



COCHISE COLLEGE  
*2007-2008*  
CATALOG





# Welcome to Cochise College



Dear Students,

Cochise College realizes that you have choices when it comes time to choose your college. For that reason, we want to share with you an outside perspective on Cochise College and its programs.

In 2006, Cochise College received the maximum accreditation of 10 years, a credential that substantiates the quality of the institution, the ability of students to transfer, and the availability of federal financial aid.

In recommending that our next re-accreditation visit take place in 2015-2016, a team of evaluators representing the Higher Learning Commission (HLC) noted the warmth, commitment and dedication of the employees of Cochise College. I'm proud to agree that accessible faculty and supportive staff and administration put academic accomplishment within reach of every student.

As you browse this catalog, I urge you to remember that behind every academic program is a team of Cochise College employees who are here to foster your success and who, in putting students first, work diligently to support our mission: to provide accessible educational opportunities that are responsive to a diverse population and lead to constructive citizenship, meaningful careers, and lifelong learning.

Sincerely,

A handwritten signature in black ink that reads "Karen A. Nicodemus".

Karen A. Nicodemus, 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  
Dr. Michael J. Carter, Secretary  
Mr. Charles DiPeso, Member  
Dr. John Eaton, Member  
Mrs. Jane Carol Strain, Member

**President**

Dr. Karen Nicodemus

**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 14, 2007 - Aug. 10, 2007, 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 2007

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.

	<b>DC</b>	<b>SVC</b>		<b>DC</b>	<b>SVC</b>
ADA/Disability Office .....	417-4023	515-5337	Nursing/Allied Health .....	417-4016	515-5309
Admissions .....	417-4046	515-5336	Post Office .....	417-4026	
Advising .....	417-4038	515-5483	President's Office .....	417-4056	515-5401
Adult Education .....	364-3736	515-5456	Public Information Office .....	417-4138	
Athletics .....	417-4095		Records and Registration .....	417-4005	515-5415
Aviation .....	417-4029		Registrar .....		515-5336/5412
Bookstore .....	364-9294	458-0262	Security .....	417-4022	515-5470
Business Office/Cashier .....	417-4076	515-5416	Small Business Development Center .....		515-5478
Campus Dean .....	417-4060	515-5491	Student Development Center .....	417-4038	515-5483
Campus Nurse .....	417-4057		Student Government .....	417-4088	515-5484
Career Services Center .....	417-4756	515-5457	Student Services .....	417-4050	515-5411
Center for Economic Research .....		515-5486	Student Union .....	417-4470	515-5484
Center for Southwest Studies .....	417-4772		Tech Prep .....		515-5347
Chiricahua Hall .....	417-4405		Transcripts .....	417-4005	515-5351
Computer Labs .....	417-4037	515-5326	Testing and Tutoring Center .....	417-4091	515-5447
Extended Learning and Workforce Development			Tours .....	417-4044	515-5336
515-5468			Veterans Affairs .....	417-4035	515-5462
Financial Aid .....	417-4045	515-5417	Workforce Training and Community Education ..		515-5446
Foundation Office .....	417-4100		Writing Lab .....		515-5342
Housing .....	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>	
Instructional Media .....	417-4083	515-5481	<b>Online Campus .....</b>	<b>515-5305</b>	
International Student Office .....	417-4038	515-5451	<b>Willcox Center .....</b>	<b>384-4502</b>	
Library .....	417-4082	515-5320			
Mail Room .....	417-4026	515-5428			
Math Lab .....		515-5403			

# Academic Calendar 2007-2008

## SUMMER SEMESTER 2007

### EIGHT-WEEK SESSION

Registration .....	April 16-May 9; May 14-29
Summer hours begin .....	May 14
Memorial Day Holiday .....	May 28
Classes begin .....	May 29
Last day to add classes .....	May 31
Last day to change subject level .....	June 5
Last day to change to audit status .....	June 13
Independence Day Holiday .....	July 4
Priority deadline for August graduation filing .....	July 17
Last day to drop without academic penalty .....	July 18
Classes end .....	July 23
Grades due by noon .....	July 26
Last day to file for August graduation .....	August 6

### FIRST FIVE-WEEK SESSION

Registration .....	April 16-May 9; May 14-29
Classes begin .....	May 29
Last day to add classes .....	May 30
Last day to change subject level .....	June 4
Last day to change to audit status .....	June 7
Last day to drop without academic penalty .....	June 27
Classes end .....	July 2
Grades due by noon .....	July 5

### SECOND FIVE-WEEK SESSION

Registration .....	April 16-May 9; May 14-July 3
Classes begin .....	July 3
Last day to add .....	July 5
Last day to change subject level .....	July 9
Last day to change to audit status .....	July 12
Last day to drop without academic penalty .....	August 1
Classes end .....	August 6
Grades due by 4:30 p.m. ....	August 9

### ENGLISH IMMERSION 2007 .....

### SPANISH IMMERSION 2007

First session .....	June 4-24
Second session .....	June 26-July 18

## FALL SEMESTER 2007

### FULL-SEMESTER CLASSES

Registration .....	April 16-May 9; May 14-August 20
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Last day of summer hours .....	August 9
Faculty return .....	August 13
Convocation .....	August 13
New-student orientation, DC, Nogales, SVC .....	August 17
Residence halls open .....	August 18
Classes begin .....	August 20
Last day to add classes/last day to use e-cashier .....	August 27
Labor Day Holiday .....	September 3
Last day to change subject level .....	September 7
FTSE count day .....	October 3
Columbus Day Holiday .....	October 8
Mid-semester exams .....	October 9-15
Last day to change to audit status .....	October 19
Veterans Day Holiday .....	November 12
Priority deadline for December graduation filing .....	November 21
Thanksgiving Recess .....	November 22-25
Last day to drop without academic penalty .....	December 6
Classes end .....	December 10
Finals .....	December 11-17
Semester ends .....	December 17
Grades due by 10 a.m. ....	December 19
Last day to file for December graduation .....	December 19
Winter break .....	December 22-January 6

### FIRST EIGHT-WEEK SESSION

Registration .....	April 16-May 9; May 14-August 20
Classes begin .....	August 20
Last day to add classes .....	August 22
Last day to change subject level .....	August 27
Last day to change to audit status .....	September 10
Last day to drop without academic penalty .....	October 10
Classes end .....	October 15

### SECOND EIGHT-WEEK SESSION

Registration .....	April 16-May 9; May 14-October 16
Classes begin .....	October 16
Last day to add classes .....	October 18
Last day to change subject level .....	October 23
Last day to change to audit status .....	November 5
Last day to drop without academic penalty .....	December 6
Classes end .....	December 10
Grades due by 10 a.m. ....	December 19

**SPRING SEMESTER 2008****FULL-SEMESTER CLASSES**

Registration .....	November 19-December 19; January 7-12
Faculty return .....	January 7
New-student orientation – DC .....	January 11
New-student orientation – SVC .....	January 12
Residence halls open .....	January 12
Classes begin .....	January 14
Martin Luther King Holiday .....	January 21
Last day to add classes/last day to use e-cashier .....	January 22
Last day to change subject level .....	February 1
Faculty and Staff Development Day .....	February 12
Presidents' Day Holiday .....	February 18
FTSE count day .....	February 27
Mid-semester exams .....	March 5-11
Last day to change to audit status .....	March 14
Spring break .....	March 17-22
Priority deadline for May graduation filing .....	April 16
Awards Ceremony, SVC .....	April 29
Awards Ceremony, DC .....	April 30
Last day to drop without academic penalty .....	May 2
Classes end .....	May 6
Final exams .....	May 7-13
Semester ends .....	May 13
Last day to file for May graduation .....	May 14
Grades due by 10 a.m. .....	May 15
Commencement .....	May 16

**FIRST EIGHT-WEEK SESSION**

Registration .....	November 19-December 19; January 7-12
Classes begin .....	January 14
Last day to add classes .....	January 16
Last day to change subject level .....	January 22
Last day to change to audit status .....	February 4
Last day to drop without academic penalty .....	March 6
Classes end .....	March 11

**SECOND EIGHT-WEEK SESSION**

Registration .....	November 19-December 19; January 7-March 12
Classes begin .....	March 12
Last day to add .....	March 14
Last day to change subject level .....	March 24
Last day to change to audit status .....	March 31
Last day to drop without academic penalty .....	May 2
Classes end .....	May 6
Grades due by 10 a.m. .....	May 15

**SUMMER SESSION 2008****EIGHT-WEEK SESSION**

Registration .....	April 21-May 14; May 19-27
Summer hours begin .....	May 19
Memorial Day Holiday .....	May 26
Classes begin .....	May 27
Last day to add classes .....	May 29
Last day to change subject level .....	June 3
Last day to change to audit status .....	June 11

**FIRST FIVE-WEEK SESSION**

Registration .....	April 21-May 14; May 19-27
Classes begin .....	May 27
Last day to add classes .....	May 28
Last day to change subject level .....	June 2
Last day to change to audit status .....	June 5
Last day to drop without academic penalty .....	June 25
Session ends .....	June 30

**SECOND FIVE-WEEK SESSION**

Registration .....	April 21-May 14; May 19-July 2
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**SPANISH IMMERSION 2008**

First session .....	June 2-23
Second session .....	June 24-July 16

**FALL SESSION 2008**

Registration .....	April 21-May 14; May 19-July 2
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**AVIATION CALENDAR**

Professional pilot ends .....	June 7, 2007
AMT 2, 4 and AVT 4 end .....	June 14, 2007
AMT 1, 3, 5 and AVT 1 begin .....	July 2, 2007
Professional pilot classes begin .....	July 23, 2007
AMT 1, 3, 5 and AVT 1 end .....	September 20, 2007
AMT 2, 4 and AVT 2 begin .....	September 24, 2007
AMT 2, 4 and AVT 2 end .....	December 13, 2007
Professional pilot ends .....	December 14, 2007
AMT 1, 3, 5 and AVT 3 begin .....	January 7, 2008
Professional pilot begins .....	January 14, 2008
AMT 1, 3, 5 and AVT 3 end .....	March 27, 2008
AMT 2, 4 and AVT 4 begin .....	March 31, 2008
Professional pilot classes end .....	June 13, 2008
AMT 2, 4 and AVT 4 end .....	June 19, 2008

STUDENT GOVERNMENT



# 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.

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.

From the first semester, the College has been committed to serving citizens throughout the county and now offers classes in Benson, Bisbee, Douglas, Fort Huachuca, Sierra Vista, Willcox and outlying areas, including Santa Cruz County. Classes also are offered online. During the first decade, the College's enrollments increased steadily as the faculty and administration worked to develop new and innovative programs.

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. This facility now comprises 16 buildings.

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.

Cochise College began offering classes in Santa Cruz

County in October 2003. The College contracts with Santa Cruz County to provide a variety of developmental and college-level classes.

The development of community-directed college programs and services has included Workforce Training and Community Education, the Small Business Development Center, the Career Services Center, the Online Campus, various conferences, the Prison Education Program, Adult Education, and the Center for Economic Research. Cochise College continues to provide quality educational opportunities to the people of Cochise County and specific populations in the southwestern United States. President Karen Nicodemus is leading the College in a direction emphasizing the learning community. This direction focuses on teaching and learning, access and diversity and the use of technology and innovative instruction, including online classes and interactive television/distance learning course delivery.

The College is named for legendary chief Cochise, who led his people for close to half a century in their battle to retain their homelands. Although the Chiricahua, who knew themselves as Indeh (the people) were traditionally organized in bands, Cochise, the hereditary leader of the Chokonen band, brought together peoples from all groups to fight a fierce war of resistance, first against the Spanish, then Mexican settlers, and finally against the westward expansion of the United States. The conflict ended in 1874 when Cochise agreed to a peace treaty, brokered by General O. O. Howard and Tom Jeffords, which gave him Southeastern Arizona as a reservation. Cochise died in 1876 in Cochise Stronghold, his favored camping area. The peace treaty broke down soon after and the reservation was taken from the Chiricahua, leading to 10 more years of warfare. In 1886, the remaining Chiricahua were removed from the region as prisoners-of-war, leaving only their names behind, including that of Cochise, for whom the county is named.

## 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.nciahlc.org](http://www.nciahlc.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.



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

### 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.

### 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.

## 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; and community use of the College libraries and other facilities.

Other community services include 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 of 15 men and women. The Foundation provides more than \$300,000 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 more than 1,000 students each semester with a diverse curriculum of general education, liberal arts, and direct employment programs. The campus includes a student union, residence halls for men and women, apartments for married students, a rodeo arena, and a physical education facility, including an Olympic-sized swimming pool, wellness center and weight room. In addition, there is an on-campus airport, a multi-media support lab to complement the five instructional computer labs, a theater, classrooms and laboratories.

The campus also includes a One Stop Center for student services, athletic facilities and an administration building. The Charles Di Peso Library provides resources and facilities for students, staff and the community.

### 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. Some classes also are available on Fridays and Saturdays.

### 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. The Cochise College mathematics, English and reading placement tests are administered at the Army Education Center. Classes meet in Building 52104 and Building 21112.

The College offers classes 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 County and beyond the county's boundaries. Courses and services are scheduled through the Adult Education program, the Benson Center, the Nogales/Santa Cruz Center, Online Campus, the Small Business Development Center, the Willcox Center, and the Workforce Training and Community Education program. 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 St., adjacent to the Willcox Unified School District offices.

