENCE IN LOGISTICS (1 - 6)**

Prerequisite(s): A declared major in logistics and permission and approval of a cooperative education program coordinator.

Recommended Preparation: Recommendation from appropriate faculty member.

Supervised cooperative education work experience in logistics and related fields. Variable credit (1-6) available by special arrangement. May be taken four times for a maximum of 16 credits, with no more than six credits in a given semester.

## Linguistics

### **LIN 101 INTRODUCTION TO LINGUISTICS (3)**

Prerequisite(s): ENG 101 or ENG 107.

Survey of linguistic concepts and methods; communication among animals; physiology of human speech; elementary phonology, morphology, syntax and semantics; language variation, borrowing and change; language and the brain; language and thought.

3 hours lecture.

## Mathematics

### **MAT 062 DEVELOPMENTAL MATHEMATICS (3)**

Prerequisite(s): Appropriate placement test score.

Topics include addition, subtraction, multiplication, division of whole numbers, fractions, decimals, and signed numbers. Ratios, proportions, and percents are also covered.

3 hours lecture.

### **MAT 071 FUNDAMENTAL MATH WITH REVIEW (4)**

Prerequisite(s): Appropriate placement test score or MAT 062.

A review of MAT 062 and study of basic arithmetic concepts with drill in skills and techniques of computation. Includes fundamental operations with whole numbers, integer exponents, fractions, mixed numbers, decimals, scientific notation, prime numbers, square roots, percent and percent applications, descriptive statistics, systems of measurement, and geometry.

4 hours lecture.

### **MAT 071A FUNDAMENTAL MATH I WITH REVIEW (2)**

Prerequisite(s): Appropriate placement test score or MAT 062.

A review of MAT 062 and study of basic arithmetic concepts with drill in skills and techniques of computation. Includes fundamental operations with whole numbers, integer exponents, fractions, and mixed numbers.

2 hours lecture.

### **MAT 071B FUNDAMENTAL MATH II WITH REVIEW (2)**

Prerequisite(s): MAT 071A.

A continuation of MAT 071A to include review along with decimals, scientific notation, prime numbers, square roots, percent and percent applications, descriptive statistics, systems of measurement, and geometry.

2 hours lecture.

**MAT 072 FUNDAMENTAL MATHEMATICS (3)**

Prerequisite(s): Appropriate placement test score or completion of MAT 062.

A study of basic arithmetic concepts with drill in skills and techniques of computation. Includes fundamental operations with whole numbers, fractions and decimals, percentages, units of measure, geometry, scientific notation, ratio and proportion, averages, basic operations with signed numbers and solving simple algebraic equations.

3 hours lecture.

**MAT 081<sup>❖</sup> ELEMENTARY ALGEBRA WITH REVIEW (4)**

Prerequisite(s): Appropriate placement test score or MAT 071 (or MAT 071A and MAT 071B) or MAT 072.

An introduction, with review of fundamental mathematics up to the basic algebra normally included in a first-year high school algebra course. Material includes fundamental properties and operations of real numbers, algebraic expressions, linear equations and inequalities, literal formulas and equations, graphing of linear functions and inequalities, properties of exponents, polynomials operations and factoring, quadratic equations, operations with rational expressions, and applications where appropriate.

4 hours lecture.

**MAT 081A ELEMENTARY ALGEBRA I WITH REVIEW (2)**

Prerequisite(s): Appropriate placement test score or MAT 071 (or MAT 071A and MAT 071B) or MAT 072.

An introduction, with review of fundamental mathematics content up to the basic algebra normally included in the first half of a first-year high school algebra course. Includes fundamental properties and operations of real numbers, algebraic expressions, linear equations and inequalities, literal formulas and equations, graphing of linear functions and inequalities, and applications where appropriate.

2 hours lecture.

**MAT 081B ELEMENTARY ALGEBRA II WITH REVIEW (2)**

Prerequisite(s): MAT 081A.

An introduction, with review of fundamental mathematics up to the basic algebra normally included in the second half of a first-year high school algebra course. Includes properties of exponents, polynomials operations and factoring, quadratic equations, operations with rational expressions, and applications where appropriate.

2 hours lecture.

**MAT 082<sup>❖</sup> ELEMENTARY ALGEBRA (3)**

Prerequisite(s): Appropriate placement test score or MAT 071 (or MAT 071A and MAT 071B) or MAT 072.

An introduction to the basic algebra normally included in a first-year high school algebra course. Includes fundamental axioms and operations applied to rational numbers, laws of integral exponents, solutions of equations, polynomials and factoring, systems of equations, graphing equations and inequalities, rational expressions, radicals, quadratic equations and applications.

3 hours lecture.

**MAT 092 SPECIAL TOPICS AND APPLICATIONS IN DEVELOPMENTAL MATHEMATICS (0.25 - 4)**

Prerequisite(s): For MAT 092 in conjunction with an existing course, concurrent enrollment in the existing course is required.

A rotating forum/seminar/course or supplement to an existing mathematics course emphasizing mathematics or related topics. May be repeated for Cochise College credit. Cochise College elective credit only, unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

**MAT 122<sup>❖</sup> INTERMEDIATE ALGEBRA (3)**

Prerequisite(s): Appropriate placement test score or MAT 081 (or MAT 081A and MAT 081B) or MAT 082.

A continuation of algebra concepts which parallels the content generally included in a second-year high school algebra course: real number system, linear equations, absolute value equations and inequalities, functions, basic analytical geometry, systems of equations, polynomials, exponents, radicals, and quadratic equations. May or may not transfer to four-year universities.

3 hours lecture.

**MAT 123 INTERMEDIATE ALGEBRA WITH REVIEW (4)**

Prerequisite(s): Appropriate placement test score or MAT 081 (or MAT 081A and MAT 081B) or MAT 082.

A continuation of algebra concepts equivalent to the content normally covered in Algebra II in high school, with review of the real number system, linear equations and inequalities, functions, polynomials, exponents, and rational expressions. New content includes systems of equations, roots, radicals, complex numbers, quadratic equations, quadratic functions, and applications where appropriate. Optional material includes conic sections, exponential and logarithmic functions and equations, sequences, series, and the binomial theorem. May or may not transfer to four-year universities.

4 hours lecture.

**MAT 123A INTERMEDIATE ALGEBRA I WITH REVIEW (2)**

Prerequisite(s): Appropriate placement test score or MAT 081 (or MAT 081A and MAT 081B) or MAT 082.

A continuation of algebra concepts equivalent to the content normally covered in the first half of Algebra II in high school, with review of the real number system, linear equations and inequalities, functions, polynomials, exponents, and rational expressions. New content includes systems of equations, roots, radicals, and complex numbers. May or may not transfer to four-year universities.

2 hours lecture.

**MAT 123B INTERMEDIATE ALGEBRA II WITH REVIEW (2)**

Prerequisite(s): Appropriate placement test score or MAT 123A.

A continuation of algebra concepts, which parallel the content generally included in the second half of Algebra II in high school, with a review of first-year high school algebra equivalent to Elementary Algebra and Intermediate Algebra I. New content includes quadratic equations, quadratic functions, and applications where appropriate. Optional material includes conic sections, exponential and logarithmic functions and equations, sequences, series, and the binomial theorem. May or may not transfer to four-year universities.

2 hours lecture.

**MAT 142 SURVEY OF COLLEGE MATHEMATICS (3)**

Prerequisite(s): Appropriate placement test score or MAT 122 or MAT 123 (or MAT 123A and MAT 123B).

A course designed to give students who are not continuing in mathematics experience in applying concepts to realistic situations. Topics will include problem solving, mathematical modeling, exponential growth, probability, statistics, and finance mathematics.

3 hours lecture.

**MAT 151<sup>❖</sup> COLLEGE ALGEBRA (4)**

Prerequisite(s): Appropriate placement test score or MAT 122 or MAT 123 (or MAT 123A and MAT 123B).

A preparation for those intending to take further mathematics courses, this is an in-depth study of basic algebra concepts such as linear and quadratic equations, inequalities, functions, and graphing. The course continues into the more advanced topics of logarithms and matrices.

4 hours lecture.

## **MAT 154<sup>❖</sup> MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS I (3)**

Prerequisite(s): MAT 142 or MAT 151.

This course is designed to deepen students' understanding of the mathematical concepts taught in elementary and middle schools. Topics include numeration systems, sets and functions, reasoning, number theory, and operations on whole numbers, integers and rational numbers.

3 hours lecture.

## **MAT 156<sup>❖</sup> MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS II (3)**

Prerequisite(s): MAT 142 or MAT 151.

This course is designed to deepen students' understanding of the mathematical concepts that are taught in elementary and middle schools, as well as provide them with mathematical tools for analyzing student grades. Topics covered include probability, statistics, geometry, graphing, and problem solving.

3 hours lecture.

## **MAT 167<sup>❖</sup> ELEMENTS OF STATISTICS (3)**

Prerequisite(s): MAT 142, MAT 151, or MAT 187.

Basic concepts of descriptive and inferential statistics with applications in business and economics, the natural sciences, and the social and behavioral sciences. Methods of data collection, sampling techniques, probability distributions, confidence intervals, hypothesis testing, regression and correlation, various parametric and non-parametric statistical tests.

3 hours lecture.

## **MAT 172 FINITE MATHEMATICS (3)**

Prerequisite(s): MAT 151 or MAT 187.

An introduction to finite mathematics, with applications including: linear equations to supply and demand functions, systems of linear equations with applications to optimization, systems of linear inequalities with application matrices, linear programming and the simplex method, and mathematics of finance.

3 hours lecture.

## **MAT 182<sup>❖</sup> PLANE TRIGONOMETRY (3)**

Prerequisite(s): MAT 151.

An analytical approach to trigonometry based upon the unit circle concept: trigonometric functions, identities, conditional equations, radian measure graphs, logarithms, solution of right and oblique triangles, inverse trigonometric functions and trigonometric form of complex numbers.

3 hours lecture.

## **MAT 187<sup>❖</sup> PRECALCULUS (5)**

Prerequisite(s): Appropriate placement test score or MAT 122 or MAT 123 (or MAT 123A and MAT 123B).

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. The trigonometry includes the trigonometric functions, angle measures, the inverse trigonometric functions, identities and trigonometric formulas.

5 hours lecture.

## **MAT 188 COMPUTER SKILLS FOR MATHEMATICS WITH APPLICATIONS (3)**

Prerequisite(s): MAT 122.

Recommended Preparation: Strongly recommend MAT 151 or MAT 187.

This course is an informative hands-on introduction to computers covering applications both basic and advanced. Basic skills are graphing, solving equations and a system of equations numerically, rates of change of functions, linear regression, linear extrapolation and iteration. Advanced topics are presented in simple but non-trivial ways that show connections to basic skills. Topics may include falling bodies, spring motions, planetary motions, harmonic analysis of data, signal processing, spectral analysis, finite differences, Laplace's equation, dynamical systems, and cellular automata. This course is appropriate for students with little or no background in computers who may be required to have some proficiency in computers for other math or science courses. This course is designed for math students, educators, or others with a general interest in computers who want to broaden their understanding of math and science.

3 hours lecture.

## **MAT 192 SPECIAL TOPICS AND APPLICATIONS IN COLLEGE MATHEMATICS (0.25 - 6)**

Prerequisite(s): For MAT 192 in conjunction with an existing course, concurrent enrollment in the existing course is required.

Recommended Preparation: For MAT 192 offered as a special topic seminar or course, permission of the instructor is strongly recommended.

A rotating forum/seminar/course or supplement to an existing mathematics course emphasizing mathematics or related topics. May be repeated for Cochise College credit. Cochise College elective credit only, unless otherwise designated in degree programs. The title and credit hours for this course will differ each term, depending on the topic being covered when the course is offered.

- MAT 192A Installing and Using Linux (2)
- MAT 192B Linux and Internet Security (2)
- MAT 192C Bioinformatics Workstations I (0.5)
- MAT 192D Bioinformatics Workstations II (0.5)
- MAT 192E Linux and Internet Security I (0.5)
- MAT 192F Linux and Internet Security II (0.5)
- MAT 192G WWW Interactive Math Server (0.5)

## **MAT 212<sup>❖</sup> CALCULUS FOR BUSINESS (3)**

Prerequisite(s): Appropriate placement test score, MAT 151, or MAT 187.

Recommended Preparation: One of the prerequisite courses taken within the past year.

This course is a brief introduction to calculus with an emphasis on business applications. Topics include analytic geometry, limits, derivatives, and definite and indefinite integrals.

3 hours lecture.

## **MAT 220<sup>❖</sup> CALCULUS I (5)**

Prerequisite(s): MAT 187 or both MAT 151 and MAT 182.