The Center, serving approximately 200 students with day and evening classes, has five classrooms, a computer lab, a library, and interactive television capabilities. Full-time staff is available to assist students with admissions, registration, placement testing and financial aid.

The Willcox Adult Education Center is located at 190 N. Curtis Ave., one block from the public library in downtown Willcox. The center serves approximately 50 students in GED (high school equivalency), English language acquisition, computer skills, and academic skill development in reading, math, and writing classes. The center houses three classrooms and a computer lab and offers both daytime and evening classes.

### **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 offers placement and GED testing, advising, admissions, registration 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 St., Nogales. The staff offers placement testing, advising, admissions, registration and financial aid. Students also have access to a computer lab. Classes meet at the education center and at Nogales High School, Rio Rico High School, Patagonia Union High School, and Santa Cruz Alternative High School

### **Online Campus**

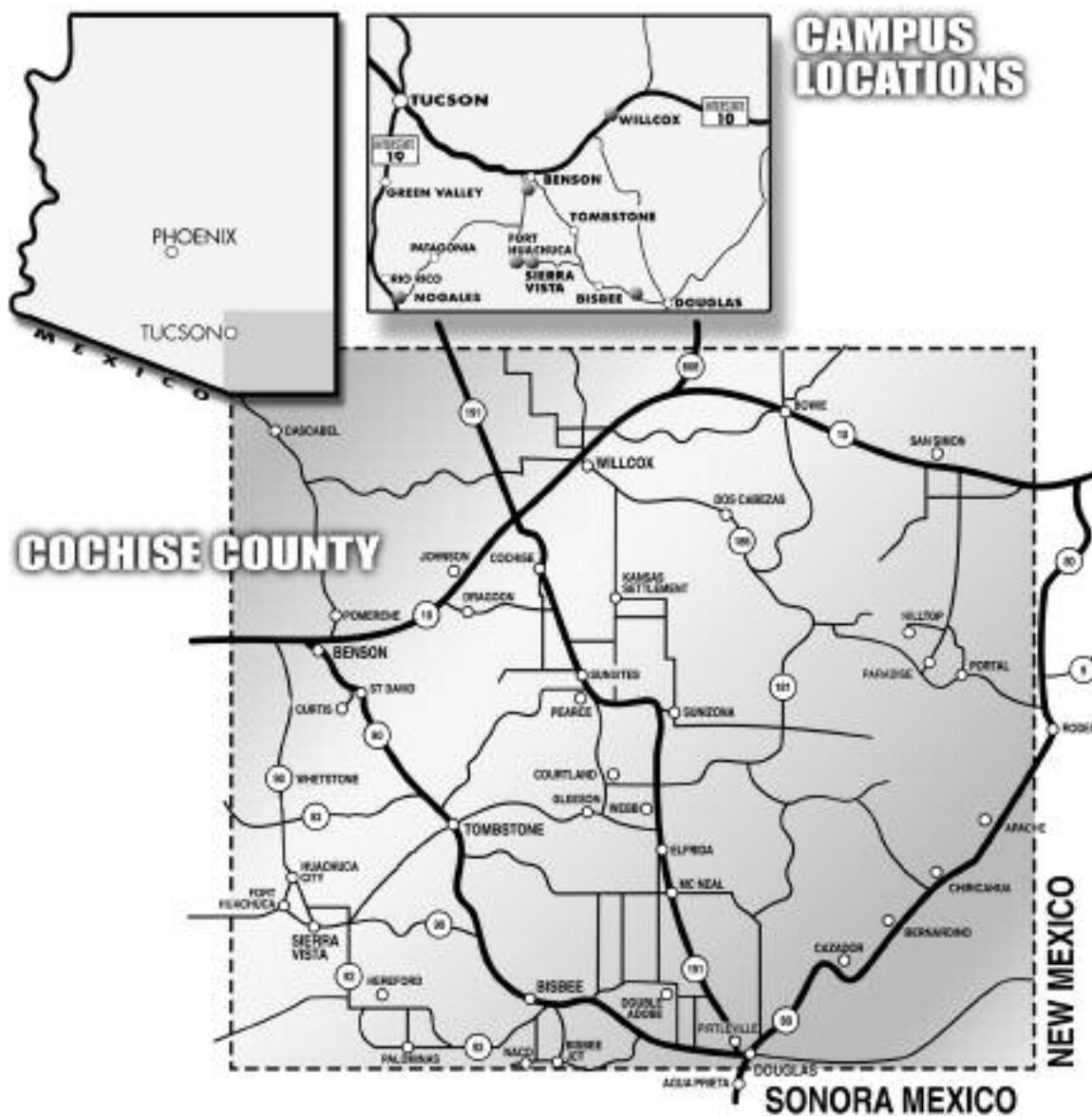
Cochise College has a growing educational presence on the World Wide Web. The institution offers an expanding array of courses on the web, and students can pursue online degrees and certificates. These courses meet the same criteria as traditional classes. They use the resources of the Internet to enrich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

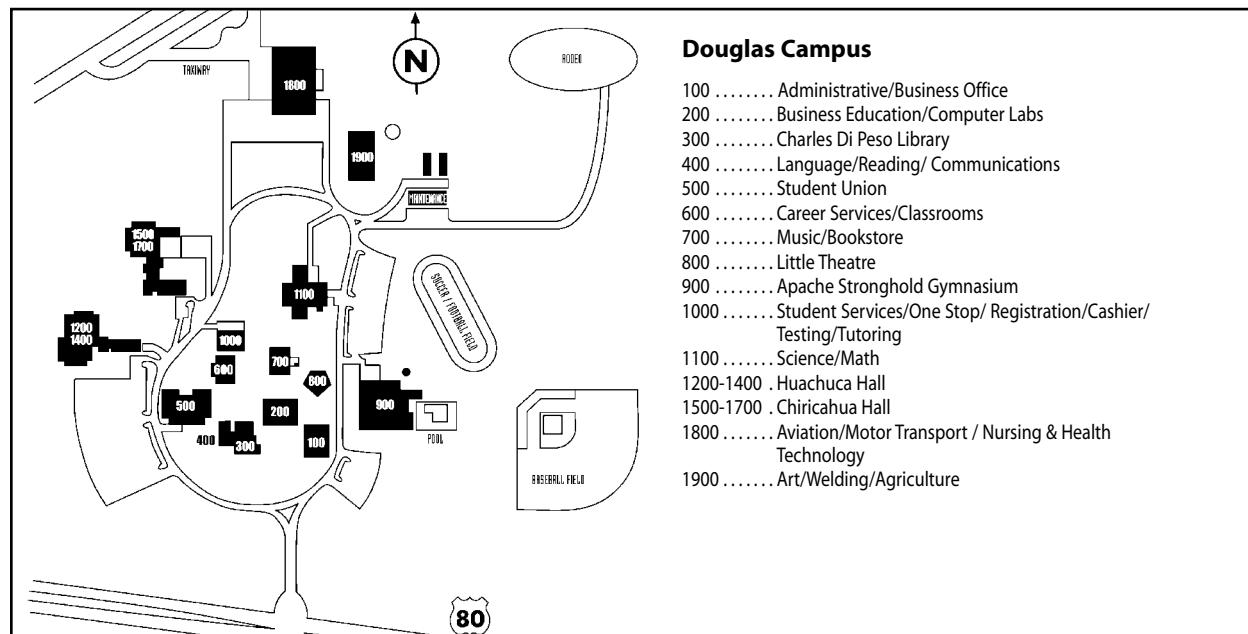
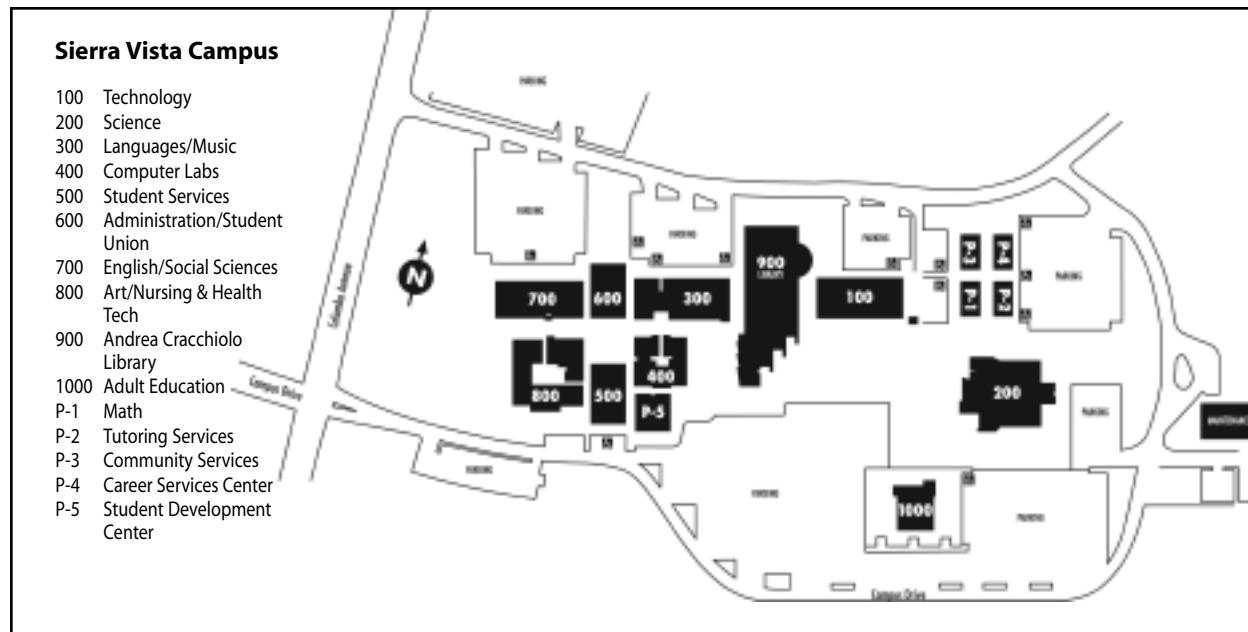
Through the Online Campus, students can design their own class schedule to meet personal needs. Visit the Online Campus at [www.cochise.edu](http://www.cochise.edu) to find information about courses, tuition and financial aid. Prospective students can also take an online assessment to see if online classes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

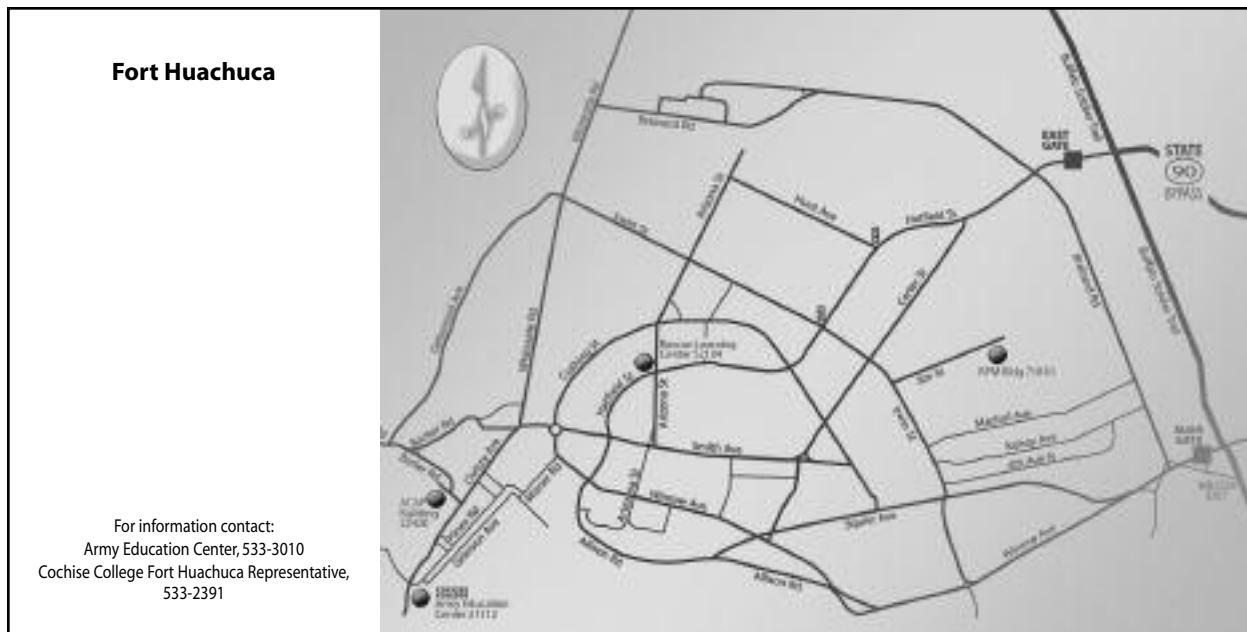
### **Douglas Prison Education Program**

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







# Getting Started

## CAMPUS VISITS

Many students like to visit Cochise College prior to deciding which college to attend. Please call the Admissions Office at (520) 417-4046 or (520) 515-5336 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 <http://www.cochise.edu>.



## ADMISSION, REGULAR STUDENT

Admission as a regular student 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 regular transfer student in good standing from another college or university.

## STUDENTS UNDER 18 YEARS OF AGE

If you are under 18 years of age, you are asked to contact the Admissions Office at the Sierra Vista or Douglas campuses 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 be completed by all applicants applying for admission to the Aviation or Nursing programs, those participating in athletics, or those who wish to live in the residence halls at the Douglas Campus. The College reserves the right to require a physical examination or immunizations when deemed necessary by the College nurse or 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 transcript 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.

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 transcript office. Official sealed transcripts carried by the applicant are acceptable.

## STUDENT IDENTIFICATION NUMBER

Disclosure of social security account 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 when you register, must be used to obtain all services provided by the College, including Blackboard, email accounts and requests for personal information, such as transcripts. You also must use your new student ID number and your personal ID number (your birth date in MMDDYY format) to access online services. Your social security number may still be required for some services, such as financial aid.

Social security account numbers will be used solely to identify your records. Disclosure and use of social security account numbers aid in matching current and future records with any past records, ensuring that full credit is received for all academic work completed at Cochise College.

## ADMISSION TO THE AVIATION PROGRAM

If you are seeking admission to any of the aviation programs—Professional Pilot, Avionics, or Aviation Maintenance Technology—contact the Aviation Department well in advance of your planned entry date. The department will



arrange a pre-entry conference and placement test. Admission to Cochise College does not guarantee acceptance into the aviation program.

## ADMISSION TO THE NURSING PROGRAM

While admission to Cochise College is the initial step for entrance into the nursing program, it does not guarantee acceptance. Nursing is a limited-enrollment curriculum that frequently has more applicants than can be accepted. A grant-funded pre-nursing student support program is available to help prepare qualified students to meet the challenges of the nursing program. See the Nursing Department for more information.

You must apply for admission to the nursing program and take the Nursing Entrance Test (NET). 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 NET should be taken prior to the fall semester of expected admission.

Please contact the Nursing / Allied Health Department for additional information regarding criteria for regular admission, or for special admission to enter second semester freshman courses, or 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 dis-

charged 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.

## INTERNATIONAL STUDENTS

### 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.

## 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 \$14,500 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 US check, payable to Cochise College.
3. Bank guarantee form  
Full-time student: \$8,500 in U.S. dollars  
Part-time student: \$600 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 website - [www.cochise.edu](http://www.cochise.edu). Click on Admissions.

## DISABILITY SERVICES

You may request special disability assistance through the director of Disability Services, Mary Kelly Lea, who may be contacted by calling (520) 515-5337 or (520) 417-4023 for an appointment. Students who need accommodations for placement testing should contact the ADA Office prior to testing.

## STUDENT EMAIL

Cochise College's email 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), clicking "Check My Email," and following the login instructions next to the "Outlook Web Access (students)" link. Call Student Services with questions or to obtain more information.

## RESIDENCY REQUIREMENTS AND REGULATIONS

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 article, 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.

## STUDENT STATUS REGULATIONS

The Arizona Board of Regents shall adopt guidelines applicable to all institutions under their respective jurisdictions that will ensure uniform criteria to aid the institutions in determining the tuition status procedures for review of that status.

## 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.
9. Notarized statements of landlord and/or employer.

## 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 through the first week of classes.

## 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.

## 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 INFOline at [www.cochise.edu](http://www.cochise.edu).

## PAYMENT OF FEES SCHEDULE

All students need to assure they 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 for the total amount due for tuition and fees.

Past due accounts may be turned over to a collection agency. You, as the delinquent student, will be liable for 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.

All book purchases will be on a cash-only basis with the exception of vocational rehabilitation students, veterans' vocational education and 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 2007/2008 FISCAL YEAR

### I. Tuition-Effective July 1, 2007 to June 30, 2008

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).....\$10 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 .....	\$47 per credit
Out-of-state (1-6 credits) .....	\$68 per credit
over 6 credits (retroactive to first credit) .....	\$232 per credit
Online Campus .....	\$71 per credit
Aviation (resident).....	\$65 per credit
Collaborative Institutional Online Fee (per credit) .....	\$30
Western Undergraduate Tuition Waiver .....	\$71
New Mexico Tuition Waiver .....	\$47

## Senior "Golden Apache" Tuition

(60 years or older, resident of Cochise County or adjacent unorganized counties)	
One-time application fee .....	\$5
Per credit .....	\$23

## MISCELLANEOUS FEES

Credit by examination (nonrefundable) per credit .....	\$47
(may require additional special lab fee)	
Co-op education courses (per credit hour) .....	\$23
CLEP general and subject examination	
(current cost per test) .....	plus \$20 proctor fee
Accuplacer testing (initial and one re-test fee).....	\$10
General Education Development (GED) .....	\$65
SAM Challenge Re-test .....	\$10
Strong College Profile .....	\$10
Myers Briggs Career Report.....	\$10
Strong College Profile and Myers Briggs Career Report .....	\$15
Transcripts (official).....	\$5
Transcripts (faxed) .....	\$8
Returned check fee (for each returned) .....	\$50
Graduation fee .....	\$25
Nursing Entrance Test fee.....	\$30
Liability insurance (nursing, NA, MA, EMT, paramedicine).....	\$30
Drug screen (nursing, MA, EMT, paramedicine).....	\$40
EMT/paramedicine certification testing fee.....	\$50
Replacement of ID card or meal card.....	\$5

**DEPOSITS**

Residence hall housing.....	\$100*
Family housing apartments.....	\$150*
* Required with housing application (does not apply toward room and board fees).	
Professional pilot.....	\$90*
Airframe and powerplant.....	\$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-DC (summer I) .....	\$175
Spanish Immersion field trip to Mexico-DC (summer II) .....	\$35

**MISCELLANEOUS FEES FOR NON-STUDENTS**

Accuplacer testing .....	\$10
Proctor fee .....	\$25

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

Please note that room and board (meals) fees are combined. 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. A housing deposit is required for a residence hall (\$100) or an apartment (\$150) prior to check-in. 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.

**A. Regular Students – 17-week semester****19-meal plan**

Fall Semester.....	\$1,955
Spring Semester .....	\$1,955
Full year (each semester) .....	\$3,910

**14-meal plan**

Fall Semester.....	\$1,840
Spring Semester .....	\$1,840
Full year (each semester) .....	\$3,680

**B. Professional Pilot – 21-week semester****19-meal plan**

Fall Semester.....	\$2,410
Spring Semester .....	\$2,410
Full year (each semester) .....	\$4,820

**14-meal plan**

Fall Semester.....	\$2,270
Spring Semester .....	\$2,270
Full year (each semester) .....	\$4,540

**C. Aviation Maintenance Technology -- 12-week semester****19-meal plan**

Fall Semester.....	\$1,380
Spring Semester .....	\$1,380
Full year (each semester) .....	\$2,760

**14-meal plan**

Fall Semester.....	\$1,300
Spring Semester .....	\$1,300
Full year (each semester) .....	\$2,600

**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.

**Room**

If you are a full-time student, you have the option of living on campus. The College has two residence halls and 11 family housing apartments. The residence halls are double-occupancy, suite-style rooms. The family housing apartments have one bedroom each and are partially furnished. Internet access to computers is available 24 hours a day for residents. Laundry facilities, free cable and local telephone services are also available for all residents.

Room and board are combined. If you live in a residence hall, you must participate in the board program. Family hous-



ing residents have the option of not participating in the meal plan. Please contact the Housing Office for residence hall and apartment availability.

If you withdraw from College or the residence halls after having officially registered into a hall, you are not entitled to a refund of room rent. Should you withdraw because of a legitimate medical emergency or other unusual circumstance, the unused portion of room rent through the end of the semester may be refunded with the approval of the vice president for instruction/provost or designee.

### **Apartment and Room Deposits**

Deposits are required 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.

**PLEASE NOTE:** You must request your deposit upon formal withdrawal from the residence hall.

### **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, you may 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 one of the participating states, contact the Admissions Office to see if you are eligible for this waiver for full-time students. The participating states are Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

#### **Arizona-Sonoran Agreement**

The State of Arizona has an agreement with the State of Sonora, Mexico. If you are a resident of Sonora, contact the Admissions Office to see if you are eligible for this waiver.

#### **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. This waiver allows a 50-percent tuition discount of the regular in-state tuition rate. 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's degree is required to pay a graduation fee at the Cashier's Office. Those completing certificate programs are not required to pay the fee.

### **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 registration.

A testing fee is charged for nursing testing. The fee is due at registration.

## REFUNDS

All refunds 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.

If a class or classes are canceled by the College, you will receive a full refund for all fees for cancellations. Checks will be issued for canceled classes within three weeks after the end of registration. These fees may be applied to other courses.

## 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 will probably 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 LEAP (Arizona state 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 an orientation session before receiving any federal funds.

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 forms are available from high school counselors, the Financial Aid Office and on the

web at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). 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.

### 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 on the Sierra Vista Campus. A representative is also available on the Douglas Campus. Information concerning attendance, benefits and procedures is available. All veterans are advised to maintain close contact with the VA representative.

If you are a veteran receiving VA benefits, you are required to immediately report to the VA representative 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. Brochures listing the scholarships and the application are available in the Financial Aid Offices each spring.

Various other scholarship notices are received periodically and are posted on the scholarship boards located on each campus. Applications are usually available in the Financial Aid Office.



# Services for Students

## LIBRARIES

The Cochise College library 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 <http://www.cochise.edu>.

The libraries house more than 66,000 books, 2,400 videotapes, and 325 periodical subscriptions. The libraries provide access to various web-based periodical indexes, some of which provide the full text of articles. Both libraries have photocopiers, typewriters, calculators, computers for students to access the Internet, and more.

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 classrooms and satellite conferencing for the district.

The library 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 Center and the Willcox Center 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 at the Douglas (One Stop) and Sierra Vista campuses coordinate several key services designed to support your learning: academic advising, counseling, testing, tutoring, and career information.

### Academic Advising

A coordinated effort by selected College faculty advisors and counselors provides all full-time, part-time, vocational, transfer, international and other students advice 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. Student Development Center advisors also assist in degree and transfer planning and in choosing programs of study compatible with your short- and long-term goals.

### Counseling

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 and personal or social areas are not unusual. Counselors are available to assist you during daytime and certain evening hours.

Career planning and related testing are also available.

### 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 labs with or without an appointment.



### Placement Assessment

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

The College asks students to take placement assessment 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, or
- 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; or
- if you are a transfer student whose official transcripts show completed coursework in a corresponding subject with a grade of C or better.

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 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.

### DISABILITY SERVICES

You may request special disability assistance through the director of Disability Services, Mary Kelly Lea, who may be contacted by calling (520) 515-5337 or (520) 417-4023 for an appointment. Students who need accommodations for placement testing should contact the ADA Office prior to testing.

### AVANZANDO/STUDENT SUPPORT SERVICES PROGRAM

AvanZando is a federally-funded Department of Education Trio 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; be citizens or nationals of the United States (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)

#### **AvanZando 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, full-tuition AvanZando scholarship
- Visit four-year colleges
- Attend AvanZando workshops on goal-setting, career planning, test anxiety, research, time management and more
- Receive monthly newsletters and weekly emails
- Participate in a mentoring program

For more information, visit the website at [www.cochise.edu/information/students/avanzando/index.asp](http://www.cochise.edu/information/students/avanzando/index.asp) or the One Stop (Building 1000) on the Douglas Campus.

## CAREER SERVICES CENTER

The College's Career Services Center 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. This program is also adaptable for employed adults who are interested in gaining additional job skills for future advancement. Any Cochise College student enrolled for credit may elect to participate.

In addition, Cochise College participates in the Walt Disney World College Program, where students can complete a semester-long paid internship at the Orlando, Fla., 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 open job announcements 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. Career Services Center staff work in cooperation with Arizona Department of Economic Security Job Service representatives to seek out information on employment opportunities throughout Cochise County, the State of Arizona, and the nation.

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 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 technical education programs. Certificate programs supported are: air conditioning and refrigeration, automotive technology, culinary arts, certified nursing assistant, community health advisor, residential electrician, welding technology and other selected certificate programs. In addition, CTEPS provides services to the following transfer degree programs: administration of justice (AA), allied health (AS), business administration (ABUS), computer information systems (ABUS), computer science (AS), early childhood education (AA), family and consumer science (AA), fire science (AAS), pre-elementary/secondary education (AA), and professional pilot (AGS). Services include academic advising, advocacy, career counseling, limited fuel assistance, referrals, scholarships, and workshops. To find out more visit the CTEPS office in the 600 Building on the Douglas Campus or the Student Development Center on the Sierra Vista Campus.

## **HEALTH SERVICES**

The Student Health Center, staffed by a registered nurse, is located on the Douglas Campus. Routine assessment, minor care and over-the-counter medications are provided at no charge. In cases of illness or injury, you are referred to a local doctor. The Center is open to students Monday through Friday mornings.

Cochise College does not offer health insurance. Student health insurance is available through private insurance companies.

## **STUDENT UNION, DOUGLAS CAMPUS**

The "living room" of the campus offers students the opportunity to socialize with fellow students, faculty and administration in an informal atmosphere. Meeting rooms as well as comfortable lounges, a billiard room, game room, TV-viewing area and two dining facilities are provided for student use and enjoyment. Student activities and student government offices are also located in this building. Student mailboxes are located in the Chiricahua Hall lobby.

Dining services provided by the Student Union include the Qué Pas snack bar, a private dining room and a large well-equipped cafeteria capable of seating 250. The cafeteria offers well-balanced menus and seasonal buffets, specials and unique monotony-breakers designed to create a "second-home" atmosphere in the Student Union.

## **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. The officers are: president, vice president, secretary, treasurer, and social events coordinator. Each spring, officers are selected based on an application process. Student government plans, coordinates, promotes and finances a varied program of student activities and services for the entire student body.