An integrated study in which analytic geometry is used to develop, understand, and apply calculus concepts. Includes absolute value and inequality, relations and functions, graphs, limits and continuity, definition and application of the derivative, anti-derivative and definite integral.

5 hours lecture.

## **MAT 227 DISCRETE MATHEMATICS (3)**

Prerequisite(s): MAT 151 or MAT 187.

Recommended Preparation: MAT 220.

This course is an introduction to the study of non-continuous mathematics. Topics covered in the course include formal proof techniques, propositional logic, set theory, combinatorics, elementary number theory, graph theory, and partially ordered sets.

3 hours lecture.

## **MAT 231 CALCULUS II (4)**

Prerequisite(s): MAT 220.

A continuation of MAT 220. Techniques and applications of differentiation and integration of elementary functions are expanded to include transcendental, inverse trigonometric and hyperbolic functions. Indeterminate forms, improper integrals, sequences and infinite series are introduced. Topics also include conic sections, parametric equations and polar coordinates.

4 hours lecture.

## **MAT 241 CALCULUS III (4)**

Prerequisite(s): MAT 231.

A continuation of MAT 231 to conclude the three-semester calculus sequence. Topics include vectors and properties of vectors, vector-valued functions including arc length, curvature, and torsion, partial derivatives including limits, directional derivatives, and Lagrange multipliers, multiple integrals and integration in vector fields including line integrals, Green's Theorem, Stokes' Theorem, and the Divergence Theorem.

4 hours lecture.

## **MAT 252 INTRODUCTION TO LINEAR ALGEBRA (3)**

Prerequisite(s): MAT 231.

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.

**MAT 262 DIFFERENTIAL EQUATIONS (3)**

Prerequisite(s): MAT 231.

This course is an introduction to the study of ordinary differential equations. Topics include the theory, solution methods, and applications of first-order differential equations, nth-order linear differential equations, systems of linear differential equations, and series solutions.

3 hours lecture.

**MAT 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to initiation of the study. May be repeated for credit.

## Mechatronics

**MCS 101 MECHATRONIC SYSTEMS ELECTRICAL COMPONENTS (4)**

Prerequisite(s): None.

Introduces the systems approach to the operation of electrical components, and to the relationship of voltage, current, resistance, and power in industrial systems; and provides an overview of alternating current and direct current fundamentals.

3 hours lecture, 3 hours laboratory.

**MCS 102 INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS (4)**

Prerequisite(s): None.

An introduction to the fundamentals of digital logic and to programmable logic controllers (PLCs) in a complex mechatronics system, with a focus on automation systems. Using computer simulations, students explore the role PLCs play within a mechatronics system and its subsystems, and demonstrate PLC functions by writing and testing basic programs on an 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.

**MCS 103 MECHATRONIC SYSTEMS MECHANICAL COMPONENTS (4)**

Prerequisite(s): None.

Introduces the systems approach to the operation of mechanical components and the application of those components in industrial systems, and provides an overview of rotating machinery fundamentals.

3 hours lecture, 3 hours laboratory.

**MCS 104 (ELECTRO)PNEUMATIC AND HYDRAULIC CONTROL CIRCUITS (4)**

Prerequisite(s): None.

An introduction to the basics of pneumatic, electropneumatic, and hydraulic control circuits in a complex mechatronics system. Students investigate the physical functions and properties of control elements and the role that these functions and properties play within the system. They also utilize technical documents such as data sheets, circuit diagrams, displacement step diagrams, and function charts to identify, localize, and correct malfunctions in (electro)pneumatic and hydraulic circuits; and they perform preventive maintenance on system (electro)pneumatic and hydraulic components.

3 hours lecture, 3 hours laboratory

## Management

**MGT 101 INTRODUCTION TO MANAGEMENT SKILLS (2)**

Prerequisite(s): Sponsorship by a private or non-profit sector employer or approval of the director of the Center for Lifelong Learning.

A practical introduction to private and nonprofit sector management for first-line supervisors or potential supervisors. Focus is on communication techniques, delegation of authority, quality management, performance evaluation, discipline, and employee orientation. Identical to PAD 101. MGT 101-MGT 103 is offered as a single program and may not be taken individually or out of sequence.

2 hours lecture.

**MGT 102 MANAGER AND SYSTEM RELATIONSHIPS (2)**

Prerequisite(s): MGT 101.

A practical study of the manager as a member of an organization with emphasis upon the processes and procedures necessary for managerial competence. Topics include management practices, employee motivation, organizational communications, budgetary systems and management, equal employment opportunity, and employee-management relations. Identical to PAD 102. MGT 101-103 is offered as a single program and may not be taken individually, or out of sequence.

2 hours lecture.

**MGT 103 THE MANAGER AND THE WORKGROUP (2)**

Prerequisite(s): MGT 102.

A practical analysis of the manager as a group/team leader, focusing on group dynamics, behavioral analysis, group problem solving and decision making, change management, conflict management, and group interaction. Identical to PAD 103. MGT 101-103 is offered as a single program and may not be taken individually, or out of sequence.

2 hours lecture.

**MGT 201 LEADERSHIP SKILLS FOR MANAGERS (3)**

Prerequisite(s): Sponsorship by a private or nonprofit sector employer, and successful completion of MGT 101-103 or PAD 101-103 or possession of the equivalent level of training as certified by the department coordinator.

A practical, in-depth study of private and nonprofit sector management techniques focusing on leadership, ethics, management in a political environment, management of fiscal resources and organizational planning. Also includes the study of marketing fundamentals, marketing strategy, and linking marketing with organizational goals. MGT 201 is offered as part of a management certificate program and may not be taken as an individual course or out of sequence.

3 hours lecture.

**MGT 202 EFFECTIVE DECISION MAKING (3)**

Prerequisite(s): MGT 201.

A practical, in-depth study of private sector management techniques focusing on effective decision making, conflict management, performance evaluation and achieving organizational goals through teamwork. MGT 202 is offered as part of a management certificate program and may not be taken individually or out of sequence.

3 hours lecture.

**MGT 203 SUCCESSFUL PROJECT MANAGEMENT (3)**

Prerequisite(s): MGT 202.

A practical, in-depth study of private and nonprofit sector management techniques focusing on project management, managing and achieving organizational goals and effectively managing organizational change. MGT 203 is offered as part of a management certificate program and may not be taken individually, or out of sequence.

3 hours lecture.

**Music****MUS 100  FUNDAMENTALS OF MUSIC NOTATION (3)**

Prerequisite(s): None.

An introduction to the fundamental structures of music including rhythm, note reading, scales, intervals, chords, and beginning composition.

3 hours lecture.

**MUS 101 INTRODUCTION TO MUSIC (3)**

Prerequisite(s): None.

An introduction to the elements, form and design of music, illustrated with recordings of important musical literature from various periods of music history with an emphasis on the Medieval, Renaissance and Baroque periods of music history.

3 hours lecture.

**MUS 102 INTRODUCTION TO MUSIC (3)**

Prerequisite(s): None.

An introduction to the elements, form and design of music, illustrated with recordings of important musical literature from various periods of music history, with an emphasis on the classical, romantic, and 20th century periods of music history.

3 hours lecture.

**MUS 103 VOICE CLASS INSTRUCTION (1)**

Prerequisite(s): None.

The study of basic foundations of vocal techniques, i.e., breath control, tonal support, tone production, vocal projection and diction.

1 hour lecture.

**MUS 104 VOICE CLASS INSTRUCTION (1)**

Prerequisite(s): MUS 103.

An intermediate study of basic foundations of vocal techniques, i.e., breath control, tonal support, tone production, vocal projection and diction.

1 hour lecture.

**MUS 108 MARIACHI (2)**

Prerequisite(s): Permission of instructor.

A performing art class which is a practical introduction to the study and performance of Mariachi. Includes a study of the history and cultural heritage of Mariachi, with an emphasis upon the refinement of basic vocal and instrumental skills and the ability to perform musically as a group.

1 hour lecture, 3 hours rehearsal/performance.

**MUS 109 ORCHESTRA (1)**

Prerequisite(s): Permission of instructor.

Study and performance of orchestral musical literature from various periods of musical composition. May be repeated for credit.

2 hours rehearsal/performance.

**MUS 110 CHORUS (1)**

Prerequisite(s): Audition.

Study and performance of outstanding choral literature from various periods of musical composition. May be repeated for credit.

3 hours rehearsal/performance.

**MUS 111 BAND (1)**

Prerequisite(s): Audition.

Study and performance of instrumental music from various periods of musical composition.

2 hours rehearsal/performance.

**MUS 112 INSTRUMENTAL CLASS INSTRUCTION (1)**

Prerequisite(s): None.

An introduction to and development of basic instrumental skills, note reading, coordination, rhythm, and sight reading. May be repeated for credit.

1 hour lecture.

MUS 112A Piano Class Instruction

MUS 112B Brass Class Instruction

MUS 112C Woodwind Class Instruction

MUS 112D Percussion Class Instruction

MUS 112E String Class Instruction

MUS 112F Guitar Class Instruction

**MUS 113 ♦ INSTRUMENT - INDIVIDUAL INSTRUCTION (1 - 2)**

Prerequisite(s): Audition.

A semester-long systematic study in technique and repertoire of an instrument of the student's choice. May be repeated for credit.

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

**MUS 115 ♦ VOICE - INDIVIDUAL INSTRUCTION (1 - 2)**

Prerequisite(s): Audition.

A semester-long study of basic foundations of vocal techniques and preparation of vocal literature. May be repeated for credit.

**MUS 123 AMERICAN POPULAR MUSIC (3)**

Prerequisite(s): None.

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.

**MUS 132 MUSIC THEORY I (3)**

Prerequisite(s): MUS 100 or permission of instructor.

Recommended Preparation: Music majors should enroll concurrently in MUS 134, and either MUS 113 or MUS 115.

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.

**MUS 133 MUSIC THEORY II (3)**

Prerequisite(s): MUS 132 or permission of instructor.

Recommended Preparation: Music majors should enroll concurrently in MUS 135, and either MUS 113 or MUS 115.

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.

**MUS 134 AURAL SKILLS (1)**

Prerequisite(s): None.

Aural skills are a progressive series of exercises in sight singing, rhythmic dictation, and melodic dictation. This course is required for students registering for MUS 132.

1 hour lecture.

**MUS 135 AURAL SKILLS (1)**

Prerequisite(s): MUS 134.

A continuation of MUS 134. Aural skills are a progressive series of exercises in sight singing, rhythmic dictation, and melodic dictation. This course is required for students registering for MUS 133.

1 hour lecture.

**MUS 192 SPECIAL TOPICS IN MUSIC (1)**

Prerequisite(s): None.

Basic instruction; introduction and development of basic skills, breathing, diction, tone, rhythm, sight singing, repertory songs in English and foreign languages; practical training in singing with and/or without specialization; practical instruction in singing different styles of music from different genres. Basic instruction in singing in harmony; working with a conductor, and singing with other voice parts. The title of this course may differ each term, depending on the topic being covered when the course is offered.

1 hour lecture.

**MUS 201 ENSEMBLE (1)**

Prerequisite(s): Audition.

Trios, quartets, quintets, etc., will be formed to perform and study music written or arranged for the small ensemble. In addition to rehearsal, groups will occasionally perform in public, either on campus or in surrounding communities. Course may be repeated for credit.

2 hours rehearsal/performance.

MUS 201A Voice Ensemble

MUS 201B Brass Ensemble

MUS 201C Woodwind Ensemble

MUS 201D Percussion Ensemble

MUS 201E String Ensemble

MUS 201F Guitar Ensemble

MUS 201G Jazz Ensemble

**MUS 210 MUSIC THEATRE WORKSHOP (2)**

Prerequisite(s): Audition or permission of instructor.

A practical study of vocal and performance strategies for projection and communication. Students will participate in a college-sponsored operatic or musical production. May be repeated for credit.

1 hour lecture, 3 hours rehearsal/performance.

**MUS 230 ART SONG REPERTORY I (1)**

Prerequisite(s): Permission of instructor.

Class performance of representative selections from the standard vocal repertoire. Art songs in German, Italian, French and English will be sung as well as other vocal literature.

1 hour lecture.

**MUS 231 ART SONG REPERTORY II (1)**

Prerequisite(s): Permission of instructor.

Class performance of representative selections from the standard vocal repertoire. Art songs in German, Italian, French and English will be sung as well as other vocal literature.

1 hour lecture.

**MUS 232 MUSIC THEORY III (3)**

Prerequisite(s): MUS 133.

Recommended Preparation: Concurrent enrollment in MUS 113 or MUS 115.