### **Organizations**

Student 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. Organizations are available for student participation. Clubs and organizations on the Douglas or Sierra Vista Campus include:

- Armed Forces Communications and Electronics Association (AFCEA)
- AvanZando Z Club
- Campus Crusade for Christ
- Card Club
- Cinéaste Circle (film)
- Club Kick It

- Fellowship of Christian Athletes
- International Club
- Literary Guild
- Math and Computer Sciences (MACS) Club
- Meditation Club
- Nursing Club
- Philosophy Club
- Phi Theta Kappa (academic excellence)
- Residence Hall Association
- Science Club
- Social Concerns Club
- Spanish Club
- Strong Oak Historical Society
- Student Government
- Technology Club
- Vocational Industrial Clubs of America (VICA)

### **Athletics: Douglas Campus**

Cochise College competes with other community colleges in men's and women's basketball and rodeo, women's soccer and men's baseball. The school colors are red and white, and the mascot is the Apache. The center for intercollegiate sports and a variety of intramural activities 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 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. Therefore, all residential students are automatically on the meal plan.

Unmarried students reside in Chiricahua Hall (women) and Huachuca Hall (men).

The dining program includes three meals each day, Monday through Friday, and two meals each on Saturday and Sunday. You have the option of taking most meals 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 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 write to 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/deptsdirs/security/index.asp](http://www.cochise.edu/deptsdirs/security/index.asp).

## **College Smoking Policy**

Smoking is not permitted in any College building, classroom or vehicle.

## **Alcohol and Drug Abuse Policy**

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**

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**

### **Center for Southwest Studies**

The Center for Southwest Studies was established based on Cochise County's unique combination of historical and natural attractions. These factors and its border location makes the 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 region. The Center for Southwest Studies has been created to establish Cochise College as a leader in border related studies, training and research and to partner with existing organizations to become a repository for resource availability and a keystone in resource procurement. The Center for Southwest Studies works with its partners to identify and implement entrepreneurial activities related to the rich historical, cultural and geographical characteristics of Southeast Arizona and the regional/border area.

### **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 website 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 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 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. They are stimulating to faculty as well as students. Research on learning communities shows that they increase student engagement

and motivation, increase intellectual development, increase course completion rates (especially on commuter campuses) 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 County. 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.

### **Special Interest Classes**

Non-credit classes cover a variety of subjects and offer opportunities to individuals seeking non-traditional educational experiences. Workforce Training and Community Education (WTCE) provides weekend and evening seminars, workshops, films and lectures on topics ranging from local history and culture to arts and crafts such as weaving, silver-smithing and gourmet cooking, for personal growth and development.

### **Dual Credit**

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 credit 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, citizenship, 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, Bisbee, Douglas, Sierra Vista and Willcox. Adult Education offers special assistance to students who transition to College credit programs.

### **Workforce Training and Community Education**

Workforce Training and Community Education (WTCE) offers a wide variety of non-traditional training services to individuals and organizations countywide. 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 classes and computer workshops.

WTCE publishes a schedule of offerings for each quarter in addition to an annual catalog of courses booklet. The catalog of courses is designed to show all courses available through the WTCE program, including description and cost. The quarterly schedule of offerings lists the classes offered in a particular quarter, including date, time, location and cost.

Customized classes on nearly any topic can be contracted to support area businesses and organizations.

### **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 Center for Economic Research (CER) collects, analyzes and interprets local economic data for the communities served by Cochise College. The CER is available to provide data and economic forecasts to businesses, public agencies, developers, research centers and individuals interested in the local economy. Specific economic studies and surveys can be designed and conducted on a contractual basis for businesses and individuals requesting assistance.

### **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 Immersion Program: Douglas Campus**

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 to eight transferable credits (equivalent to one or two semesters of first-year Spanish) upon successful completion of the program.

### **Summer English Immersion Program: Douglas Campus**

The summer English immersion program offers a student, whose first language is not English, opportunities to improve his or her proficiency. Classes are offered six hours daily, integrating reading/writing and grammar/oral communication at beginning, high-beginning, intermediate and high-intermediate levels. Classroom instruction is complemented by frequent 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.



# 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 Superior**

**B Good**

**C Average**

**D Poor**

**F Failure**

**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 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. 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 better 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 would earn (3x4) or 12 grade points. The total grade points accumulated are divided by the total of credits attempted (excluding W, I, and AU grades), and the result is known as 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 copy your grades at your convenience. See a course schedule 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, the appropriate instructional manager and/or the vice president of instruction/provost.

### **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 better, 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 the student transcript with the grade received. A notation of I (include) or E (exclude) will be placed next to the grade and will remain as a part of the permanent record. Only the last grade earned will be computed for graduation and cumulative grade point average. For the Associate of General Studies degree, certain specified courses are exempt from this procedure. All grades for the exempt courses will be included in the cumulative grade point average. You do not have to repeat a course that you have failed unless it is a pre-requisite 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. Beginning freshman:** ..... 18 credits  
(first-time college student)
- 2. 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).

## College Level Examination Program (CLEP)/DANTES

Cochise College accepts both the general and the subject examinations of the CLEP/DANTES 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	66	62	51	12
202	68	66	60	16

You must complete at least one Cochise College course before credit may be granted for CLEP/DANTES. Credit earned under CLEP/DANTES 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 better 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/DANTES examinations, duplicate credit will not be awarded in subjects at the same level. You will not be awarded credit through CLEP/DANTES for courses equivalent to, or at a lower level than, other courses you have already taken through formal course work.

You may earn up to 30 credits of college credit by taking CLEP/DANTES 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
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 reduced 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 maximum 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 aviation programs operating under non-traditional calendar requirements or to special vocational courses officially established 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. This being the case, the class shall meet during the scheduled examination period for review, critique or other meaningful activity. Evening classes will have final examinations scheduled during the last class meeting.

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's 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 better grade and must be transferable to all Arizona public universities.

All Cochise College associate's degrees require a cumulative grade point average of 2.0 or better.

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

Some AAS degree programs require a 2.0 cumulative GPA or better 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 74 or higher
2. Complete a reading course with a grade of C or better in which competency for the course is an Accuplacer reading score of 74 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 500 level or above, 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's 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 AGEC must be taken in residency at Cochise College to earn the Arizona General Education Curriculum (AGEC). Coursework below college level and non-traditional credit courses may not be used to satisfy residency requirements.

### Additional Associate's Degrees

You may earn additional associate's 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's 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 transcript to be sent to educational institutions or prospective employers. Transcripts to educational institutions will be sent directly by mail. Transcripts given directly to you are marked "Issued to Student." There is a charge for transcripts.

### **WITHDRAWAL FROM COLLEGE**

If you wish to withdraw from the College, you must obtain a college withdrawal form from the Registration Office or from the Student Development Center.

Once you have obtained the required signatures, you must return the form to the Registration Office. 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 properly process a withdrawal.

### **ACADEMIC DISHONESTY**

Acts of academic dishonesty, including plagiarism and cheating, are regarded as very serious offenses. If academic dis-

honesty 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 email, 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.

## DEGREES & PROGRAMS

### 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 arts 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 transfer as a block of 64 credits to all Arizona public universities. A student can enter the university as a junior after completing an associate's degree. The Arizona General Education Curriculum (AGEC) block of 35 credits fulfills the lower-division general education requirements at all Arizona public community colleges and universities. 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 your chosen university offers a degree in your area of study.

A statewide agreement between Arizona public community colleges and universities guarantees students two ways to transfer: using an associate's degree or a general education block called the Arizona General Education Curriculum (AGEC). The AGEC block of 35 credits fulfills the lower-division general education requirements at all Arizona universities.

For more information on transfer to the University of Arizona (U of A), Northern Arizona University (NAU) or Arizona State University (ASU) visit [www.az.transfer.org/cas](http://www.az.transfer.org/cas)

## 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 insti-

tution 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 are 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 part of "two-plus-two" programs enabling a student with an AAS degree to transfer to an Arizona university without loss of credit.

## CERTIFICATE PROGRAMS

Cochise College offers more than 60 certificate programs designed for direct employment in a wide variety of occupations. Many can be completed in as little as two semesters.

## PRIVATE TRANSFER AGREEMENTS

Cochise College also has private articulation agreements with the following schools. For more information, check the websites.

Capella University .....	<a href="http://www.capella.edu">www.capella.edu</a>
Charter Oak State College .....	<a href="http://www.charteroak.edu">www.charteroak.edu</a>
Embry-Riddle Aeronautical University ..	<a href="http://www.erau.edu/ec">www.erau.edu/ec</a>
Franklin University .....	<a href="http://www.franklin.edu">www.franklin.edu</a>
Northcentral University .....	<a href="http://www.ncu.edu">www.ncu.edu</a>
University of Phoenix .....	<a href="http://www.phoenix.edu">www.phoenix.edu</a>
Western Governors University .....	<a href="http://www.wgu.edu">www.wgu.edu</a>
Western International University .....	<a href="http://www.wintu.edu">www.wintu.edu</a>

## COURSE APPLICABILITY SYSTEM (CAS)

The Arizona Course Applicability System (AzCAS) allows students to access information online relating to course descriptions, academic programs, the Course Equivalency Guide (CEG), and student information.

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



Please meet with an academic advisor for additional information.

## ARIZONA GENERAL EDUCATION REQUIREMENTS TRANSFERRING THE AGEC BLOCK

By completing an AGEC at Cochise College, a student is guaranteed that all admissions requirements are met at all Arizona public universities. While Arizona residents need to have a minimum of a 2.0 grade point average in their AGEC, non-residents are required to have a minimum cumulative grade point average of 2.5 for university admission.

The AGEC block consists of 35-40 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 Science .....	8 credits
Arts .....	3 credits
Humanities.....	3 credits
Social and Behavioral Sciences.....	6 credits
Information/Computer Literacy .....	3 credits
Options (General Education Electives).....	1-8 credits
<b>TOTAL GENERAL EDUCATION REQUIREMENTS .....</b>	<b>35-40 CREDITS</b>

The three types of AGECs are:

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

AGEC-B meets the general education requirements for Business/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 AGEC blocks:

- Courses included in the AGEC block must be completed with a grade of C or better.
- The block will transfer without loss of credit to any Arizona public community college or university.
- A course may have dual use. It may be used to fulfill both an AGEC requirement and an elective in the associate's degree. Total credits toward a degree are not waived.
- Six credits of arts/humanities, social and behavioral sciences/general education electives must be chosen from the current listing of intensive writing/critical inquiry courses. Courses listed below which contribute to that requirement are designated with <sup>IW</sup>.
- A minimum of eight credits must be completed at Cochise College to meet residency requirements.
- A current list of courses to fulfill general education requirements, including the general education elective, is available at: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).
- 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 website at [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

<b>COMPOSITION:</b>		<b>6 CREDITS</b>
ENG 101	.....	Composition (3)
ENG 102	.....	English Composition (3) (or ENG 102H Honors)
<b>MATHEMATICS</b>		<b>3-5 CREDITS</b>
AGEC-A		
MAT 142	.....	Survey of College Mathematics (3)
MAT 151	.....	College Algebra (4)
MAT 172	.....	Finite Mathematics (3)
MAT 182	.....	Plane Trigonometry (3)
MAT 187	.....	Precalculus (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)
<b>LABORATORY SCIENCE</b>		<b>8 CREDITS</b>
AGEC-A OR AGEC-B		
AST 180	.....	Introduction to Astronomy (3)
BIO 101	.....	General Biology (for non majors) (4)
BIO 105	.....	Environmental Biology (4)
BIO 160	.....	Introduction to Human Anatomy and Physiology (4)
BIO 181	.....	General Biology I (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 100	.....	Preparation for Chemistry (4)
CHM 130	.....	Fundamental Chemistry (4)
CHM 140	.....	Fundamental Organic and Biochemistry (4)
CHM 151	.....	General Chemistry I (4)

CHM 152 .....	General Chemistry II (4)	HUM 206 <sup>IW</sup> .....	European Cultures (3)
CHM 235 .....	General Organic Chemistry I (4)	MUS 100 .....	Fundamentals of Music Notation (3)
CHM 236.....	General Organic Chemistry II (4)	MUS 101 .....	Introduction to Music (3)
GEO 101 .....	Physical Geography (4)	MUS 102.....	Introduction to Music (3)
GLG 101.....	Introduction to Geology I (Physical) (4)	MUS 109.....	Orchestra (1)
GLG 102.....	Introduction to Geology II (Historical) (4)	MUS 110 .....	Chorus (1)
GLG 110 .....	Environmental Geology (4)	MUS 111 .....	Band (1)
PHY 110 .....	Fundamentals of Physical Science (4)	MUS 123 .....	American Popular Music (3)
PHY 111 .....	General Physics I (4)	MUS 132 .....	Music Theory (3)
PHY 112.....	General Physics II (4)	MUS 133 .....	Music Theory (3)
PHY 230.....	Physics with Calculus I (4)	MUS 201.....	Ensemble (1)
PHY 231 .....	Physics with Calculus II (4)	MUS 260 .....	Music Fundamentals Through Experience (3)
AGEC-S		THE 101 .....	Acting I (3)
BIO 181 and BIO 182 .....	General Biology I & II (8)	THE 201 .....	Acting II (3)
CHM 151 and CHM 152.....	General Chemistry I & II (8)	THE 203.....	Theatre Makeup (3)
PHY 230 and PHY 231.....	Physics with Calculus I & II (8)	THE 213.....	Stagecraft (3)
THE 220 .....		THE 220 .....	Dramatic Structure (3)