This third music theory course focuses on art music in chronological order from the late medieval period through the early 20th century. Major forms are analyzed melodically and harmonically.

3 hours lecture.

**MUS 233 MUSIC THEORY IV (3)**

Prerequisite(s): MUS 232.

Recommended Preparation: Concurrent enrollment in MUS 113 or MUS 115.

This fourth music theory course focuses on art music in chronological order from the late 19th through the early 20th centuries. Major forms are analyzed melodically and harmonically.

3 hours lecture.

**MUS 236 REPERTOIRE STRATEGY (1 - 3)**

Prerequisite(s): Permission of instructor.

Designed for music teachers and students interested in the keyboard and chamber music repertoire from the late Baroque to the 20th century. Exploration of the works of representative composers such as J.S. Bach, C.P.E. Bach, Gretchaninov, Khachaturian, and Shostakovich. Emphasis on technique and interpretation. Performing groups, such as duets and trios.

**MUS 260 MUSIC FUNDAMENTALS THROUGH EXPERIENCE (3)**

Prerequisite(s): None.

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.

# Networking

## NET 110 PC HARDWARE FUNDAMENTALS (3)

Prerequisite(s): 6 months basic computer training/experience.

This course prepares the student in fundamental PC hardware theory as specified by the CompTIA A+ certification part 1 Core Hardware. This exam is one of two examinations required for the A+ certification. A+ certification signifies that the certified individual possesses the knowledge and skills essential for successful placement as an entry-level computer service technician, as defined by experts from companies across the industry. This course offers the participant the opportunity to acquire a good preparation in PC hardware. This course is recommended to achieve A+ certification by passing the Core service Technician exam. This course includes necessary labs to supplement and apply the theory learned.

2 hours lecture, 2 hours laboratory.

## NET 111 PC OPERATING SYSTEM FUNDAMENTALS (3)

Prerequisite(s): 6 months basic computer training/experience.

This course prepares the student in fundamental PC Operating System theory as specified by the CompTIA A+ certification part 2 Operating System Technologies. This exam is the second of two examinations required for the A+ certification. A+ certification signifies that the certified individual possesses the knowledge and skills essential for successful placement as an entry-level computer service technician, as defined by experts from companies across the industry. This course offers the participant the opportunity to acquire a good preparation in Operating Systems. This course is recommended to achieve A+ certification by passing the Core service Technician exam. This course includes necessary labs to supplement and apply the theory learned.

2 hours lecture, 2 hours laboratory.

## NET 112 FUNDAMENTALS OF VOICE AND DATA CABLING I (3)

Prerequisite(s): CIS 150.

An introduction to the handling and installation of voice and data transmission media. This course provides students with a general industry and networking overview, as well as building a solid foundation in media types, transmission practices, and installation theory. Emphasis will be on industry cabling standards for the handling, installation, and proper termination of the various media involved in voice and data communications.

2 hours lecture, 3 hours laboratory.

## NET 208 PC NETWORKING FUNDAMENTALS (3)

Prerequisite(s): Typical student would be a technician with 18-24 months experience in the IT industry, have an A+ certification or equivalent knowledge.

This course is a comprehensive approach to providing the knowledge and skills required to prepare for CompTIA's Network+ exam. It also develops proficiency in networking fundamentals, network protocols, cabling and devices, network design/implementation/troubleshooting as well as installation and maintenance of the TCP/IP client, and installation of current network operating systems.

2 hours lecture, 2 hours laboratory.

## NET 209 WINDOWS XP PROFESSIONAL FUNDAMENTALS (3)

Prerequisite(s): Operating system experience or formal class.

This course prepares the student in the fundamentals of Windows XP Professional as specified by the guidelines established by Microsoft's exam 70-270. This exam is part one of a series of examinations required for the MCP certification. This course includes necessary practical to supplement and apply the theory learned.

2 hours lecture, 2 hours laboratory.

**NET 210 WINDOWS SERVER 2K3 ENVIRONMENT (3)**

Prerequisite(s): A+ certification or equivalence.

This course prepares the student in the fundamentals of Windows 2003 Server Environment as specified by the guidelines established by Microsoft's exam 70-290. This exam is part one of a series of examinations required for the MCSA certification. This course includes necessary practical to supplement and apply the theory learned.

2 hours lecture, 2 hours laboratory.

**NET 211 WINDOWS 2K3 SERVER INFRASTRUCTURE (3)**

Prerequisite(s): A+ certification or equivalence.

This course prepares the student in the fundamentals of Windows 2K3 Server Infrastructure as specified by the guidelines established by Microsoft's exam 70-291. This exam is the second in a series of examinations required for the MCSA certification. This course includes necessary practical to supplement and apply the theory learned.

2 hours lecture, 2 hours laboratory.

**NET 212 FUNDAMENTALS OF VOICE AND DATA CABLING II (3)**

Prerequisite(s): NET 112.

This course builds on the knowledge gained in NET 112. Emphasis is on practical installation, including the rough-in, trim-out, finish, and customer-support phases. The future of cabling is also covered as it relates to such issues as demand for bandwidth and localization.

2 hours lecture, 3 hours laboratory.

**Nursing****NUR 120 ♦ TRANSITION NA/PA (2)**

Prerequisite(s): Acceptance into NUR 123.

This course will provide the challenging, transferring or re-entering nursing student with an understanding of the philosophy, policies and procedures of the Cochise College Nursing Program. The emphasis will be on the nursing process, patient care planning, therapeutic use of self, clinical expectations and basic nursing skills.

2 hours lecture.

**NUR 121A MEDICATION MATH I (2)**

Prerequisite(s): Appropriate placement test score or MAT 081 (or MAT 081A and MAT 081B) or MAT 082, and acceptance into the nursing program.

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.

**NUR 121B MEDICATION MATH II (2)**

Prerequisite(s): Both NUR 121A and NUR 232 with a grade of B or higher.

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 community.

2 hours lecture, 1 hour laboratory.

**NUR 122 ♦ NURSING I (8)**

Prerequisite(s): BIO 201, BIO 202, ENG 101, ENG 102, PSY 101, and admission into the nursing program.

In this first semester of the nursing program, students learn concepts and skills necessary to provide basic nursing care to patients in a variety of settings. The course focuses on concepts relating to basic psychological and physiological needs of persons of all ages and cultures.

4 hours lecture, 12 hours laboratory.

**NUR 123 ♦ NURSING II (10)**

Prerequisite(s): Both NUR 121A and NUR 122 with a grade of B or higher, and NUR 203 or PSY 240.

In this second semester of the nursing program, students continue to build on the basic concepts and skills necessary to provide nursing care to patients in primary, acute, and chronic care settings. The course focuses on concepts relating to the application of skills in the care of persons of all ages and cultures. Upon successful completion of Nursing I and Nursing II, students are eligible to take the National Certification Licensing Exam for Practical Nurses.

6 hours lecture, 12 hours laboratory.

**NUR 201 ♦ INFUSION THERAPY/VENIPUNCTURE BY LICENSED PRACTICAL NURSES (4)**

Prerequisite(s): Current unencumbered LPN license.

This course provides instruction in classroom techniques of peripheral IV initiation (venipuncture) and the administration of premixed intravenous medications and solutions to an IV line. It addresses the theory and technical skills necessary to provide intravenous therapy. The curriculum is based on the competencies included in the Arizona State Board of Nursing Advisory Opinion "Infusion Therapy/Venipuncture by LPNs," May 2001. The student will receive a certificate upon successful completion of the course.

3 hours lecture, 1 hour laboratory.

**NUR 203 UPDATE ON PHARMACOLOGY (3)**

Prerequisite(s): ENG 101, and RDG 122 or exemption.

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.

**NUR 220 ♦ TRANSITION LPN/RN (1)**

Prerequisite(s): Admission into NUR 232 and concurrent enrollment in NUR 232.

This course will provide the challenging, transferring or re-entering nursing student with an understanding of the philosophy, policies and procedures of the Cochise College nursing program. The emphasis will be on the nursing process, patient care planning, therapeutic use of self and basic nursing skills.

1 hour lecture.

**NUR 224 FIELD EXPERIENCE IN NURSING (1 - 6)**

Prerequisite(s): A declared major in Nursing. Permission and approval of cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in nursing and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six units in a given semester.

**NUR 232 ♦ NURSING III (10)**

Prerequisite(s): NUR 123 with a grade of B or higher, NUR 203, and PSY 240.

In this third semester of the nursing program, the nursing practice set focuses on common physical and psychosocial health needs and problems throughout the human life span. Concepts include the use of a framework promoting effective communication 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 trends in health care to adapt to changes and to be proactive in the profession of nursing.

6 hours lecture, 12 hours laboratory.

**NUR 233 ♦ NURSING IV (10)**

Prerequisite(s): Both NUR 121B and NUR 232 with a grade of B or higher.

This fourth-semester course is a continuation of Nursing III. During the nursing preceptorship, students work intensively with a registered nurse to promote their transition from student to nurse. Upon successful completion of this course, students are eligible to take the National Certification Licensing Exam for Registered Nurses.

6 hours lecture, 12 hours laboratory.

**NUR 299 NURSING I ELECTIVE STUDY (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to the initiation of the study. May be repeated for credit. Nursing I Independent Study.

## Public Administration

**PAD 101 INTRODUCTION TO MANAGEMENT SKILLS (2)**

Prerequisite(s): Sponsorship by a public sector employer.

A practical introduction to public sector management for the first-line supervisor or potential supervisor. Focus is on communication techniques, delegation of authority, quality management, performance evaluation, discipline, and employee orientation. Identical to MGT 101.

2 hours lecture.

**PAD 102 THE MANAGER AND SYSTEM RELATIONSHIPS (2)**

Prerequisite(s): PAD 101.

A practical study of the manager as a member of an organization with emphasis upon the processes and procedures necessary for managerial competence. Topics include management practices, employee motivation, organizational communications, budgetary systems and management, equal employment opportunity, and employee-management relations. Identical to MGT 102.

2 hours lecture.

**PAD 103 THE MANAGER AND THE WORK GROUP (2)**

Prerequisite(s): PAD 102.

A practical analysis of the manager as a group/team leader focusing on group dynamics, behavioral analysis, group problem solving and decision making, change management, conflict management, and group interaction. Identical to MGT 103.

2 hours lecture.

# Professional Flight Technology

## PFT 100 INTRODUCTION TO AVIATION (3)

Prerequisite(s): None.

This course will serve as an overview of aviation including careers, the training process, qualification requirements, job duties, Federal Aviation Regulations, aerodynamics and navigation. The course can also prepare the 14CFR Part 61 student to take, with approval of the instructor, the Private Pilot Computer Knowledge Examination, or serve as review of material for the oral portion of a biennial flight review.

3 hours lecture.

## PFT 101 PRIVATE PILOT GROUND SCHOOL (5)

Prerequisite(s): None.

A comprehensive course leading to completion of the FAA Private Pilot Certificate knowledge requirements and preparation for introduction to commercial pilot certification requirements.

5 hours lecture.

## PFT 102 PRIVATE PILOT PRACTICUM (1)

Prerequisite(s): PFT 101 or equivalent.

This course serves as a review of the knowledge areas required in the Private Pilot Practical Test Standards.

1 hour lecture.

## PFT 103 PRIVATE PILOT REVIEW (1)

Prerequisite(s): FAA written exam passed, and FAA Private Pilot Airplane experience requirements met by the FAA.

Review of all items listed in the Private Pilot Airplane Single Engine Land Test Standards to prepare for Private Pilot Certification.

1 hour lecture.

## PFT 110 PRIVATE PILOT PREPARATION (6)

Prerequisite(s): PFT 101 (co-requisite) or permission of the Aviation department.

A course designed to prepare the student to complete the FAA flight requirements for a private pilot certificate including solo flight skill, cross-country flight skill and knowledge requirements.

6 hours lecture.

## PFT 121 COMMERCIAL FLIGHT I (3)

Prerequisite(s): PFT 110 or possession of a Private Pilot Certificate.

An introduction to commercial pilot flight maneuvers, and completion of one-half of the solo cross-country requirements for Commercial Pilot Certification.

1.5 hours lecture, 4.5 hours laboratory.

## PFT 122 METEOROLOGY (1)

Prerequisite(s): PFT 101 or permission of instructor.

A continuation of the study of aviation weather theory introduced in PFT 101 includes an in-depth study of weather elements, weather hazards, and aviation weather reports and forecasts.

1 hour lecture.

## PFT 130 COMMERCIAL PILOT GROUND SCHOOL (5)

Prerequisite(s): PFT 101 or possession of a Private Pilot Certificate.