ARTS	3 CREDITS	HUMANITIES	3 CREDITS
ART 103 .....	Design Fundamentals (3)	ART 107 .....	Survey of World Art: Prehistoric – Gothic (3)
ART 106 .....	Drawing I (3)	ART 108 .....	Survey of World Art: Renaissance to the 20th Century (3)
ART 107 .....	Survey of World Art: Prehistoric – Gothic (3)	ART 285 .....	Beginning Photography (3)
ART 108 .....	Survey of World Art: Renaissance to the 20th Century (3)	ART 286.....	Intermediate Photography (3)
ART 120.....	Appreciation of Visual Arts (3)	BIO 250.....	Biomedical Ethics (3)
ART 216.....	Drawing II (3)	COM 102 .....	Essentials of Communication (3)
ART 220.....	Printmaking I (3)	COM 110 .....	Public Speaking (3)
ART 225 .....	Printmaking II (3)	ENG 119 <sup>IW</sup> .....	Creative Writing (3)
ART 230.....	Color and Design (3)	ENG 209 <sup>IW</sup> .....	Introduction to Poetry (3)
ART 231 .....	Three Dimensional Design and Sculpture (3)	ENG 210 .....	The Bible as Literature (3)
ART 245.....	Figure Drawing (3)	ENG 212 <sup>IW</sup> .....	Children's Literature (3)
ART 270.....	Ceramics I (3)	ENG 219 <sup>IW</sup> .....	Advanced Creative Writing (3)
ART 275 .....	Ceramics II (3)	ENG 220 <sup>IW</sup> .....	British Literature I (3)
ART 280.....	Painting I (3)	ENG 221 <sup>IW</sup> .....	British Literature II (3)
ART 281 .....	Painting II (3)	ENG 222 <sup>IW</sup> .....	Introduction to Shakespeare (3)
ART 285 .....	Beginning Photography (3)	ENG 224 <sup>IW</sup> .....	American Literature I (3)
ART 286.....	Intermediate Photography (3)	ENG 225 <sup>IW</sup> .....	American Literature II (3)
ART 290 .....	Sculpture (3)	ENG 226 <sup>IW</sup> .....	World Literature I (3)
ART 295 .....	Watercolor Painting I (3)	ENG 227 <sup>IW</sup> .....	World Literature II (3)
ART 296.....	Watercolor Painting II (3)	ENG 228 <sup>IW</sup> .....	Mythology and Folklore (3)
DMA 260.....	Graphic Design I (3)	ENG 230 <sup>IW</sup> .....	Literature of the Southwest (3)
DMA 261 .....	Graphic Design II (3)	ENG 231 <sup>IW</sup> .....	Native American Literature (3)
ENG 119 <sup>IW</sup> .....	Creative Writing (3)	ENG 255 <sup>IW</sup> .....	Introduction to the English Language (3)
ENG 219 <sup>IW</sup> .....	Advanced Creative Writing (3)	ENG 260 <sup>IW</sup> .....	Irish Literature (3)
HUM 205 <sup>IW</sup> .....	Major Ancient Cultures (3)		

ENG 265 <sup>IW</sup>	Major American Writers (3)	GEO 104	Political Geography (3)
ENG 273 <sup>IW</sup>	Women and Literature (3)	GEO 121	World Regional Geography (3)
HON 270 <sup>IW</sup>	Honors History and Literature (3)	HIS 110	History of the United States 1607 – 1877 (3)
HUM 101	Humanities in Contemporary Life (3)	HIS 111	History of the United States Since 1877 (3)
HUM 110	Introduction to Film and Video (3)	HIS 140 <sup>IW</sup>	Survey of Western Civilization I (3)
HUM 115	Cultural Heritage of the Southwest (3)	HIS 141 <sup>IW</sup>	Survey of Western Civilization II (3)
HUM 205 <sup>IW</sup>	Major Ancient Cultures (3)	HIS 142 <sup>IW</sup>	Survey of Western Civilization III (3)
HUM 206 <sup>IW</sup>	European Cultures (3)	HIS 229 <sup>IW</sup>	History of Mexico I (3)
HUM 207 <sup>IW</sup>	The Modern World (3)	HIS 230 <sup>IW</sup>	History of Mexico II (3)
HUM 210	Foreign Film Classics (3)	HON 270 <sup>IW</sup>	Honors History and Literature (3)
JRN 101	Introduction to Mass Communications (3)	POS 110	American National Government (3)
JRN 102	Essentials of News Writing (3)	POS 220 <sup>IW</sup>	Federal and Arizona Constitution (3)
JRN 103 <sup>IW</sup>	Advanced News Writing (3)	POS 230 <sup>IW</sup>	World Politics (3)
MUS 101	Introduction to Music (3)	POS 240	Comparative Politics (3)
MUS 102	Introduction to Music (3)	PSY 101	Introduction to Psychology (3)
MUS 132	Music Theory (3)	PSY 103	Personality and Adjustment (3)
PHI 111 <sup>IW</sup>	Introduction to Philosophy (3)	PSY 210	Social Psychology (3)
PHI 113	Introduction to Logic and Language (3)	PSY 230 <sup>IW</sup>	Personality Theories and Research (3)
PHI 130 <sup>IW</sup>	Ethics (3)	PSY 240 <sup>IW</sup>	Developmental Psychology (3)
PHI 201 <sup>IW</sup>	Philosophies of the East (3)	PSY 250 <sup>IW</sup>	Introduction to Psychological Research, Measurements and Statistics (3)
PHI 202 <sup>IW</sup>	Philosophy of Religion (3)	PSY 290 <sup>IW</sup>	Experimental Psychology (4)
SPA 221	Introduction to Spanish Literature II (3)	SOC 101	Introduction to Sociology (3)
SPA 224	Introduction to Mexican Literature I (3)	SOC 160 <sup>IW</sup>	Ethnic Groups and Minorities (3)
SPA 225	Introduction to Mexican Literature II (3)	SOC 202 <sup>IW</sup>	Social Problems (3)
THE 103	Introduction to Theatre (3)	SOC 210 <sup>IW</sup>	Marriage and the Family (3)

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**SOCIAL AND BEHAVIORAL SCIENCES** 6 CREDITS

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>IW</sup>	Principles of Archaeology (3)
ANT 285 <sup>IW</sup>	Prehistoric Cultures of North America (3)
ANT 286 <sup>IW</sup>	Historic Indian Tribes of North America (3)
ANT 288 <sup>IW</sup>	Native Peoples of the Southwest (3)
ASL 200	Introduction to the Deaf Community (3)
BIO 250 <sup>IW</sup>	Biomedical Ethics (3)
COM 204 <sup>IW</sup>	Elements of Intercultural Communications (3)
ECN 201 <sup>IW</sup>	Principles of Macroeconomics (3)
ECN 202 <sup>IW</sup>	Principles of Microeconomics (3)
EDU 230	Classroom Relationships (3)
GEO 102	Introduction to Human Geography (3)

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**INFORMATION/COMPUTER LITERACY** 3 CREDITS

CIS 116	Computer Essentials (3)
CIS 120	Introduction to Information Systems (3)

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**OPTIONS (GENERAL EDUCATION ELECTIVES)**

AGEC-A or AGEC-B	1-3 credits
General Education Electives must be chosen from the general education listings above.	
AGEC-S	6-8 credits
Based on major, use a transfer guide to select math above calculus and/or lab science courses	

## COCHISE COLLEGE GENERAL EDUCATION COURSES

## AGS Degrees

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

COMPOSITION 6 CREDITS

ENG 101	Composition (3) - Required
ENG 102	English Composition (3)
ENG 109	Written Communications and Reports (3)
ENG 167	Business Communications (3)
ENG/CIS 279	Advanced Applied Technical Writing (3)

MATHEMATICS 3-5 CREDITS

MAT 122	Intermediate Algebra (3)
MAT 142	Survey of College Mathematics (3)
MAT 151	College Algebra (4)
MAT 187	Precalculus (5)

LABORATORY SCIENCE 4 CREDITS

AST 180	Introduction to Astronomy (3)
BIO 101	General Biology (for non majors) (4)
BIO 105	Environmental Biology (4)
BIO 160	Introduction to Human Anatomy and Physiology (4)
BIO 181	General Biology I (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 100	Preparation for Chemistry (4)
CHM 130	Fundamental Chemistry (4)
CHM 140	Fundamental Organic and Biochemistry (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)

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)
ENG 119 <sup>IW</sup>	Creative Writing (3)
ENG 219 <sup>IW</sup>	Advanced Creative Writing (3)
HUM 205 <sup>IW</sup>	Major Ancient Cultures (3)
HUM 206 <sup>IW</sup>	European Cultures (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 (3)
MUS 133	Music Theory (3)
MUS 201	Ensemble (1)
MUS 260	Music Fundamentals Through Experience (3)
THE 101	Acting I (3)

THE 201	Acting II (3)
THE 203	Theatre Makeup (3)
THE 213	Stagecraft (3)
THE 220	Dramatic Structure (3)

<b>HUMANITIES</b>		<b>3 CREDITS</b>
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	Biomedical Ethics (3)	
COM 102	Essentials of Communications (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	
HUM 101	Humanities in Contemporary Life (3)	
HUM 110	Introduction to Film and Video (3)	
HUM 115	Cultural Heritage of the Southwest (3)	
HUM 205 <sup>W</sup>	Major Ancient Cultures (3)	
HUM 206 <sup>W</sup>	European Cultures (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)	
JRN 103 <sup>W</sup>	Advanced News Writing (3)	

MUS 101	Introduction to Music (3)
MUS 102	Introduction to Music (3)
MUS 132	Music Theory (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)

<b>SOCIAL AND BEHAVIORAL SCIENCES</b>		<b>6 CREDITS</b>
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 140 <sup>W</sup>	Survey of Western Civilization I (3)	
HIS 141 <sup>W</sup>	Survey of Western Civilization II (3)	
HIS 142 <sup>W</sup>	Survey of Western Civilization III (3)	
HIS 229 <sup>W</sup>	History of Mexico I (3)	
HIS 230 <sup>W</sup>	History of Mexico II (3)	
HON 270 <sup>W</sup>	Honors History and Literature (3)	
POS 110	American National Government (3)	
POS 220 <sup>W</sup>	Federal and Arizona Constitution (3)	
POS 230 <sup>W</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)

MATHMATICS/ LABORATORY SCIENCE		3-4 CREDITS
BUS 104.....	Business Math (3)	
MAT 122 .....	Intermediate Algebra (3)	
MAT 142.....	Survey of College Mathematics (3)	
MAT 151.....	College Algebra (4)	
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)	
For Nursing and Health Technology programs only		
CHM 130 .....	Fundamental Chemistry (4)	
CHM 151.....	General Chemistry I (4)	

INFORMATION LITERACY	3 CREDITS
CIS 116.....	Computer Essentials (3)
CIS 120.....	Introduction to Information Systems (3)

## COCHISE COLLEGE GENERAL EDUCATION COURSES

### AAS Degrees

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

COMMUNICATION	6 CREDITS
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)
ENG/BUS 167.....	Business Communications (3)
ENG/CIS 179 .....	Applied Technical Writing (3)
ENG/CIS 279.....	Advanced Applied Technical Writing (3)
JRN 201 .....	Essentials of Newspaper Publishing (3)

IO Degrees only

ENG 109 .....	Written Communications and Reports (3)
ENG 206 .....	Critical Writing (3)