A comprehensive course leading to completion of the FAA requirements for a Commercial Pilot Certification.

5 hours lecture.

## PFT 131 COMMERCIAL FLIGHT II (3)

Prerequisite(s): PFT 110 or possession of a Private Pilot Certificate.

A continuation of the development of the requirements for the Commercial Pilot Certificate.

1.5 hours lecture, 4.5 hours laboratory.

**PFT 200 INTRODUCTION TO AVIATION OPERATIONS MANAGEMENT (3)**

Prerequisite(s): None.

An introduction to basic management principles as they apply to aviation-oriented businesses.

3 hours lecture.

**PFT 204 INSTRUMENT RATING GROUND SCHOOL (5)**

Prerequisite(s): PFT 101, PFT 102, and PFT 103 ground schools.

Completion of the knowledge requirements to obtain Instrument Pilot certification.

5 hours lecture.

**PFT 206 AIRCRAFT SYSTEMS (4)**

Prerequisite(s): PFT 101 or equivalent, or permission of instructor.

An in-depth study of aircraft systems, to include components, functions, construction, operating theory and practice; applied physics and electrical principles; and systems problem-solving techniques for pilots.

4 hours lecture.

**PFT 210 MULTI-ENGINE RATING GROUND SCHOOL (1)**

Prerequisite(s): Five hours solo in a complex airplane.

A comprehensive course leading to completion of the knowledge level requirements for a Multi-Engine Land Airplane Class Rating.

1 hour lecture.

**PFT 211 MULTI-ENGINE RATING FLIGHT (1)**

Prerequisite(s): Five hours solo in a complex airplane. PFT 210 or concurrent enrollment.

A comprehensive course leading to completion of the FAA requirements for a Multi-Engine Land Airplane Class Rating.

1 hour lecture.

**PFT 212 INSTRUMENT RATING (5)**

Prerequisite(s): PFT 110 or equivalent.

A course designed to prepare the student to meet the requirements for issue of an FAA instrument rating.

5 hours lecture.

**PFT 216 INSTRUMENT PILOT PRACTICUM (1)**

Prerequisite(s): PFT 204 or equivalent.

A review of all required areas enumerated in the Instrument Rating Practical Test Standards issued by the FAA.

1 hour lecture.

**PFT 217 INSTRUMENT PILOT REVIEW (1)**

Prerequisite(s): FAA written exam passed and FAA Instrument Pilot Airplane experience requirement met.

Review of all items listed in the Instrument Pilot Airplane Single Engine Land Test Standards to prepare for Instrument Pilot Certification.

1 hour lecture.

**PFT 218 COMMERCIAL FLIGHT III (1)**

Prerequisite(s): PFT 121 or equivalent.

This course will enable the student to complete the flight skill level requirements for the flight portion of the FAA Commercial Pilot Practical Test.

1 hour lecture.

**PFT 219 COMMERCIAL PILOT PRACTICUM (1)**

Prerequisite(s): PFT 121, PFT 130, or equivalent.

A review of the material enumerated in the Commercial Pilot Single Engine Land Practical Test Standards.

1 hour lecture.

**PFT 220 COMMERCIAL PILOT REVIEW (1)**

Prerequisite(s): FAA written exam passed, and FAA Commercial Pilot Airplane experience requirements met.

Review of all items listed in the appropriate Commercial Pilot Airplane Land Test Standards to prepare for Commercial Pilot Certification.

1 hour lecture.

**PFT 230 FLIGHT INSTRUCTOR - FUNDAMENTALS GROUND SCHOOL (3)**

Prerequisite(s): PFT 130 and PFT 204, or permission of instructor.

A study of the basic principles and processes of learning and teaching as it relates to the task of conveying aeronautical knowledge and skills to students.

3 hours lecture.

**PFT 231 FLIGHT INSTRUCTOR - AIRPLANE GROUND SCHOOL (5)**

Prerequisite(s): PFT 130 and PFT 204.

A comprehensive course leading to completion of the ground school requirements for an FAA Flight Instructor Airplane Certification.

5 hours lecture.

**PFT 232 FLIGHT INSTRUCTOR - AIRPLANE FLIGHT COURSE (3)**

Prerequisite(s): Possession of a Commercial Pilot airplane certificate with an Instrument Rating, PFT 231 or concurrent enrollment.

A comprehensive course leading to completion of the FAA requirements for a Flight Instructor Airplane Certification.

3 hours lecture.

**PFT 233 FLIGHT INSTRUCTOR - AIRPLANE REVIEW (1)**

Prerequisite(s): FAA written exam passed and FAA Flight Instructor Airplane experience requirements met by the student.

Review of all test items for the Flight Instructor Airplane Certification test as outlined in the Practical Test Standards published by the FAA.

1 hour lecture.

**PFT 234 FLIGHT INSTRUCTOR PRACTICUM (2.5)**

Prerequisite(s): PFT 230 and PFT 231 or equivalent.

A review of the knowledge areas enumerated in the Flight Instructor Airplane Single Engine Land Practical Test Standards.

2.5 hours lecture.

**PFT 237 INTRODUCTION TO AVIATION RISK MANAGEMENT AND INSURANCE (3)**

Prerequisite(s): None.

An introductory analysis of aviation risk management and insurance functions; concept and analysis of risk; insurability and risk retention; and analysis and use of insurance contracts as they apply to aviation property, liability, and employee exposure. This course is designed for prospective employees and supervisors in aviation-related businesses.

3 hours lecture.

**PFT 240 FLIGHT INSTRUCTOR - MULTI-ENGINE GROUND SCHOOL (2)**

Prerequisite(s): Possession of a Flight Instructor Airplane Certificate and Multi-engine Land Airplane Rating.

A comprehensive course leading to completion of the FAA requirements for a Multi-engine Flight Instructor Certificate.

2 hours lecture.

**PFT 241 FLIGHT INSTRUCTOR - MULTI-ENGINE FLIGHT (2)**

Prerequisite(s): Flight Instructor Certification and a Multi-engine Airplane Rating. PFT 240.

A comprehensive course designed to complete the requirements for an FAA Multi-engine Instructor Certificate.

1 hour lecture, 3 hours laboratory.

**PFT 243 PILOT-IN-COMMAND, TAILWHEEL AIRPLANE (0.5)**

Prerequisite(s): Private Pilot Certificate.

Provide individualized instruction to the holder of a pilot certificate in the procedures and operations required by Federal Aviation Regulation 61.31(d)(2) to be pilot-in-command of a tailwheel airplane.

0.5 hour laboratory.

**PFT 245 AIR TRANSPORTATION (3)**

Prerequisite(s): None.

A survey of the development and operation of the air transportation system, including air carrier regulation, deregulation, economics, and organization.

3 hours lecture.

**PFT 247 AVIATION LAW (3)**

Prerequisite(s): Sophomore standing or permission of instructor.

An introduction to the legal environment of aviation, including operation of the United States Constitution relating to aviation matters, the Warsaw Convention, legal definitions, workers' compensation, liability to others, and crimes as they relate to aviation and aircraft.

3 hours lecture.

**PFT 250 FLIGHT INSTRUCTOR - INSTRUMENT GROUND SCHOOL (3)**

Prerequisite(s): Possession of an Airplane Flight Instructor Certificate and Instrument Rating.

A comprehensive course leading to completion of the requirements for FAA certification as a Flight Instructor Instrument Airplane.

3 hours lecture.

**PFT 251 FLIGHT INSTRUCTOR - INSTRUMENT FLIGHT (3)**

Prerequisite(s): Possession of an Airplane Flight Instructor Certificate and Instrument Rating. PFT 250 or concurrent enrollment.

A comprehensive course leading to completion of the FAA requirements for an Instrument Flight Instructor Airplane Rating.

3 hours lecture.

**PFT 260 AIRLINE TRANSPORT PILOT - GROUND SCHOOL (3)**

Prerequisite(s): Possession of a Commercial Pilot Airplane Certificate with an Instrument Rating.

A comprehensive course leading to completion of the FAA requirements for an Airline Transport Pilot Certification.

3 hours lecture.

**PFT 261 AIRLINE TRANSPORT PILOT FLIGHT (1)**

Prerequisite(s): Possession of a Commercial Pilot Airplane Certificate with an Instrument Rating.

A comprehensive course leading to completion of the FAA requirements for an Airline Transport Pilot Certification.

1 hour lecture.

### **PFT 271 UNMANNED AERIAL VEHICLE (UAV) OPERATOR (29)**

Prerequisite(s): PFT 101 or successful completion of an FAA approved Stage One Ground School, and a sponsored employee of the Department of Defense or of a DOD UAV contractor.

Provides the student with the theoretical and practical skills and knowledge necessary to safely employ, in any theater of operation, the UAV system for which the student has been trained, incorporating the aerial vehicle, mission payload and flight line operations.

21 hours lecture, 26 hours laboratory.

### **PFT 272 UNMANNED AERIAL VEHICLE (UAV) EXTERNAL PILOT (26)**

Prerequisite(s): PFT 101 or completion of a FAA certified Stage One Ground School, and PFT 271. Sponsored employee of the Department of Defense or of a DOD UAV contractor.

Designed to provide the student with the theoretical knowledge and practical skills necessary to perform the external pilot functions of the Hunter unmanned aerial vehicle system, including launch and recovery operations, traffic pattern operations, and emergency recovery procedures and operations.

18 hours lecture, 20 hours laboratory.

### **PFT 294 FIELD EXPERIENCE IN PROFESSIONAL FLIGHT TECHNOLOGY (1 - 6)**

Prerequisite(s): A declared major in Professional Flight Technology. Permission and approval of a cooperative education program coordinator.

Recommended Preparation: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in professional flight technology and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six units in a given semester. NOTE: Lower- and upper-division cooperative education courses may be combined but cannot exceed 16 units.

## Philosophy

### **PHI 111 INTRODUCTION TO PHILOSOPHY (3)**

Prerequisite(s): ENG 101 or permission of instructor.

An introduction to the history, key figures, and major branches of philosophy. Critical reading of selected classical and contemporary texts and analysis of their connections to the individual, society and to other bodies of knowledge; practice in oral argumentation through participation in class discussions; writing of critical/analytical essays grounded in readings and class discussions.

3 hours lecture.

### **PHI 113 INTRODUCTION TO LOGIC AND LANGUAGE (3)**

Prerequisite(s): ENG 101 or concurrent enrollment, and placement in MAT 122 or higher.

Elementary study of formal logic, symbolic logic, logical fallacies, induction, argument and language.

3 hours lecture.

### **PHI 130 ETHICS (3)**

Prerequisite(s): ENG 101 or concurrent enrollment, or permission of instructor.

An introduction to moral philosophy with emphasis on philosophical analysis of contemporary issues.

3 hours lecture.

### **PHI 201 PHILOSOPHIES OF THE EAST (3)**

Prerequisite(s): ENG 101 or permission of instructor.

Recommended Preparation: Computer literacy.

Hinduism, Buddhism, Taoism, and Confucianism with emphasis on their roles in the modern world.

3 hours lecture.

**PHI 202  PHILOSOPHY OF RELIGION (3)**

Prerequisite(s): ENG 101 and ENG 102.

Introduction to the nature of religion, nature and existence of God and major religious tenets of western thought.

3 hours lecture.

**PHI 270 PHILOSOPHY IN LITERATURE (3)**

Prerequisite(s): ENG 101 and ENG 102.

The philosophical analysis of selected literary works.

3 hours lecture.

## Pharmacy Technology

**PHT 224  FIELD EXPERIENCE IN PHARMACY TECHNOLOGY (1 - 6)**

Prerequisite(s): Prior approval of a cooperative education program coordinator and a recommendation from a faculty member in an appropriate discipline.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career skills objectives related to the pre-pharmacy field. Variable credit (1-6) is available upon consultation with Cooperative education coordinator. May be taken four times for a maximum of 16 credits, with no more than six credits in a semester.

## Physics

**PHY 110 FUNDAMENTALS OF PHYSICAL SCIENCE (4)**

Prerequisite(s): MAT 081 (or MAT 081A and MAT 081B) or MAT 082, and either RDG 122 or exemption or concurrent enrollment in a collaborative RDG 110.

A one-semester survey of the principles of physics and chemistry designed to introduce the fundamental behavior of matter and energy to non-science majors with little or no science background.

3 hours lecture, 3 hours laboratory.

**PHY 111 GENERAL PHYSICS I (4)**

Prerequisite(s): MAT 122 or MAT 123 (or MAT 123A and MAT 123B).

Introduction to the general principles of physics in the area of classical mechanics. Special emphasis is placed on algebra in solving word problems.

3 hours lecture, 3 hours laboratory.

**PHY 112 GENERAL PHYSICS II (4)**

Prerequisite(s): PHY 111.

Introduction to the general principles of physics in the areas of thermodynamics, waves, sound, light, electricity, magnetism, atomic structure, and radioactivity.

3 hours lecture, 3 hours laboratory.

**PHY 230 PHYSICS WITH CALCULUS I (4)**

Prerequisite(s): MAT 220 and either PHY 111 or one year of high school physics.

Focuses on the general principles of physics in the area of classical mechanics using calculus concepts. For engineering students and others who require physics with calculus.

4 hours lecture, 2 hours laboratory.

**PHY 231 PHYSICS WITH CALCULUS II (4)**

Prerequisite(s): PHY 230.

Coverage of the same areas as PHY 112 (thermodynamics, waves, sound, light, electricity, magnetism, atom structure, and radioactivity) but in greater depth by the use of calculus. For engineering students and others who require physics with calculus.

4 hours lecture, 2 hours laboratory.

# Political Science

## **POS 110** **AMERICAN NATIONAL GOVERNMENT (3)**

Prerequisite(s): RDG 122, concurrent enrollment, or exemption; and ENG 100 or placement in, or completion of, ENG 101.

A study of the political system of the United States with emphasis on constitutional development, political culture, voting, political parties, campaigns and elections, interest groups, public opinion, and the three branches of the national government. Designed to increase the student's awareness and understanding of the political process of the impact of race, gender and ethnicity upon the political process and of the citizen's role within that process. Fulfills the federal Constitution requirement for Arizona Teaching Certification.

3 hours lecture.

## **POS 220** **FEDERAL AND ARIZONA CONSTITUTION (3)**

Prerequisite(s): RDG 122 or exemption, and ENG 101.

Recommended Preparation: ENG 102.

A study of the governments of the United States and Arizona through the interpretation of the constitution of each political entity. Approved for teacher certification. Teachers needing only Arizona Constitution should enroll in POS 221.

3 hours lecture.

## **POS 221** **ARIZONA CONSTITUTION (1)**

Prerequisite(s): RDG 122 or exemption, and either ENG 101 or ENG 102.

Recommended Preparation: ENG 102 and POS 110.

A study of the government of Arizona through the interpretation of its constitution. Approved for teacher certification. Taught concurrently with POS 220.

1 hour lecture.

## **POS 230** **WORLD POLITICS (3)**

Prerequisite(s): RDG 122 or exemption, and either ENG 101 or ENG 102.

Recommended Preparation: ENG 102 and either POS 110, POS 220, or HIS 242 or concurrent enrollment.

A study of the international political system and nation-state relations, including the development of international systems, the Cold War and its aftermath, the pursuit of national objectives, current and future international alignments, and the analysis of current international problems.

3 hours lecture.

## **POS 240** **COMPARATIVE POLITICS (3)**

Prerequisite(s): RDG 122 or exemption, and either ENG 101 or ENG 102.

Recommended Preparation: ENG 102 and either POS 110, POS 220, or HIS 242 or concurrent enrollment.

Introduction to the study of comparative politics with emphasis on the comparison of political systems, movements, ideologies and economic development.

3 hours lecture.

# Psychology

## **PSY 101** **INTRODUCTION TO PSYCHOLOGY (3)**

Prerequisite(s): RDG 122 or exemption.

Recommended Preparation: ENG 100 or concurrent enrollment, or ENG 101.

A survey of major topics in psychology to include: history of psychology, research methods, biopsychology, sensation and perception, consciousness, learning, memory, motivation and emotion, human development, personality, abnormal behavior and therapy.

3 hours lecture.

## **PSY 103** **PERSONALITY AND ADJUSTMENT (3)**

Prerequisite(s): RDG 122 or exemption.

Recommended Preparation: ENG 100 or ENG 101.

A study of basic theoretical principles of psychology and their application to human behavior and growth. Emphasis on scientific psychology's contributions to more effective professional and personal relationships. Group activities and self-evaluation included.

3 hours lecture.

## **PSY 210** **SOCIAL PSYCHOLOGY (3)**

Prerequisite(s): PSY 101.

Recommended Preparation: ENG 101 or ENG 102.

A study of 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.

## **PSY 218** **LOSS, GRIEF, AND DYING (3)**

Prerequisite(s): RDG 122 or exemption.

An exploration of grief, dying and the loss of loved persons as individuals as well as global human experiences. The primary focus will be upon the coping skills of the affected persons and helping skills of others. Values, behaviors and intervention strategies will be studied in international, medical, diverse, social and legal contexts.

3 hours lecture.

## **PSY 230** **PERSONALITY THEORIES AND RESEARCH (3)**

Prerequisite(s): PSY 101, and ENG 101 or ENG 102.

A survey of major psychological theories of personality including psychoanalytic, neo-Freudian, dispositional/trait, learning and humanities/existential theories. Personality assessment based upon theory and research, normal and abnormal personality types, and exploration of one's own personality are also addressed.

3 hours lecture.

## **PSY 240** **DEVELOPMENTAL PSYCHOLOGY (3)**

Prerequisite(s): PSY 101, and ENG 101 or ENG 102.

A sequential study of human life-span development emphasizing theories and research in the following areas: biological maturation, perceptual and motor skills development, language development, cognitive development, emotional development, personality and social development.

3 hours lecture.

## **PSY 250** **INTRODUCTION TO PSYCHOLOGICAL RESEARCH, MEASUREMENTS AND STATISTICS (3)**

Prerequisite(s): PSY 101, ENG 101 or ENG 102, and MAT 122 or MAT 123 (or MAT 123A and MAT 123B).

Basic concepts of experimental design, measurement, and descriptive and inferential statistics as applied to psychological variables.

3 hours lecture.

**PSY 290 EXPERIMENTAL PSYCHOLOGY (4)**

Prerequisite(s): PSY 101, PSY 250, and ENG 101 or ENG 102.

Student involvement in the review and analysis of scientific literature, designing and implementing experiments, collecting and analyzing data, interpreting results and reporting experimental findings using A.P.A. format.

3 hours lecture, 3 hours laboratory.

## Reading

**RDG 019 TRANSITIONAL READING (3 - 4)**

Prerequisite(s): Placement test score.

Recommended Preparation: Keyboarding skills.

A course designed for students beginning regular college classes and for basic readers of English. Emphasis is on literal comprehension, vocabulary building and reading rate improvement.

**RDG 020A READING FUNDAMENTALS I (3 - 4)**

Prerequisite(s): Placement test score or RDG 019.

Recommended Preparation: Keyboarding skills.

A review of basic reading, spelling and study skills. This class emphasizes literal and inferential comprehension, vocabulary development, review of spelling rules, dictionary skills and library use.

**RDG 021 POWER READING (3)**

Prerequisite(s): RGD 020A or permission of instructor.

Recommended Preparation: Keyboarding skills.

A course emphasizing literal and inferential comprehension, rate building, vocabulary development and textbook reading strategies.

3 hours lecture.

**RDG 110 COLLEGE STUDY SKILLS (3)**

Prerequisite(s): Placement test score, RDG 020A, or permission of instructor.

Recommended Preparation: Keyboarding skills.

A course emphasizing literal and critical reading strategies applied to content area textbooks and essays, general study skills application, and content area vocabulary acquisition.

3 hours lecture.

**RDG 122 READING CRITICALLY (3)**

Prerequisite(s): Placement test score, RDG 110, or permission of instructor.

Recommended Preparation: Keyboarding skills.

An advanced course in reading for critical thinking using college level study strategies, vocabulary, and logical analysis of texts involving research across the disciplines. Upon completion of RDG 122, students receiving a C or higher will have attained the college reading requirement for graduation.

3 hours lecture.

## Russian

**RUS 101 ELEMENTARY RUSSIAN (4)**

Prerequisite(s): None.

Comprehension of the spoken and written language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.

4 hours lecture, 1 hour laboratory.

**RUS 102 ELEMENTARY RUSSIAN (4)**

Prerequisite(s): RUS 101, two years high school Russian, or permission of instructor.

Continuation of RUS 101. Comprehension of the spoken and written language, proper pronunciation, usage of proper grammar, oral reading skills, composition, and conversation.

4 hours lecture, 1 hour laboratory.

**RUS 115 CONVERSATIONAL RUSSIAN I (3)**

Prerequisite(s): None.

Essentials of Russian for conversational situations. Designed for students who wish to use Russian for business, pleasure, or travel. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance on a proficiency examination.

3 hours lecture.

**RUS 116 CONVERSATIONAL RUSSIAN II (3)**

Prerequisite(s): RUS 115 or permission of instructor.

Continuation of RUS 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. Additional practice in reading, writing, speaking and understanding the language with short stories to enrich the student's vocabulary. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance on a proficiency examination.

3 hours lecture.

## Service Learning

**SLE 192 SPECIAL TOPICS IN SERVICE LEARNING (1 - 3)**

Prerequisite(s): Concurrent enrollment in a course approved by the instructor.

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.

**SLE 220 MENTORING FOR SUCCESS (COOKIES) I (2)**

Prerequisite(s): ENG 100, RDG 110, 12 credits completed at Cochise College, minimum 2.5 GPA, and permission of Service Learning Committee.

Recommended Preparation: Completion of or concurrent enrollment in HON 255 or SLE 255, and in MAT 082 or higher.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) I is designed to promote service aptitudes and civic engagement. Students meet regularly with their instruc-

tor and they provide a minimum of three hours per week of mentoring and academic support to area public school students. State law requires that they be fingerprinted and pass a background check prior to providing said services.

1 hour lecture, 3 hours applied learning.

**SLE 221 MENTORING FOR SUCCESS (COOKIES) II (2)**

Prerequisite(s): ENG 101, RDG 122 or exemption, SLE 220 or HON 220, minimum 2.5 GPA, and permission of Service Learning Committee.

Recommended Preparation: MAT 122 or concurrent enrollment, and HON 255 or SLE 255.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) II focuses on enhancing service aptitudes, leadership potential, team-building expertise, mentoring abilities, and tutoring skills. Students meet regularly with their instructor and they provide a minimum of three hours per week of mentoring and academic support to area public school students. State law requires that they be fingerprinted and pass a background check prior to providing said services.

1 hour lecture, 3 hours applied learning.

**SLE 222 MENTORING FOR SUCCESS (COOKIES) III (2)**

Prerequisite(s): ENG 102, SLE 221 or HON 221, minimum 2.5 GPA, and permission of Service Learning Committee.

Recommended Preparation: SLE 255 or HON 255, and completion of or concurrent enrollment in MAT 142, MAT 151, MAT 154, or MAT 156.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) III focuses on effective role modeling and team leadership strategies, on project design and evaluation, and on continuous project improvement processes. Students meet regularly with their instructor and they provide a minimum of three hours per week of mentoring and academic support to area public school students. State law requires that they be fingerprinted and pass a background check prior to providing said services.

1 hour lecture, 3 hours applied learning.

**SLE 254A LEADERSHIP/SERVICE I (1)**

Prerequisite(s): None.

Recommended Preparation: ENG 100 or concurrent enrollment and RDG 110/122 or concurrent enrollment/exemption.

A theoretical and applied study of leadership within the context of service. Introduction to leadership, development of a personal leadership philosophy, articulating a vision, goal assessment and the relationship between leadership and service.

1 hour lecture.

**SLE 254B LEADERSHIP/SERVICE II (1)**

Prerequisite(s): None.

Recommended Preparation: ENG 100 or concurrent enrollment and RDG 110/122 or concurrent enrollment/exemption.

A theoretical and applied study of leadership within the context of service. Ethics within the context of leadership and leading through conflict management.

1 hour lecture.

**SLE 254C LEADERSHIP/SERVICE III (1)**

Prerequisite(s): None.

Recommended Preparation: ENG 100 or concurrent enrollment and RDG 110/122 or concurrent enrollment.

A theoretical and applied study of leadership within the context of service. Team building, group empowerment, change management, and leadership through service.

1 hour lecture.

**SLE 255 LEADERSHIP/SERVICE (3)**

Prerequisite(s): None.

Recommended Preparation: ENG 100 or concurrent enrollment and RDG 110/122 or concurrent enrollment/exemption.

A theoretical and applied study of leadership within the context of service. Incorporates an introduction to leadership, development of a personal leadership philosophy, the relationship between leadership and service, leadership ethics, conflict management, team building, group empowerment, change management, and leadership through service.

3 hours lecture.

**SLE 256 LEADERSHIP PRACTICUM (1 - 4)**

Prerequisite(s): Minimum 2.5 GPA and Service Learning Committee approval.