LIBERAL ARTS		3 CREDITS
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>IW</sup> .....	Principles of Archaeology (3)	
ANT 285 <sup>IW</sup> .....	Prehistoric Cultures of North America (3)	
ANT 286 <sup>IW</sup> .....	Historic Indian Tribes of North America (3)	
ANT 288 <sup>IW</sup> .....	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)	MUS 101.....	Introduction to Music (3)
ASL 200.....	Introduction to the Deaf Community (3)	MUS 102.....	Introduction to Music (3)
COM 102 .....	Essentials of Communications (3)	MUS 109.....	Orchestra (1)
ECN 201 <sup>IW</sup> .....	Principles of Macroeconomics (3)	MUS 110 .....	Chorus (1)
ECN 202 <sup>IW</sup> .....	Principles of Microeconomics (3)	MUS 111 .....	Band (1)
ENG 119 <sup>IW</sup> .....	Creative Writing (3)	MUS 123 .....	American Popular Music (3)
ENG 209 <sup>IW</sup> .....	Introduction to Poetry (3)	MUS 132 .....	Music Theory (3)
ENG 210.....	The Bible as Literature (3)	MUS 133 .....	Music Theory (3)
ENG 212 <sup>IW</sup> .....	Children's Literature (3)	MUS 201.....	Ensemble (1)
ENG 219 <sup>IW</sup> .....	Advanced Creative Writing (3)	MUS 260 .....	Music Fundamentals Through Experience (3)
ENG 220 <sup>IW</sup> .....	British Literature I (3)	PHI 111 <sup>IW</sup> .....	Introduction to Philosophy (3)
ENG 221 <sup>IW</sup> .....	British Literature II (3)	PHI 113.....	Introduction to Logic and Language (3)
ENG 222 <sup>IW</sup> .....	Introduction to Shakespeare (3)	PHI 130 <sup>IW</sup> .....	Ethics (3)
ENG 224 <sup>IW</sup> .....	American Literature I (3)	PHI 201 <sup>IW</sup> .....	Philosophies of the East (3)
ENG 225 <sup>IW</sup> .....	American Literature II (3)	POS 110 .....	American National Government (3)
ENG 226 <sup>IW</sup> .....	World Literature I (3)	POS 220 <sup>IW</sup> .....	Federal and Arizona Constitution (3)
ENG 227 <sup>IW</sup> .....	World Literature II (3)	POS 230 <sup>IW</sup> .....	World Politics (3)
ENG 228 <sup>IW</sup> .....	Mythology and Folklore (3)	POS 240.....	Comparative Politics (3)
ENG 230 <sup>IW</sup> .....	Literature of the Southwest (3)	PSY 101 .....	Introduction to Psychology (3)
ENG 231 <sup>IW</sup> .....	Native American Literature (3)	PSY 103.....	Personality and Adjustment (3)
ENG 255 <sup>IW</sup> .....	Introduction to the English Language (3)	PSY 210.....	Social Psychology (3)
ENG 260 <sup>IW</sup> .....	Irish Literature (3)	PSY 230 <sup>IW</sup> .....	Personality Theories and Research (3)
ENG 265 <sup>IW</sup> .....	Major American Writers (3)	PSY 240 <sup>IW</sup> .....	Developmental Psychology (3)
ENG 273 <sup>IW</sup> .....	Women and Literature (3)	PSY 250 <sup>IW</sup> .....	Introduction to Psychological Research, Measurements and Statistics (3)
GEO 102.....	Introduction to Human Geography (3)	PSY 290 <sup>IW</sup> .....	Experimental Psychology (4)
GEO 104 .....	Political Geography (3)	SOC 101 .....	Introduction to Sociology (3)
GEO 121.....	World Regional Geography (3)	SOC 160 <sup>IW</sup> .....	Ethnic Groups and Minorities (3)
HIS 110.....	History of the United States 1607 – 1877 (3)	SOC 202 <sup>IW</sup> .....	Social Problems (3)
HIS 111.....	History of the United States Since 1877 (3)	SOC 210 <sup>IW</sup> .....	Marriage and the Family (3)
HIS 140 <sup>IW</sup> .....	Survey of Western Civilization I (3)	SOC 212 <sup>IW</sup> .....	Women and Men in a Changing Society (3)
HIS 141 <sup>IW</sup> .....	Survey of Western Civilization II (3)	SOC 230 .....	Human Sexuality and Gender Awareness (3)
HIS 142 <sup>IW</sup> .....	Survey of Western Civilization III (3)	SPA 221.....	Introduction to Spanish Literature II (3)
HIS 229 <sup>IW</sup> .....	History of Mexico I (3)	SPA 224.....	Introduction to Mexican Literature I (3)
HIS 230 <sup>IW</sup> .....	History of Mexico II (3)	SPA 225 .....	Introduction to Mexican Literature II (3)
HUM 101.....	Humanities in Contemporary Life (3)	SSV 273.....	Determinants of Human Behavior (3)
HUM 110 .....	Introduction to Film and Video (3)	THE 103.....	Introduction to Theatre (3)
HUM 115 .....	Cultural Heritage of the Southwest (3)	THE 201.....	Acting II (3)
HUM 205 <sup>IW</sup> .....	Major Ancient Cultures (3)	THE 203.....	Theatre Makeup (3)
HUM 206 <sup>IW</sup> .....	European Cultures (3)	THE 213.....	Stagecraft (3)
HUM 207 <sup>IW</sup> .....	The Modern World (3)	THE 220 .....	Dramatic Structure (3)
HUM 210.....	Foreign Film Classics (3)		
JRN 101 .....	Introduction to Mass Communications (3)		
JRN 201 .....	Essentials of Newspaper Publishing (3)		

INFORMATION LITERACY	3 CREDITS
CIS 116.....	Computer Essentials (3)
CIS 120.....	Introduction to Information Systems (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 science.” 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 website at [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

The AA, AAEE, AS and ABUS degrees are designed for transfer to all Arizona public universities as a block of 64 credits 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 will transfer with junior standing without loss of credit and complete 56 credits for a total of 120 credit. Please consult with an advisor in the Student Development Center to make sure your chosen university offers a degree in your area of study.

- If you are transferring from other universities or an out-of-state university, your transfer credits will be evaluated on a course-by-course basis.
- 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 arts 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 your chosen university offers a degree in your area of study.

Administration of Justice .....	Major Code - AJS
Anthropology .....	Major Code - ANT
Art - Fine Art .....	Major Code - ARTF
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 - HPE
Family Studies and Human Development.....	Major Code - FSHD
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 101,102 ..... 6
Mathematics .....	MAT 142 or higher ..... 3-5
Laboratory science.....	8
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Information literacy .....	CIS 116 or 120 ..... 3
General education elective(s) .....	1-3

- Six credits of arts, humanities, social and behavioral sciences and

general education electives must be chosen from the intensive writing and critical inquiry course list.	
• General education electives must be chosen from the general education course list or HPE 179.	
<b>LANGUAGE REQUIREMENT</b> ..... 0-16 CREDITS	
• Check university language requirements for your major.	
<b>COMMON CORE OR ELECTIVE COURSES</b> ..... 13 CREDITS	
• Elective courses must be transferable to all Arizona public universities.	
<b>TOTAL DEGREE REQUIREMENTS</b> ..... 64 CREDITS	
<b>GRADUATION REQUIREMENTS:</b>	
• All courses must be completed with a grade of C or better.	
• A course may be used to fulfill both a general education requirement and an elective in the associate's degree. Total credits toward a degree are not waived.	
• You 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 ethnic/race/gender awareness and contemporary global/international or historical 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 complete degree programs. 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

<b>ARIZONA GENERAL EDUCATION, AGEC-A</b>	<b>35 CREDITS</b>
English Composition ..... ENG 101 & 102 ..... 6	
Mathematics ..... MAT 142 or higher ..... 3-5	
Laboratory science* ..... 8	
Arts* ..... 3	
Humanities ..... 3	

Social and behavioral sciences* ..... 6	
Information Literacy ..... CIS 116 or 120 ..... 3	
General education elective ..... 1-3	
• Six credits of arts, humanities, social and behavioral sciences and general education electives must be chosen from the intensive writing and critical inquiry course list. POS 220 is recommended to fulfill three of the 6 credits.	
• Elective courses must be chosen from the general education course list or HPE 179.	
<b>LANGUAGE REQUIREMENT*</b> ..... 0-16 CREDITS	
<b>CORE REQUIREMENTS:</b> ..... 25 CREDITS	
Math for Elementary Education ..... MAT 125 & 126 ..... 6	
Introduction to Education ..... EDU 201 ..... 3	
Introduction to Special Education ..... EDU 222 ..... 3	
Multicultural Awareness ..... EDU 226 ..... 3	
Education elective ..... 3	
Electives in content areas relevant to K-12 ..... 7	
<b>ELECTIVES AS NEEDED TO COMPLETE DEGREE</b> ..... 0-4 CREDITS	
<b>TOTAL DEGREE CREDITS</b> ..... 64 CREDITS	

\* Notes:

1. Laboratory science—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 science—UA 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.
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 requires fourth-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 better.
- A course may be used to fulfill both a general education requirement and an elective in the associate's degree. Total credits toward a degree are not waived.
- 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 ethnic/race/gender awareness and contemporary global/international or historical 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

<b>GENERAL EDUCATION REQUIREMENTS, AGEC-B</b>		<b>35 CREDITS</b>
Composition .....	ENG 101, 102 .....	6
Mathematics .....	MAT 212 OR MAT 220 .....	3-5
Laboratory Science .....		8
Arts .....		3
Humanities .....		3
Social and behavioral sciences .....		6
Information literacy .....	CIS 116 or 120 .....	3
General education elective(s) .....		1-3

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

COMMON COURSES ..... 29 CREDITS

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

### GRADUATION REQUIREMENTS:

- All courses must be completed with a grade of C or better.
- 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 ethnic/race/gender awareness, and contemporary global/international or historical awareness embedded in the coursework.

## ASSOCIATE OF SCIENCE DEGREE

The AS degree is designed to satisfy transfer requirements for 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 your chosen university 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
General Requirements .....	Major Code - GENG
Physics, Atmospheric Sciences, and Astronomy .....	Major Code - PAS
Secondary Education	
Biology Teaching .....	Major Code - SEBT
Chemistry Teaching .....	Major Code - SECT

<b>GENERAL EDUCATION REQUIREMENTS, AGEC-S</b>		<b>35-40 CREDITS</b>
Composition .....	ENG 101, 102 .....	6
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory science .....	BIO 181/182 or CHM 151/152 or PHY 230/231 .....	8

Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Information literacy .....	CIS 116 or 120 .....
General education elective(s) .....	6-8

- Six credits of arts, humanities, social and behavioral sciences and general education electives must be chosen from the intensive writing and critical inquiry course list.
- Based on major, use a transfer guide to select math above calculus and/or lab science courses.

COMMON COURSES AND ELECTIVES ..... 24-29 CREDITS

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

## GRADUATION REQUIREMENTS:

- All courses must be completed with a C or better.
- A course may be used to fulfill both a general education requirement and an elective in the associate's degree. Total credits toward a degree are not waived.
- 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 ethnic/race/gender awareness, and contemporary global/international or historical 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 Requirements.....	Major Code - AGS
Intelligence Operations.....	Major Code - IO
Manufacturing Engineering .....	Major Code - MEG
Pre Nursing .....	Major Code - AGS/ZPRN
Professional Pilot Technology.....	Major Code - PFT

GENERAL EDUCATION REQUIREMENTS	35 CREDITS
Composition .....	ENG 101 and one of the following: ENG 102, 109,167 or ENG/CIS 279 .....
Mathematics .....	MAT 122 or higher .....
Laboratory science .....	4
Arts .....	3
Humanities .....	3
Social and behavioral sciences .....	6
Information literacy .....	CIS 116 or 120 .....
Foreign language (100 or above) or Communications (101 or above) .....	3-4
General education elective(s) .....	3-4
• Six credits of arts, humanities, social and behavioral sciences and general education electives must be chosen from the intensive writing and critical inquiry 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 better.	
• A course may be used to fulfill both a general education requirement and an elective in the associate's degree. Total credits toward a degree are not waived.	
• A minimum of 16 credits must be completed at Cochise College.	
• Courses in the arts, humanities, and social and behavioral sciences have content addressing ethnic/race/gender awareness, and contemporary global/international or historical 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 year. See an aca-

demic 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
Aviation Maintenance Technology .....	Major Code - AVM
Avionics Technology .....	Major Code - AVT
Building Construction Technologies .....	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
Hospitality Administration .....	Major Code - HAD
Human Services .....	Major Code - HS
Information Security .....	Major Code - IS
Intelligence Operations .....	Major Code - IO
Interpretation and Translation - English <> Spanish	Major Code - ITRA
Interpreter Training .....	Major Code - INTP
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 - PFT
Registered Nurse .....	Major Code - AND
Welding Technology .....	Major Code - WLD

<u>GENERAL EDUCATION REQUIREMENTS</u>	<u>18-19 CREDITS</u>
Communications .....	6
Mathematics/lab science*	3-4
Liberal arts .....	6
Information literacy .....	3
<b>CORE CURRICULUM (SEE “AREAS OF STUDY”)</b> .....	<b>26-43 CREDITS</b>
<b>ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)</b>	
<b>TOTAL DEGREE REQUIREMENTS</b> .....	<b>64 CREDITS</b>

- \* CHM 130 will satisfy the mathematics/laboratory sciences for nursing and health technology programs only.

#### GRADUATION REQUIREMENTS:

- The AAS degree requires a cumulative GPA of 2.0 or higher.
- Courses used to fulfill the associate of applied science general education must be chosen from the AAS general education course list.
- Nine credits of English and mathematics are required with a minimum of three credits in each area. Chemistry 130 and/or Physics 111 or higher may substitute for mathematics.
- You must demonstrate a 12.0 grade reading level equivalency.
- A minimum of 16 credits must be completed at Cochise College.
- English and mathematics courses used to meet general education requirements must have a grade of C or better.