Recommended Preparation: Completion of or concurrent enrollment in HON 255 or SLE 255.

A practicum of essential leadership skills for students holding campus and/or community leadership positions. Includes an extensive exploration of issues and of skills required in both professional and volunteer settings, with focus on conflict resolution, mediation, program planning, effective communication, and mentorship. Through a combination of direct instruction and applied learning activities, students will acquire increased self-confidence, leadership development strategies, additional professional networking opportunities, knowledge of group and individual motivation, and information for future career choices. Credit is determined by the scope of the leadership activity.

**SLE 257 LEADERSHIP PRACTICUM II (1 - 4)**

Prerequisite(s): SLE 256 or HON 256, minimum 2.5 GPA, and Service Learning Committee approval.

Recommended Preparation: Completion of or concurrent enrollment in HON 255 or SLE 255.

A continued practicum of essential leadership skills for students holding campus and/or community leadership positions. Includes an extensive exploration of issues and of skills required in both professional and volunteer settings, with focus on conflict resolution, mediation, project planning, effective communication, and mentorship. Through a combination of direct instruction and applied learning activities, students will acquire increased self-confidence, leadership development strategies, additional professional networking opportunities, knowledge of group and individual motivation, and information for future career choices. Credit is determined by the scope of the leadership activity.

**SLE 258 LEADERSHIP IN THEORY AND PRACTICE (3)**

Prerequisite(s): HON 255 or SLE 255, and minimum 2.5 GPA.

A structured application of leadership theory and skills in a college- or community-based project. Designed to promote self-confidence, new leadership skills and knowledge, successful group motivation techniques, networking opportunities, and career exploration.

3 hours lecture.

## **SLE 259 INTRODUCTION TO STUDENT LIFE ACTIVITIES PROGRAMMING (3)**

Prerequisite(s): None.

This course assists students in the implementation and assessment of student life programs offered by various student clubs and campus organizations. It also examines the theoretical underpinnings of campus activity programming and helps students determine the benefits of such initiatives to student growth and development. The course includes an overview of program planning, implementation, outcomes evaluation, and a review of related programs at other institutions. May be taken for honors credit.

3 hours lecture.

## **SLE 292 SPECIAL TOPICS IN SERVICE LEARNING II (1 - 3)**

Prerequisite(s): SLE 192.

Recommended Preparation: Sophomore standing.

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 and 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. May be repeated for elective credit.

# Sociology

## **SOC 101<sup>◊</sup> INTRODUCTION TO SOCIOLOGY (3)**

Prerequisite(s): RDG 110 or concurrent enrollment, or RDG 122 or exemption.

A survey of the science of sociology including: research methodology, the theoretical schools of sociology, culture, socialization, social institutions, collective behavior, social change, and the components of social structure from a global perspective.

3 hours lecture.

## **SOC 160<sup>◊</sup> ETHNIC GROUPS AND MINORITIES (3)**

Prerequisite(s): ENG 101, concurrent enrollment, or permission of instructor; and RDG 110, RDG 122, or exemption.

Recommended Preparation: SOC 101, PSY 101, or ANT 102.

A theoretical analysis of prejudice, discrimination and minority group relations from a sociological viewpoint. Includes an in-depth analysis of the historical and sociological underpinnings of the racial and ethnic based minority status of African Americans, Hispanic Americans, Asian Americans, Native Americans, Jewish Americans and women. Also includes a review of the present socio-economic and cultural status of each group, their relationship with other social groups and future trends.

3 hours lecture.

## **SOC 170<sup>◊</sup> UNDERSTANDING AND MANAGING CONFLICT (3)**

Prerequisite(s): None.

A study of the causes of conflict and its personal and interpersonal effects. Includes an analysis of the impact of both healthy and unhealthy conflict on organizational and personal goal achievement. Provides conceptual and practical tools to effectively minimize, manage, and resolve conflict resulting from social interaction and interpersonal communication. Identical to BUS 170.

3 hours lecture.

## **SOC 202<sup>◊</sup> SOCIAL PROBLEMS (3)**

Prerequisite(s): ENG 101, concurrent enrollment, or permission of instructor; and RDG 110, RDG 122, or exemption.

Recommended Preparation: SOC 101, PSY 101, or ANT 102.

Topics to be covered include issues, questions and problems affecting women, racial and ethnic minorities, families and the aged. In addition, inequalities dealing with social, educational and financial institutions will be covered. Also to be considered are problems of drug and alcohol use, physical and mental health care, crime and sexual differences. The course is designed to prepare students to assess social problems and propose resolutions in a logical and scientific manner.

3 hours lecture.

**SOC 207  INTRODUCTION TO SOCIAL WELFARE (3)**

Prerequisite(s): ENG 101, concurrent enrollment, or permission of instructor; and RDG 110, RDG 122, or exemption.

Recommended Preparation: SOC 101, PSY 101, or ANT 102.

An introduction to traditional social work institutions and contemporary human services organizations, locally and globally. Designed to acquaint the student with various programs, such as the social insurance system, available to the general public through legislation and/or private means.

3 hours lecture.

**SOC 210  MARRIAGE AND THE FAMILY (3)**

Prerequisite(s): ENG 101, concurrent enrollment, or permission of instructor; and RDG 110, RDG 122, or exemption.

Recommended Preparation: SOC 101, PSY 101, or ANT 102.

Courtship, mate selection, marital adjustment, parenthood and family living from sociological and psychological points of view.

3 hours lecture.

**SOC 212  WOMEN AND MEN IN A CHANGING SOCIETY (3)**

Prerequisite(s): ENG 101, concurrent enrollment, or permission of instructor; and RDG 110, RDG 122, or exemption.

Recommended Preparation: SOC 101, PSY 101, or ANT 102.

A study of the way culture shapes and defines the positions and roles of both men and women in society. Major emphasis on social conditions which lead to sex roles and may lead to a reduction of sex-role stereotypes and to a broadening of sex roles. Also includes an analysis of the implications of potential social change.

3 hours lecture.

**SOC 230 HUMAN SEXUALITY AND GENDER AWARENESS (3)**

Prerequisite(s): ENG 101, concurrent enrollment, or permission of instructor; and RDG 110, RDG 122, or exemption.

Recommended Preparation: SOC 101, PSY 101, or ANT 102.

Study of human sexuality and gender awareness from biological, psychological, sociological, cultural, and ethical perspectives.

3 hours lecture.

**SOC 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to initiation of the study. May be repeated for credit.

**Spanish****SPA 011 SPANISH ORTHOGRAPHY (1)**

Prerequisite(s): None.

A concentrated study of Spanish spelling with emphasis on a step-by-step procedure from the simplest to the most complex words in Spanish. Special attention is given to the accent mark, colloquial and common errors and to areas of special spelling problems.

1 hour lecture.

**SPA 025 SPANISH FOR TEACHERS (3)**

Prerequisite(s): None.

A course especially designed for the classroom teacher who needs a basic familiarity with Spanish in order to effectively communicate with his/her Spanish-speaking pupils and their parents.

3 hours lecture.

**SPA 026 SPANISH FOR MEDICAL PERSONNEL (3)**

Prerequisite(s): None.

A course especially designed for doctors, nurses, and all other medical personnel who wish to effectively communicate with their Spanish-speaking patients and their families.

3 hours lecture.

**SPA 027 SPANISH FOR BEGINNERS (3)**

Prerequisite(s): None.

A preparatory course in conversational Spanish with an emphasis on basic grammar, punctuation, patterns of speech, and language skills necessary for effective communication-oriented introduction to the Hispanic culture. Requires no previous exposure to the Spanish language.

3 hours lecture.

**SPA 092 SPANISH FOR OCCUPATIONS (1)**

Prerequisite(s): SPA 101 or concurrent enrollment in SPA 102.

Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

**SPA 101<sup>❖</sup> ELEMENTARY SPANISH I (4)**

Prerequisite(s): None.

Recommended Preparation: SPA 027, SPA 115, or previous experience in a second language.

An introduction to the Spanish language, its pronunciation, and its basic grammar structures. Develops the student's ability to speak, read, and write simple sentences based on personal and classroom experience, and explores a variety of topics related to Hispanic culture, history, geography, and art.

4 hours lecture, 1 hour laboratory.

**SPA 102<sup>❖</sup> ELEMENTARY SPANISH II (4)**

Prerequisite(s): SPA 101 or two years of high school Spanish.

A continued study of the Spanish language, its pronunciation, and its basic grammar structures, with emphasis on more complex verb tenses and sentence structure. 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 art.

4 hours lecture, 1 hour laboratory.

**SPA 115 CONVERSATIONAL SPANISH (3)**

Prerequisite(s): None.

Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure or travel.

3 hours lecture.

**SPA 116 CONVERSATIONAL SPANISH (3)**

Prerequisite(s): SPA 115 or permission of instructor.

Continuation of SPA 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases.

3 hours lecture.

**SPA 189 UNDERSTANDING SPANISH (1)**

Prerequisite(s): SPA 101 or concurrent enrollment.

Beginning-level practice listening to Spanish with emphasis on those elements of language most useful in the workplace. Intended for concurrent enrollment with SPA 101.

2 hours laboratory.

**SPA 190 PRONOUNCING SPANISH (1)**

Prerequisite(s): SPA 101 or concurrent enrollment.

Introduction to the sounds, rhythm, and intonation of Spanish, with emphasis on those aspects of the oral language which make it easier to understand and to be understood in Spanish.

2 hours laboratory.

**SPA 191 SPANISH FOR OCCUPATIONS (1)**

Prerequisite(s): SPA 101 or concurrent enrollment.

Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

## SPA 192 SPECIAL TOPICS IN LANGUAGE, LITERATURE AND CULTURE (0.5 - 1)

Prerequisite(s): None.

A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs. The title of this course may differ each term, depending on the topic being covered when the course is offered.

## SPA 201 INTERMEDIATE SPANISH (4)

Prerequisite(s): SPA 102, two years of high school Spanish, or competency based on travel and experience demonstrated to the satisfaction of the instructor.

A review of grammar, pronunciation and development of patterns of speech in Spanish with additional practice in reading, writing, speaking and understanding the language, supplemented by essays and short stories to enrich the student's vocabulary.

4 hours lecture, 1 hour laboratory.

## SPA 202 INTERMEDIATE SPANISH (4)

Prerequisite(s): SPA 201, three years high school Spanish, or competency based on travel and experience demonstrated to the satisfaction of the instructor.

A review of grammar, pronunciation, and development of patterns of speech in Spanish with additional practice in reading, writing, speaking and understanding the language supplemented by essays and short stories to enrich the student's vocabulary.

4 hours lecture, 1 hour laboratory.

## SPA 203 SPANISH FOR NATIVE SPEAKERS I (4)

Prerequisite(s): Placement by interview and/or writing sample.

Intensive work in speaking, reading and writing standard Latin American Spanish for native and bilingual speakers of Spanish; special attention will be given to regional and stylistic variations.

4 hours lecture.

## SPA 204 SPANISH FOR NATIVE SPEAKERS II (4)

Prerequisite(s): RDG 122 or exemption, and oral fluency in Spanish.

A course designed to help students who are fluent in spoken, informal Spanish, but who need to improve writing, reading and grammar skills.

4 hours lecture.

## SPA 211 INTRODUCTION TO TRANSLATION AND INTERPRETATION (4)

Prerequisite(s): SPA 202 or SPA 203, and ENG 100.

This course is a survey of the theory, principles and practice of translation and interpretation in legal, health care, business and technical settings. It will provide an overview of professional standards and responsibilities of translators and interpreters. Emphasis will be on developing language proficiency in both English and Spanish to support skill in sight translation and consecutive interpretation.

4 hours lecture, 1 hour laboratory.

## SPA 215 CONVERSATIONAL SPANISH (3)

Prerequisite(s): SPA 116 or permission of instructor.

Continuation of SPA 116 with drill patterns to reinforce vocabulary and use of verb tense, with a minimum of formal grammar study, with emphasis on practice in the spoken language.

3 hours lecture.

## SPA 216 CONVERSATIONAL SPANISH (3)

Prerequisite(s): SPA 215 or permission of instructor.

A continuation of SPA 115, 116, and 215. Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure, or travel.

3 hours lecture.

**SPA 220 INTRODUCTION TO SPANISH LITERATURE I (3)**

Prerequisite(s): SPA 202.

A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain. The beginnings of Spanish literature to 1700.

3 hours lecture.

**SPA 221 INTRODUCTION TO SPANISH LITERATURE II (3)**

Prerequisite(s): SPA 202.

A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain after the 18th century with emphasis on the generation of 1898 and after.

3 hours lecture.

**SPA 224 INTRODUCTION TO MEXICAN LITERATURE I (3)**

Prerequisite(s): SPA 202 or permission of instructor.

An introduction to the works of representative Mexican authors and a historical look at the literature of Mexico before the Conquest, during the colonial period and the period when Mexico achieved independence from Spain.

3 hours lecture.

**SPA 225 INTRODUCTION TO MEXICAN LITERATURE II (3)**

Prerequisite(s): SPA 202 or permission of instructor.

An introduction to the works of representative Mexican authors and a historical look at the literature of Mexico after its independence from Spain and its revolution of 1910.

3 hours lecture.

**SPA 275 INTERMEDIATE SPANISH CONVERSATION AND COMPOSITION (3)**

Prerequisite(s): SPA 202 or permission of instructor.

A study of short excerpts from Hispanic literature to promote topic-centered discussions and compositions in Spanish, conducted principally in Spanish. Review and application of Spanish grammar rules and building of Spanish vocabulary.

3 hours lecture.

**SPA 276 INTERMEDIATE SPANISH CONVERSATION AND COMPOSITION (3)**

Prerequisite(s): SPA 275 or permission of instructor.

Continuation of SPA 275; conducted in Spanish. Further readings and discussions of short stories, articles and other pertinent materials to provide continued exposure to new vocabulary and enhance usage of the Spanish language.

3 hours lecture.

**SPA 283 CULTURAL CONTEXT: CASE STUDIES (1)**

Prerequisite(s): SPA 202 or permission of instructor.

Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on comparative case studies and practical application to interaction between U.S. and Latin American cultures.

2 hours laboratory.

**SPA 284 BASIC SKILLS FOR TRANSLATION AND INTERPRETATION (1)**

Prerequisite(s): SPA 202 or concurrent enrollment, or permission of instructor.

A short introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Students will work with examples of both general language and workplace specialties.

2 hours laboratory.

**SPA 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to initiation of the study. May be repeated for credit.

## Social Services

**SSV 120  INTRODUCTION TO COMMUNITY HEALTH WORKER (3)**

Prerequisite(s): None.

An introduction to public health with a focus on outreach, including health promotion, disease prevention, advocacy, health education, service referral, public health - social services integration, and development of effective communication/advocacy skills.

3 hours lecture.

**SSV 121 SOCIAL/HEALTH SERVICES PRACTICUM (3 OR 6)**

Prerequisite(s): SSV 207, SSV 120, or equivalent.

Application and evaluation of health and social service skills within a community-based health and/or social services setting. Students must complete 50 to 60 hours of direct service per unit and attend, at minimum, orientation and final "debriefing" sessions.

3 hours lecture.

**SSV 183 SUBSTANCE ABUSE: CAUSES AND TREATMENT (3)**

Prerequisite(s): None.

A practical and theoretical introduction to psychological and socio-cultural aspects of substance abuse.

3 hours lecture.

**SSV 221 PREVENTION OF DRUG AND ALCOHOL ABUSE (3)**

Prerequisite(s): RDG 122 or exemption.

This course will examine strategies and programs used to prevent drug and alcohol abuse problems with focus on the work place, schools, and community.

3 hours lecture.

**SSV 223 PSYCHO-PHARMACOLOGY (3)**

Prerequisite(s): SSV 183, and RDG 122 or exemption.

An in-depth examination of the physiological effects of alcohol and other drugs. The focus will be on how alcohol and drugs affect the central nervous system and human behavior on both a short- and long-term basis.

3 hours lecture.

**SSV 224 FIELD EXPERIENCE IN SOCIAL SERVICES (1 - 6)**

Prerequisite(s): Permission and approval of a cooperative education program coordinator. Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in social services and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

**SSV 225 SUBSTANCE ABUSE AND THE FAMILY (3)**

Prerequisite(s): SSV 183 or SSV 221, and RDG 122 or exemption.

An in-depth examination of the effects of drug and alcohol abuse on families and how to assist family members in understanding and coping with the substance abuser. The approach will be experiential, emphasizing learning effective skills and strategies to use when counseling the families of substance abusers. Students will learn through role playing and group interaction.

3 hours lecture.

**SSV 270 INTERPERSONAL COMMUNICATIONS (3)**

Prerequisite(s): COM 102, SOC 101, or PSY 101; and RDG 122 or exemption.

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. Identical to COM 270.

3 hours lecture.

**SSV 271 COMMUNICATIONS IN SMALL GROUPS (3)**

Prerequisite(s): COM 102, SOC 101, or PSY 101; and RDG 122 or exemption.

A continuation of SSV 270 and COM 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes. Identical to COM 271.

3 hours lecture.

**SSV 273 DETERMINANTS OF HUMAN BEHAVIOR (3)**

Prerequisite(s): PSY 101 or SOC 101.

A review of the historical developments that have occurred in the field of mental health treatment. An examination of the founders and theories associated with therapeutic intervention. Examples include psychoanalytic, behavioral, person-centered, existential, and gestalt therapies.

3 hours lecture.

## Theater Arts

**THE 101 ACTING I (3)**

Prerequisite(s): None.

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.

**THE 103  INTRODUCTION TO THEATRE (3)**

Prerequisite(s): None.

History and tradition of western theatre with analysis and discussion of representative drama, classical to contemporary.

3 hours lecture.

**THE 104 PRINCIPLES AND TECHNIQUES OF PLAY PRODUCTION (3)**

Prerequisite(s): None.

Introduction to the theory and practice of directing, set design, costuming, stage lighting, make-up and production organization.

3 hours lecture.

**THE 105 THEATRE DANCE (2)**

Prerequisite(s): None.

The study, comprehension, and execution of basic dance styles including the ballet, modern, tap, and improvisational styles often used in musical theatre. Introduces combinations and short routines with an emphasis on performance. May be repeated for credit.

1 hour lecture, 3 hours rehearsal/performance.

**THE 110 THEATRE WORKSHOP (1 - 3)**

Prerequisite(s): Permission of instructor/audition.

Actual participation in a college dramatic production either in an acting or production role. No student will be awarded more than four such credits.

**THE 201 ACTING II (3)**

Prerequisite(s): THE 101.

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.

**THE 203 THEATRE MAKEUP (3)**

Prerequisite(s): THE 101 or permission of instructor.

Exploration of the history and the essentials of makeup. Includes application of straight, character, and special types and demonstration of effects of light on makeup. Opportunity for experience in production.

3 hours lecture.

**THE 213 STAGECRAFT (3)**

Prerequisite(s): THE 101 or permission of instructor.

Exploration of the theatre as a physical plant with an application of basic stage construction techniques. Opportunity for experience in production.

3 hours lecture.

**THE 220 DRAMATIC STRUCTURE (3)**

Prerequisite(s): THE 101 or permission of instructor.

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.

**THE 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the assistant dean and instructor.

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 assistant dean prior to initiation of the study. May be repeated for credit.

**Teleservices****TLS 101 INTRODUCTION TO TELESERVICES (6)**

Prerequisite(s): Sponsorship by a teleservices provider.

A comprehensive, practical introduction to the teleservices industry, emphasizing teleservices processes and the roles and duties of the entry-level customer service representative. Includes an in-depth review of the product, service, and the procedural and technical knowledge necessary to perform duties in an efficient and competent manner.

5 hours lecture, 3 hours laboratory.

**TLS 102 TELESERVICES PRACTICUM I (1.5)**

Prerequisite(s): TLS 101 and sponsorship by a teleservices provider.

A practical guide to the use of information management systems in teleservice processes and in fulfilling the roles and duties of the entry level teleservices employee. Includes a comprehensive introduction to and extensive use of computer-based teleservice operating systems.

4.5 hours laboratory.

**TLS 103 CUSTOMER SERVICE IN THE TELESERVICES INDUSTRY (6)**

Prerequisite(s): TLS 101, TLS 102, and sponsorship by a teleservices provider.

A practical study of the duties and responsibilities of the teleservices employee, focusing on the customer enrollment process, customer service responsibilities and the creation and maintenance of customer accounts. Includes a review of customer confidentiality and the issue of fraud, both internal and external.

5 hours lecture, 3 hours laboratory.

**TLS 104 TELESERVICES PRACTICUM II: CUSTOMER SERVICE (1.5)**

Prerequisite(s): TLS 101, TLS 102, TLS 103, and sponsorship by a teleservices provider.

A practical guide to the use of information management systems in teleservice customer service activities. Includes a comprehensive introduction to and extensive use of computer-based resources.

4.5 hours laboratory.

## Workforce Development

**WFD 101 ESSENTIAL WORKPLACE SKILLS (0.25)**

Prerequisite(s): None.

An integrated series of entry-level skills seminars designed to enhance the overall effectiveness and value to the organization of public and private sector employees. Seminars combine current theory with practical application and are focused on the mastery of the topic under study. Each seminar provides a minimum of four hours instruction.

0.25 hour lecture.

WFD 101C Excellent Customer Service

WFD 101D Elements of Critical Thinking and Decision Making

WFD 101E The Personal Dimension

WFD 101F Working as Part of a Team

WFD 101H Resolving Conflict and Managing Stress

**WFD 110 WORKFORCE SKILL DEVELOPMENT (0.25)**

Prerequisite(s): None.

Seminars or workshops designed to enhance the overall effectiveness and value to the organization of public and private sector employees. Classes combine current theory with practical application and are focused on the mastery of the topic under study. Each seminar provides a minimum of four hours of instruction.

0.25 hour lecture.

WFD 110C Personality Preferences

## Welding Technology

**WLD 100 INTRODUCTION TO WELDING (3)**

Prerequisite(s): None

This course will provide students with a basic knowledge of the main welding processes. Students will acquire the knowledge to safely set up, and operate oxyacetylene torches, SMAW, GMAW and GTAW machines on ferrous and non-ferrous materials.

2 hours lecture, 3 hours laboratory.

**WLD 105 OXYACETYLENE WELDING (3)**

Prerequisite(s): None.

Safety practices, set-up and operation of oxyacetylene welding equipment. Welding in flat, horizontal and overhead positions of standard alloys of steel. Also brazing ferrous metals.

2 hours lecture, 3 hours laboratory.

**WLD 106 ARC WELDING (3)**

Prerequisite(s): None.

Safety practices, set-up and operation of arc welding equipment. Techniques of joining metals in all positions by electric arcs with the use of the electrode.

1 hour lecture, 4 hours laboratory.

**WLD 114 WELDING FOR METAL SCULPTURE (3)**

Prerequisite(s): None.

This course focuses on basic welding techniques and processes used in the design and fabrication of metal sculptures. It will be team taught by welding and art faculty.

2 hours lecture, 3 hours laboratory.

**WLD 128 GAS METAL ARC WELDING (3)**

Prerequisite(s): None.

This is a basic course in the Gas Metal Arc Welding (GMAW) process covering safety, set-up, and operation of gas metal arc welding equipment, using solid wire on various thicknesses of ferrous metal.

2 hours lecture, 3 hours laboratory.

**WLD 202 WELDING SURVEY (4)**

Prerequisite(s): None.

Theory and application of all major welding processes, including parameters, advantages and limitations, equipment, health and safety; introductory welding metallurgy, weldment design and inspection, and application of SMAW, oxyacetylene, brazing, GTAW and GMAW. This is an engineering course required for manufacturing engineering, welding technology and drafting design majors. Not recommended as a general interest course.

5 hours lecture.

**WLD 203 BLUEPRINT INTERPRETATION (3)**

Prerequisite(s): None.

Recommended Preparation: Permission of instructor.

Principles and procedures for interpreting structural blueprints and engineering drawings. Essential concepts of blueprint format for structural and aircraft applications, as well as weld symbols and their specific meaning will be covered.

3 hours lecture.

**WLD 207 GAS METAL ARC AND GAS TUNGSTEN ARC WELDING (3)**

Prerequisite(s): WLD 105 or permission of instructor.

Safety practices, set-up and operation of gas metal arc and gas tungsten arc welding equipment. Proper welding technique for ferrous and non-ferrous material.

2 hours lecture, 3 hours laboratory.

**WLD 209 GAS TUNGSTEN ARC WELDING (GTAW) (3)**

Prerequisite(s): WLD 105 or permission of instructor.

Safety practices, set up and operation of gas tungsten arc welding (GTAW) equipment, using ferrous and non-ferrous metals.

2 hours lecture, 3 hours laboratory.

**WLD 210 ADVANCED SHIELD METAL ARC WELDING (3)**

Prerequisite(s): WLD 105 and WLD 106, or permission of instructor.

An advanced course on the shield metal arc welding process. It covers safety, equipment care and operation, rod and current selection. Welding to include out-of-position welding of heavy steel plate to AWS certification standard.