#### 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
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
Airframe Mechanic .....	56 credits .. Major Code - AMC
Automotive Technology .....	21 credits .. Major Code - ATC
Avionics Technology .....	66 credits .. Major Code - AVT
Carpentry Technology .....	18 credits .. Major Code - CTC
Chef - Garde-Manger .....	16 credits .. Major Code - CGM
Chef - Patissier-Bakers .....	16 credits .. Major Code - BKR
Chef - Sous Chef .....	37 credits .. Major Code - SCC
Chef de Cuisine-Food Preparation .....	16 credits .. Major Code - CDC
Cisco Networking .....	16 credits .. Major Code - CNT
Community Health Worker .....	16 credits .. Major Code - CHW
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 .....	19-21 credits .. Major Code - BECE

Emergency Medical Technology  
(Prep for External Certification) ..... 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

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

Honors ..... 16 credits. Major Code - HONR

Hospitality Administration..... 28-33 credits .. Major Code - HAD

Information Security..... 33 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

Licensed Practical Nurse (Prep for  
External Certification) ..... 36 credits ... Major Code - LPN

Management..... 21 credits.. Major Code - MGM

Manufacturing Technology ..... 18 credits... Major Code - MFT

Medical Assistant ..... 30 credits. Major Code - MEDA

Medical Transcription ..... 24 credits... Major Code - MET

Microcomputer Practitioner ..... 18-26 credits ... Major Code - MIC

Microcomputer Skills Proficiency..... 27 credits .. Major Code - MSP

Network Administrator ..... 30-31 credits .. Major Code - NAD

Network Support ..... 32 credits... Major Code - NTS

Nursing Assistant (Prep for External  
Certification) ..... 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

Powerplant Mechanic..... 34 credits .. Major Code - PPM

Professional Pilot Advanced..... 23 credits ... Major Code - PFT

Professional Pilot Basic..... 41 credits ... Major Code - PFT

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

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

Teleservices ..... 15 credits .. Major Code - TELE

UNIX System Administrator ..... 15 credits... Major Code - USA

Web Developer..... 20 credits . Major Code - WEBD

Welding Technology..... 30 credits .. Major Code - WLD

Workplace English ..... 22 credits... Major Code - WPE

Workplace Spanish ..... 26 credits... Major Code - WPS

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

Advanced Custodial Services..... 16 credits ... Major Code - ACS

Advanced Electronics ..... 47 credits ... Major Code - AEC

Air Conditioning Maintenance  
Technician ..... 16 credits .. Major Code - ACM

Basic Custodial Services ..... 18 credits ... Major Code - BCS

Basic Facility Maintenance Technician . 18 credits... Major Code - BFM

Fire Leadership ..... 18 credits.. Major Code - FLDR

General Electronics Technician ..... 24 credits ... Major Code - ETC

Lead Firefighter..... 18 credits .. Major Code - LDFF

Masonry..... 21 credits .. Major Code - MSN

Telecommunications Cable Installer... 23 credits .... Major Code - TCI

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





# Areas of Study

## Administration of Justice

The Associate of Arts in Administration of Justice is designed for students who are planning to transfer to a college or university. This program will prepare them to further their education in criminal justice. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

The Associate of Applied Science in Administration of Justice degree has been designed to prepare students to enter the work force as law enforcement officers. This program will give students all the education and skills necessary to become peace officers.

### ADMINISTRATION OF JUSTICE

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

#### **Emphasis in Administration of Justice**

##### 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
Information literacy.....	CIS 116 or CIS 120 .....	3

##### GENERAL EDUCATION ELECTIVES\*.....1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses; see [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

##### LANGUAGE REQUIREMENT\*\* .....

Non-English language

Second- or fourth-semester proficiency

##### COMMON COURSES .....

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

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

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

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see <http://az.transfer.org/cas>.

## ADMINISTRATION OF JUSTICE

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

##### GENERAL EDUCATION REQUIREMENTS .....

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	OR
Mathematics.....	MAT 122 .....	3
Social Sciences, Arts, Humanities*	.....	6
Information literacy .....	CIS 116 or 120 .....	3
Physical Education.....	.....	2

##### CORE CURRICULUM .....

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
Criminal Investigations.....	AJS 275 .....	3
Essentials of Communication .....	COM 102 .....	3

##### AJS DEPARTMENT APPROVED ELECTIVES\* .....

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

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

\* From list of AGEC General Education Courses. SOC 101, 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, COTA etc. can be used to fulfill all or part of the core curriculum and AJS electives unit requirement. Electives may include, but are not limited to AJS 204, AJS 225, AJS 254; non-English language; and laboratory science (BIO 101, BIO 105 and/or CHM 130, CHM 151, CHM 152 preferred)

Students pursuing a BAS degree in Administration of Justice 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.

## 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. A large portion of the required coursework may transfer to some universities as a BAS or BS requirement. 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
Information Literacy.....	CIS 116 ..... 3
Biology .....	BIO 101 ..... 4
Chemistry.....	CHM 100 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 Data Processing .....	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
TOTAL CERTIFICATE REQUIREMENTS.....	27 CREDITS



## Allied Health

The Associate of Science (SR) in Allied Health is designed for students interested in pursuing clinical lab science, dental hygiene, health science-medical technology degrees at a public university. Students should seek assistance in planning their educational future with the Student Development Center.

### ALLIED HEALTH

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

##### Emphasis in Allied Health

GENERAL EDUCATION REQUIREMENTS (AGEC-S).....	35 CREDITS
Composition .....	ENG 101 .....3
English Composition .....	ENG 102 .....3
Mathematics .....	MAT 220 or higher .....3-5
Laboratory sciences.....	PHY 230/231.....OR CHM 151/152 .....8
Arts .....	3
Humanities.....	3
Social and behavioral sciences .....	6
Information literacy.....	CIS 116 or CIS 120 .....3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses. <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
CORE CURRICULUM.....	29 CREDITS
Microbiology .....	BIO 205 .....4
General Chemistry I.....	CHM 151 .....4
Electives** .....	21
Students are advised to take chemistry and biology for transfer to universities.	
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>

\* Elective courses must be transferable to all Arizona public universities.

\*\* Students should consult their appropriate university for transfer 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)

##### Emphasis in Anthropology

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
Information literacy.....	CIS 116 or CIS 120 .....3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses. <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	

LANGUAGE REQUIREMENT\*\* .....

Non-English language

Second- or fourth-semester proficiency

COMMON COURSES..... 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 .....**

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see <http://az.transfer.org/cas>. The Anthropology Department recommends the following electives: ANT 110, ANT 111, ANT 138, ANT 140, ANT 235, ANT 285, ANT 287, ANT 288, 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's or baccalaureate degrees, and (3) to successfully transfer credit to four-year institutions.

Cochise College offers two primary pathways for the transfer student pursuing a degree in art, the Associate of Arts, General Requirements (AA-GR) and the Associate of Arts, Special Requirements (AA-SR). 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)**

##### **Emphasis in Fine Arts**

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.	
<a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	

COMMON COURSES .....	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
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\* General education electives must be chosen from the general education list.  
[http://www.cochise.edu/programsofstudy/curriculum/currprocess/curr\\_gened/index.asp](http://www.cochise.edu/programsofstudy/curriculum/currprocess/curr_gened/index.asp)

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see <http://aztransfer.org/cas>. 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
2D Computerized Digital Imaging.....	DMA 110 ..... 3
2D Computer Animation.....	DMA 111 ..... 3
Advanced 2D Computerized Digital Imaging .....	DMA 210 ..... 3
Advanced 2D Computer Animation with Action Scripting .....	DMA 211 ..... 3
Creating Multimedia Presentations.....	DMA 214 ..... 4

TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS
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## 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
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## Automotive Technology

The Automotive Technology Associate of Applied Science Degree will provide students with a working knowledge of the skills required for employment as an automotive technician. This program is a benefit to both the traditional student seeking an employable skill and the experienced automotive technician looking to upgrade skills and obtain industry certification. Students successfully completing the Automotive Technology AAS Degree Program will have obtained the skills

and knowledge necessary for all eight segments of the ASE Technician Certification.

The Automotive Technology Certificate program is designed to provide students with a solid core of skills for employment in the automotive technology industry and to prepare the student to take the applicable 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
Information Literacy .....	CIS 116 or CIS 120 .....3
CORE CURRICULUM REQUIRED COURSES .....	36 CREDITS
Intro 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 & Steering Systems....	AUT 105 .....3
Automotive Manual Drive Systems.....	AUT 106 .....3
Automotive Electrical Systems.....	AUT 201 .....3
Advanced Automotive Shop.....	AUT 203 .....3
Automotive Transmission/Transaxle Diagnostics..	AUT 204 .....3
Automotive Heating, Ventilation, Air Conditioning.	AUT 205 .....3
Field Experience in Automotive Technology....	AUT 224 .....3
Principles of Management .....	BUS 143 .....3
ELECTIVES- RECOMMENDED COURSES AS NEEDED	
TO COMPLETE 64 CREDITS .....	9-10 CREDITS
Machine Technology .....	GTC 140 .....3
Manufacturing Processes .....	GTC 231 .....4
Basic Automotive Body Repair.....	AUT 110 .....3
Oxyacetylene Welding .....	WLD 105 .....3
Arc Welding .....	WLD 106 .....3
Gas Metal Arc Welding.....	WLD 208 .....3
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## AUTOMOTIVE TECHNOLOGY

### Certificate (Major Code - ATC)

CORE CURRICULUM.....	21 CREDITS
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 Electrical Systems and Equipment..	AUT 201 .....3
Automotive Shop Service Techniques .....	AUT 202 .....3
Advanced Automotive Shop.....	AUT 203 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	21 CREDITS

## Aviation

The Aviation Program at Cochise College offers Associate of Applied Science degrees in Aviation Maintenance Technology (airframe and powerplant mechanic), Professional Pilot Technology, and Avionics Technology (aircraft electronics). Certificate programs are also available in all three disciplines. The Associate of General Studies degree is offered in Professional Pilot Technology. These are direct employment programs, designed to prepare students for direct employment careers in the aviation industry, and the degree programs further provide the general education necessary to develop the knowledge, skills, and attitudes essential to lifelong learning and personal growth.

The aviation industry is growing at a rapid rate, offering Cochise College students excellent placement opportunities and the potential for advancement in all three program areas.

## AVIATION MAINTENANCE TECHNOLOGY

The Aviation Maintenance Technology program of Cochise College is certified by the Federal Aviation Administration (FAA certificate D09T093R) under Part 147 of the regulations as an aviation maintenance technician school. The program is dedicated to training students in the knowledge and skills required to become competent, qualified, and productive aircraft maintenance technicians.

The program is presented in five sections lasting a total of 15 months, with each section known as a "phase." Phase 1 contains general information related to aviation maintenance. Phases 2

and 3 are information related to the airframe maintenance function, while Phases 4 and 5 deal with the maintenance of powerplants (engines). Individual certificate programs are also available for both airframe and powerplant sections of the course, as well as the complete program certificate or the degree program to meet the various needs of students. At the completion of all five phases of the program, the student will have received the FAA-required 1,936 hours of classroom and lab instruction (in 15 months) to fully qualify for testing as an airframe and powerplant mechanic.

## AVIATION MAINTENANCE TECHNOLOGY

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 122 or higher ..... 3
Arts/humanities/social and behavioral sciences .....	6
Information literacy.....	CIS 116 or CIS 120 ..... 3
CORE CURRICULUM.....	87 CREDITS
Phase 1 General .....	AMT 150 ..... 19
Phase 2 Basic Airframe .....	AMT 160 ..... 17
Phase 3 Advanced Airframe .....	AMT 260 ..... 17
Phase 4 Powerplant.....	AMT 270 ..... 17
Phase 5 Advanced Powerplant .....	AMT 275 ..... 17
TOTAL DEGREE REQUIREMENTS .....	105 CREDITS

Acceptance into the Aviation Maintenance Technology program requires an interview plus completion of admission requirements and departmental acceptance. Admission to Cochise College does not guarantee acceptance into the Aviation Maintenance Technology program.

## AIRFRAME MECHANIC

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

CORE CURRICULUM.....	56 CREDITS
Composition .....	ENG 101 or higher.....OR
Mathematics .....	MAT 122 or higher ..... 3
Phase 1 General .....	AMT 150 ..... 19
Phase 2 Basic Airframe .....	AMT 160 ..... 17
Phase 3 Advanced Airframe .....	AMT 260 ..... 17
TOTAL CERTIFICATE REQUIREMENTS .....	56 CREDITS

## POWERPLANT MECHANIC

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

#### PROGRAM PREREQUISITE:

English or Math .....	101 level or higher .....	3
Phase 1 General .....	AMT 150 .....	19

#### CORE CURRICULUM..... 34 CREDITS

Phase 4 Powerplant.....	AMT 270 .....	17
Phase 5 Advanced Powerplant .....	AMT 275 .....	17

#### TOTAL CERTIFICATE REQUIREMENTS..... 56 CREDITS

## AVIONICS TECHNOLOGY

The Avionics Technology program at Cochise College prepares the student for the federal Communications Commission certification as an avionics technician. The program is dedicated to fully training students to meet the rapidly changing aircraft electronics environment required to become a competent, qualified, and productive avionics technician.

The program is divided into four sections lasting a total of 12 months, with each section known as a "Phase". Phase 1 deal with basic electronics and avionics fundamentals. Phase 2 deals with extensively with electronic devices and digital circuitry. Phase 3 deals with digital/pulse circuits along with communications. Phase 4 deals with autopilots, radar and pulse systems, navigation/communication systems and the FCC and FAA rules and regulations. A certificate program is offered as well as a degree program to meet the various needs of students. At the completion of all four phases, the student is eligible to take the FCC GROB certification test as well as other professional certifications.

Acceptance into the Avionics Technology program requires an interview plus completion of admission requirements and departmental acceptance. Admission to Cochise College does not guarantee acceptance into the Avionics program.