2.5 hours lecture, 2.5 hours laboratory.

**WLD 211 PIPE FITTING AND WELDING (3)**

Prerequisite(s): WLD 210.

Fitting and welding of various sizes of pipe to AWS and API code. Students will learn to weld pipe with SMAW, GTAW and GMAW processes.

2 hours lecture, 3 hours laboratory.

**WLD 215 WELDING DESIGN AND FABRICATION (3)**

Prerequisite(s): WLD 105, WLD 106, and WLD 128.

A course for students with demonstrated welding skills to learn proper methods of design, layout and fabrication for welding. A specific project, selected by the student or assigned by the instructor, will use electric arc, oxyacetylene, GMAW or GTA welding.

2 hours lecture, 3 hours laboratory.

**WLD 217 PIPE LAYOUT AND FITTING (3)**

Prerequisite(s): WLD 211.

Continuation of WLD 211 Pipe Welding, to include methods of layout, fitting, and welding of pipe of various sizes and types.

2 hours lecture, 3 hours laboratory.

**WLD 218 ADVANCED GTAW SOFT METALS (3)**

Prerequisite(s): WLD 105, WLD 106, and WLD 209.

A continuation of WLD 209 to include advanced welding of aluminum alloys. This course will help develop the skills necessary to meet aircraft aerospace certification standards.

2 hours lecture, 3 hours laboratory.

**WLD 219 ADVANCED GTAW HARD METALS (3)**

Prerequisite(s): WLD 105, WLD 106, and WLD 209.

A continuation of WLD 209 to include advanced welding application of stainless steel and nickel alloys. This course will develop skills to aircraft, aerospace certification standards.

2 hours lecture, 3 hours laboratory.

**WLD 220 ♦ ADVANCED GTAW EXOTIC METALS (3)**

Prerequisite(s): WLD 105, WLD 106, WLD 209, and WLD 219.

A continuation of WLD 219, to include advanced welding application of titanium, inconel, hastaloy and waspoloy. This course will help develop skills to aircraft, aerospace certification standards.

2 hours lecture, 3 hours laboratory.

**WLD 224 FIELD EXPERIENCE IN WELDING TECHNOLOGY (1 - 6)**

Prerequisite(s): A declared major in Welding Technology. Permission and approval of a cooperative education program coordinator.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in welding technology and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six units in a given semester.

**WLD 228 ADVANCED GAS METAL ARC WELDING (3)**

Prerequisite(s): WLD 128.

This advanced course in the Gas Metal Arc Welding process is designed to train students to prepare for the American Welding Society (AWS) D1.1 Structural Steel Certification test.

2 hours lecture, 3 hours laboratory.

**WLD 229 ADVANCED FLUX-CORED ARC WELDING (3)**

Prerequisite(s): WLD 128 and WLD 228.

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.

2 hours lecture, 3 hours laboratory.



COCHESIS COLLEGE

J.C. FARNOLLES  
MANUFACTURER

# Administration

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University of Arizona, B.S., M.B.A.

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University of Minnesota, B.S.  
Iowa State University, Ph.D.

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Eastern New Mexico University, B.A.  
University of New Mexico, M.A.

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Kansas State University, M.S.

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 Almader, Juanita (B.A.)  
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 Anderson, Ross (B.S., M.A.)  
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 Arpin, Sheree (B.A., Ph.D.)  
 Arzate, Gloria (B.S., M.Ed.)  
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 Atkinson, Robert (B.A., M.A.)  
 Atkinson, William  
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 Averaino, Nicole (A.A.S.)  
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 Barker, Howard (B.S., M.B.A.)  
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 Barron, Lourdes (B.A.)  
 Baugh, Joe (A.S., B.S., M.B.A.)  
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 Berkley, Paul (B.A., M.Div., D.Min.)  
 Birmingham, Chris (B.S.)  
 Bernal, Ed (B.A.)  
 Bernard, Tom  
 Berry, Ben (B.S., M.Ed.)  
 Berry, Cindy (B.S.N.)  
 Berry, James  
 Bhe, Nancy (B.S.)  
 Blagg, Tom (A.A.S.)  
 Boyd, Candy (B.A., M.A.)  
 Boyd, Kimberly (B.A., M.A.)  
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 Bredeson, Marilyn (B.S., M.A.)  
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 Bunch, Tim (B.S.)  
 Buono, John (B.A., M.A., Ph.D.)  
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 Cain, Robert (B.A., M.A.)  
 Callister, Dan  
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 Cantwell, Veronica  
 Carbajal, Ian (A.A., B.S.)  
 Carlisle, Kerry (B.A., M.A.)  
 Carlson, Paul (B.A., B.S., M.A.)  
 Carreira, Angela (B.A., M.S.)  
 Carriera, Robert (A.A.S., B.A., M.P.A., M.S., M.S., Ph.D.)  
 Carrillo, Kathleen (A.S.)  
 Cashman, Macaela (B.S., M.Ed., Ph.D.)  
 Castro, Gerardo  
 Chacon, Arturo (B.A.)  
 Clark, Judith (B.S.)  
 Clemons, Jeremy  
 Collins, Jay (B.A.)  
 Concannon, Celia (B.A.)  
 Cook, Michael (A.A., B.S., M.A.)  
 Corbit, Jacqueline (B.A., M.Ed.)  
 Covert, Michael (B.S., M.A.)  
 Cox, Dawn (B.A., M.S.)  
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 Cramer, Peg (B.S.W.)  
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 Creegan, Maureen (B.S.N., M.S.N.)  
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 Crouch, Michael (A.A., B.S.)  
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 Davis, Kathryn (A.A.)  
 Davis, Nancy (B.S., M.A.)  
 Decker, Gary (A.A., B.M.E.)  
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 Diaz, David (B.A.)  
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 Dombrowski, David (B.A., M.A.)  
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 Draeger, James (A.A., B.S.)  
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 Fenn, Tom (A.A.S.)  
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 Fisher, Kari (A.S., B.S.)  
 Flynn, William (B.A., M.A.)  
 Fogleman, Mary (B.S.)  
 Fogelman, Steve (B.A., M.Ed.)  
 Forrest, Gene  
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 Friend Sproule, Linda  
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 Garino, Michael (B.S.)  
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Maroney, Patricia (A.A.)  
Martin, Mary (B.S.)  
Martin, Ruth P. (B.A.)  
Martinez, Danielle (B.S.)  
McDevitt, Athena (B.U.S., M. Acct)  
McDonald, Amanda (B.A.)  
McDonald, Palmer (A.B., M.B.A., Ph.D.)  
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McInerney, Bary (B.F.A., M.F.A.)  
McIntosh-Moreno, Judith (B.A., M.A.)  
McLain, Carolyn (B.S., B.S., M.S.)  
McLain, Michael (M.S.)  
McPherson, Rosa (B.A., M.A.)  
McVean, Michael (B.S.)  
Mead, Cheryl (B.A.)  
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Melanson, Gilbert (B.S.)  
Melito, Matthew (B.S., M.M., M.A.)  
Melo, Emma (B.A., M.S.W.)  
Melton, Penny (B.S.N.)  
Mendez, Luz (B.S.)  
Midgorden, Barry (B.A.)  
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Miranda, Christopher (B.A.)  
Mitzner, Maureen (A.A.S.)  
Modesitt, Marlene  
Mohler, John (B.A.)  
Molina, Frank (A.A., B.S.)  
Montaño, George (M.A.)  
Montiel, Arnold (B.A.B.S., M.B.A.)  
Moore, Corinna (A.G.S.)  
Morales, Maria (A.A.)  
Moroney, Dennis (A.A., B.S., B.S., M.Ed.)  
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Morris, Joseph  
Morrison, Bernard (B.S.)  
Mott, Linda (B.Ed., M.Ed.)  
Mudder, Gary (B.S., M.S.)  
Mueller, Kimberly (B.A., M.Ed.)  
Mueller, Paul (B.A., M.Ed.)  
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Neese, Tracey (A.G.S., A.A.)  
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Nolan, Sara (A.D.N.)  
Nolander, Caroline (B.A., M.A., Ph.D.)  
Nolander, John (B.A., M.Ed.)

Novoa, Mario  
O'Connell, Anne (B.S., M.S.)  
Oches, Roger (B.A., M.A., Ed.D.)  
Ofe, Thomas (B.A.)  
O'Meara, Daniel (A.A., B.A., M.Ed.)  
Orozco, Rebecca (M.A.)  
Ortega, Madeline (A.A.S.)  
Ortiz, Cathy (A.S., B.S.)  
Ortiz, Dyana (A.G.S., B.A.)  
Ottaviano, Patti (B.A., M.A., M.Ed.)  
Padgett, Charles  
Page, Deborah (B.S.)  
Palestro, Michael  
Pantoja, Angela (B.A., M.S.)  
Parmley, Maxine (A.A.S., B.S.N.)  
Parra, Joseph (B.A., B.S.)  
Peters, Mike  
Peterson, Mark (B.A.)  
Petro, Brenna (B.S.N., M.S.N.)  
Pickett, Rebecca (B.A.)  
Pike, Ed (B.S.)  
Pike, Mary (B.A., M.A.)  
Pilcher, Bob  
Pimentel, Angel (B.S., M.Ph., Ph.D.)  
Pock, Robbie (B.A.)  
Pottinger, Carrie (B.A., M.A.)  
Premo, David (B.S., M.S.)  
Privette, Maria  
Pyeatt, Marie (A.A.S., B.S.)  
Rackers, Alicia (B.S., M.S.)  
Ramirez, Majorie (B.A., M.A.)  
Ramirez Loya, Margarita (B.A., M.Ed.)  
Rauh, Norene (A.D.N.)  
Redmond, Brian (B.A., M.A.)  
Redmond, Heather (B.A., M.S.W.)  
Redmond, Randy (B.S.)  
Reiber, Marianne (A.A.)  
Reilley, Duane  
Reinert, Cristina (M.A., Ph.D.)  
Richardson, Bruce (B.S., B.S., M.B.A.)  
Riggs, Janna (B.S.)  
Ritter, Kristy  
Rivas, Vanessa (B.A., M.A.)  
Roberts, Donald (B.A., M.Ed.)  
Roberts, Helen (B.S., M.A., Ed.D.)  
Rodgers, Lois (B.A., M.Ed.)  
Rodriguez, Vicente (B.F.A.)  
Roe, Angela (A.S., B.S.)  
Romero, Alfredo (A.A., B.A.)  
Ross, David  
Rowden, Kelly (B.A.)  
Rudd, Eric (B.S., M.S.)  
Ruiz, Carolyn (B.A., M.A.)  
Ryan, Jodie  
Saffold, Louis (B.A., M.A.)  
Sage-Midgorden, Lucinda (B.A., M.Ed.)  
Salsbury, Freddie (B.A., M.B.A.)  
Salle, Treva (A.S.)  
Sanborn, Clint (B.S., M.S.)  
Sanchez, Claudia (B.S.)  
Sancho, Chris  
Schade, Brian (A.A.S., B.S., M.S.)  
Schinzel, Jeremy (B.S., M.S.)  
Schirmer, John (B.S., M.A.)  
Schupp, Leslie (B.A., M.A.)  
Schuttner, Mark (B.A., M.A., M.Ed.)  
Seamans, Gary (B.S., M.S.)  
Seale, Jan (B.F.A.)  
Self, George (B.S., M.S.)  
Shiver, Danielle (B.S., M.A.)  
Shiver, Jennifer (A.G.S., B.S.)  
Simmons, Melody (B.S., M.S.)  
Skarhus, Annette  
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Slarve, Al (A.A., A.S., A.A.S.)  
Slinker, Kent (B.A., M.A.)  
Smith, Alvie (A.A.S., B.S.)  
Smith, Jesse A. (A.A.)  
Smith, Trevor (B.S.)  
Soriano, Roberta (B.A., M.A.)  
Speckles, Judith (B.S., M.A., M.A., Ph.D.)  
Spiers, Brigitte (A.G.S., A.S., B.A., M.A.)  
Stafford, Judith (B.F.A., M.Ed.)  
Stage, Abigail (B.F.A., M.F.A.)  
Stiemert, Eric (A.S., B.S.)  
Stram, Michele  
Strebe, David (A.A., B.S.)  
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Suby, Beth (B.A., M.A.)  
Sulzer, Albert (A.S., B.S., M.A.O.M.)  
Swan, Peggy (B.A.)  
Taylor, Briana (B.A.)  
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Valera, Victor (B.S.)  
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Velazquez, Peter (A.A.S., B.S.)  
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Yang, Feng (B.A., M.A.)  
York, Sheri (B.A.)  
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