## AVIONICS TECHNOLOGY

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 122 or higher ..... 3
Arts/humanities/social and behavioral sciences .....	6

Information literacy.....	CIS 116 or CIS 120 .....	3
<b>CORE CURRICULUM.....</b>	<b>66 CREDITS</b>	
Math for Basic Electronics.....	AVT 101 .....	3
Introduction to Electronics.....	AVT 104 .....	7
Avionics Fundamentals to include UAVs .....	AVT 107 .....	5
Electronic Devices and Circuits I.....	AVT 112 .....	8
Digital & Microprocessor Fundamentals .....	AVT 115 .....	7
Pulse and Digital Circuits.....	AVT 218 .....	8
Electronic Communications to include UAVs.....	AVT 202 .....	8
Electronic Devices and Circuits II .....	AVT 205 .....	4
FCC/FAA Regulations .....	AVT 208 .....	4
Navigation Systems to include UAVs.....	AVT 220 .....	4
Flight Management/Control Systems to include UAVs.....	AVT 224 .....	4
Aircraft Radar and Pulse Systems.....	AVT 228 .....	4
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>84 CREDITS</b>	

## AVIONICS TECHNOLOGY

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

<b>JULY THROUGH SEPTEMBER (PHASE I) .....</b>	<b>15 CREDITS</b>	
Math for Basic Electronics.....	AVT 101 .....	3
Introduction to Electronics.....	AVT 104 .....	7
Avionics Fundamentals to include UAVs .....	AVT 107 .....	5
<b>SEPTEMBER THROUGH DECEMBER (PHASE II) .....</b>	<b>19 CREDITS</b>	
Electronic Devices and Circuits I.....	AVT 112 .....	8
Digital and Microprocessor Fundamentals.....	AVT 115 .....	7
Electronic Devices and Circuits II .....	AVT 205 .....	4
<b>JANUARY THROUGH MARCH (PHASE III) .....</b>	<b>16 CREDITS</b>	
Pulse and Digital Circuits.....	AVT 218 .....	8
Electronic Communications to include UAVs.....	AVT 202 .....	8
<b>MARCH THROUGH JUNE (PHASE 4).....</b>	<b>16 CREDITS</b>	
FCC/FAA Regulations .....	AVT 208 .....	4
Navigation Systems to include UAVs.....	AVT 220 .....	4
Flight Management/Control Systems to include UAVs	AVT 224 .....	4
Aircraft Radar and Pulse Systems to include UAVs	AVT 228 .....	4
<b>TOTAL CERTIFICATE REQUIREMENTS .....</b>	<b>66 CREDITS</b>	

## 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's degree. Two certificate programs, 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-Multi-engine, Instrument, and the Airline Transport Pilot Certificate are also available through the program.

## PROFESSIONAL PILOT TECHNOLOGY

### **Associate of General Studies (Major Code - PFT)**

<b>GENERAL EDUCATION REQUIREMENTS .....</b>	<b>35 CREDITS</b>	
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 122 or higher .....	3-5
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Laboratory sciences .....		4
Information literacy.....	CIS 116 or CIS 120 .....	3
Foreign language (100 or higher) or communications .....	3-4	
General Education Electives** .....		3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses. <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		
<b>CORE CURRICULUM.....</b>	<b>28 CREDITS</b>	
Private Pilot Ground School .....	PFT 101 .....	5

Private Pilot Preparation .....	PFT 110 .....	6
Commercial Flight I .....	PFT 121 .....	3
Commercial Pilot Ground School .....	PFT 130 .....	5
Commercial Flight II.....	PFT 131 .....	3
Instrument Rating .....	PFT 212 .....	5
Commercial Flight III.....	PFT 218 .....	1

**TOTAL DEGREE REQUIREMENTS .....** 67 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.

\*\* Elective courses must be transferable to all Arizona public universities.

## PROFESSIONAL PILOT TECHNOLOGY

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

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

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics.....	MAT 122 .....	3
Arts/humanities/social and behavioral sciences .....	6	
Information literacy.....	CIS 116 or CIS 120 .....	3

**CORE CURRICULUM.....** 38 CREDITS

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

Electives, see department advisor (as needed to complete 64 credits)

**MULTIENGINE OPTION:**

Multiengine Rating Ground School .....	PFT 210 .....	1
Multiengine Rating Flight .....	PFT 211 .....	1
OR		

**FLIGHT INSTRUCTOR OPTION:**

Flight Instructor Fundamentals Ground School ..	PFT 230 .....	3
Flight Instructor Airplane Ground School .....	PFT 231 .....	5
Flight Instructor Initial Flight .....	PFT 232 .....	3

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

## PROFESSIONAL PILOT TECHNOLOGY

### Basic Certificate (Major Code - PFT)

**CORE CURRICULUM.....** 41 CREDITS

ENG or MAT .....	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 - PFT)

**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.

**CORE CURRICULUM.....** 23 CREDITS

Multi-engine Class Rating Ground School.....	PFT 210 .....	1
Multi-engine Class Rating Flight.....	PFT 211 .....	1
Flight Instructor, Fundamentals of Ground School	PFT 230 .....	3
Flight Instructor, Airplane Ground School.....	PFT 231 .....	5
Flight Instructor, Initial Flight .....	PFT 232 .....	3
Flight Instructor Instrument Ground School .....	PFT 250 .....	3
Flight Instructor Instrument Flight.....	PFT 251 .....	3

**CHOOSE MULTI-ENGINE INSTRUCTOR OR AIRLINE TRANSPORT OPTION**

Flight Instructor Multi-engine Ground School....	PFT 240 .....	2
Flight Instructor Multi-engine Ground School....	PFT 241 .....	2
OR		

Airline Transport Pilot Ground School .....	PFT 260 .....	3
Airline Transport Pilot Flight Course .....	PFT 261 .....	1

**TOTAL CERTIFICATE REQUIREMENTS.....** 23 CREDITS

## Biology

The Associate of Science in Biology is designed for biology majors and many pre-professional students transferring to a four-year institution. Biology students will further specialize in the areas of interest (biology, botany, zoology, genetics, microbiology, wildlife biology, or others) upon transfer. The course requirements of many pre-professional programs (pre-agriculture, pre-dentistry, pre-medical, pre-pharmacy, pre-veterinary, and others) are included in this degree, making it the program of choice for many pre-professional students. 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)

##### Emphasis in Biology

GENERAL EDUCATION REQUIREMENTS (AGEC-S).....	35 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Mathematics .....	MAT 220 or higher .....
Laboratory sciences.....	PHY 230/231.....OR CHM 151/152 .....
Arts .....	8
Humanities.....	3
Social and behavioral sciences.....	6
Information literacy.....	CIS 116 or CIS 120 .....
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses. <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
LANGUAGE REQUIREMENT**.....	0-16
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES .....	16
General Biology I (Majors) .....	BIO 181 .....
General Biology II (Majors) .....	BIO 182 .....
General Chemistry I.....	CHM 151 .....
General Chemistry II.....	CHM 152 .....
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see <http://az.transfer.org/cas>. The department recommends students see a university transfer guide for appropriate science major courses.

## Building and Construction Technologies

The Building Construction Technology Associate of Applied Science Degree will provide 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 the Construction Technology AAS Degree Program 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. Students will demonstrate a working knowledge of troubleshooting and repair on air conditioning, refrigeration and heating systems.

The Carpentry Technology certificate program will prepare 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.

A student successfully completing the Residential Electrician Technology Certificate program will be qualified for an entry-level position as an electrician. This program will be a benefit to both the traditional student seeking a skill trade and the experienced electrician looking to upgrade 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/Lab Science .....	MAT 122 or higher ..... 3-4
Liberal Arts .....	6
Information Literacy .....	CIS 116 or CIS 120 ..... 3
CORE CURRICULUM REQUIRED COURSES .....	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
ELECTIVES - RECOMMENDED COURSES .....	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
Refrigeration I .....	BCT 122 ..... 3
Refrigeration II .....	BCT 222 ..... 3
Heating and Air Conditioning .....	BCT 223 ..... 4
Oxyacetylene Welding .....	WLD 105 ..... 3
Electrical Repair and Maintenance .....	BCT 123 ..... 3
TOTAL CERTIFICATE REQUIREMENTS .....	16 CREDITS

## CARPENTRY TECHNOLOGY

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

CORE CURRICULUM .....	18 CREDITS
Blueprint Reading and Estimating .....	BCT 123 ..... 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
<b>RESIDENTIAL ELECTRICIAN</b>	
<b>Certificate (Major Code - REC)</b>	
CORE CURRICULUM .....	18 CREDITS
Residential Electric I .....	BCT 104 ..... 3
Electrical Theory .....	BCT 105 ..... 3
National Electrical Code I .....	BCT 106 ..... 3
Residential Electric II .....	BCT 204 ..... 3
National Electrical Code II .....	BCT 206 ..... 3
Grounding and Bonding .....	BCT 220 ..... 3
TOTAL CERTIFICATE REQUIREMENTS .....	18 CREDITS

## Business

The Associate of Business degree is intended for the student interested in pursuing a program of study leading to a major in business at a four-year school. It will prepare students for majors in management, marketing, or general business at a four-year school. This is a generalist degree that will not only prepare a student to transfer to Arizona State University, University of Arizona, or Northern Arizona University as a junior in the college of business but also prepare the student for direct employment. The 21st century will be characterized by the increasing importance of business to the local, national, and international economies, and students completing this program of study will be poised to take advantage of the opportunities offered in the dynamic business environment.

The Associate of Applied Science degree in Business Management is designed for direct employment in business management and/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)

#### Emphasis in Business Administration

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

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 212 or higher .....	3
Laboratory sciences .....	8	
Arts .....	3	
Humanities.....	3	
Social and behavioral sciences.....	ECN 201 & 202 .....	6

Information literacy ..... CIS 120 ..... 3  
 General education electives\*..... 3  
 Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

CORE CURRICULUM.....	29 CREDITS	
Survey of Business.....	BUS 109 .....	3
Quantitative Methods in Business.....	BUS 172 .....	3
Business Communications.....	BUS 167 .....	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 for 64 credits).....	2	

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

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

Students transferring to University of Arizona, Arizona State University or Northern Arizona University 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.

## Business Management

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

GENERAL EDUCATION REQUIREMENTS ..... 18 CREDITS

Communications .....	BUS 167, BUS 179, CIS 279,	
ENG 101, or ENG 102.....	6	
Mathematics .....	BUS 104, MAT 212 or higher .....	3
Information literacy.....	CIS 116 or CIS 120 .....	3
Liberal arts .....	COM 102 .....	3
Social sciences.....	ECN 201 or ECN 202 .....	3

CORE REQUIREMENTS .....	34-36	
Essential Workplace Success Skills.....	BUS 160.....OR	
Customer Relations in the Workplace .....	BUS 168 .....	1-3
Computer Applications in Business .....	CIS 181.....OR	
Quantitative Methods in Business.....	BUS 172 .....	3
Survey of American Business.....	BUS 109.....OR	
International Business .....	BUS 110 .....	3

Marketing.....	BUS 145.....OR
International Marketing .....	BUS 134 .....3
Principles of Management.....	BUS 143.....OR
International Management .....	BUS 131 .....3
Leadership & Supervision.....	BUS 127.....OR
Human Resource Management .....	BUS 123 .....3
Financial Accounting .....	BUS 201.....OR
Managerial Accounting.....	BUS 202.....OR
Introduction to Accounting.....	BUS 146 .....3
Financial Planning .....	BUS 228.....OR
Business Investments.....	BUS 229.....OR
Business Statistics .....	BUS 219 .....3
The Legal Environment of Business .....	BUS 233.....OR
Business Ethics .....	BUS 150 .....3
Seminar:Trends & Practices in Business .....	BUS 245.....OR
Small Business Management –	
A Seminar Approach .....	BUS 283 .....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*.....	10-12 CREDITS
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>

\* Recommended electives: Any course with BUS/CIS/ECN prefix and/or alternate courses listed in the degree requirements but not used. Transfer AAS students should check with transfer school for transferability.

## GENERAL BUSINESS

### Certificate (Major Code - GBUS)

CORE CURRICULUM.....	18 CREDITS
Business Mathematics .....	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:	
Learning to Use the PC .....	CIS 116.....OR
Introduction to Information Systems.....	CIS 120.....OR
advisor-approved course .....	.....3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>18 CREDITS</b>

## ENTREPRENEURSHIP/SMALL BUSINESS MANAGEMENT

### Certificate (Major Code - ENTC)

CORE CURRICULUM .....	30 CREDITS
Business Mathematics .....	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
Learning to Use the Personal Computer.....	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 Mathematics .....	BUS 104 .....3
Survey of American Business.....	BUS 109 .....3
Introduction to Accounting.....	BUS 146 .....3
Business Communications .....	BUS 167 .....3
International Management .....	BUS 131.....OR
Starting a Business .....	BUS 183 .....3
Learning to Use the Personal Computer.....	CIS 116.....OR
Introduction to Information Systems.....	CIS 120.....OR
Advisor-Approved Course.....	.....3
<b>CORE CURRICULUM.....</b>	<b>12 CREDITS</b>
International Marketing .....	BUS 134 .....3
Financial Accounting .....	BUS 201 .....3
Principles of Macroeconomics .....	ECN 201 .....3
International Trade .....	ECN 221 .....3
<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 ..... 3
International Management .....	BUS 131 ..... 3
International Marketing .....	BUS 134 ..... 3
Financial Accounting .....	BUS 201 ..... 3
Electronic Commerce.....	BUS 285 ..... 3
Principles of Macroeconomics .....	ECN 201 ..... 3
International Trade .....	ECN 221 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	21 CREDITS

## RETAIL MANAGEMENT

### Certificate (Major Code - RMC)

CORE CURRICULUM.....	30 CREDITS
Business Communications .....	BUS 167 ..... 3
Business Mathematics .....	BUS 104 ..... 3
Learning to Use the Personal Computer.....	CIS 116..... OR CIS 120 ..... 3
Introduction to Information Systems.....	CIS 120 ..... 3
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
TOTAL CERTIFICATE REQUIREMENTS.....	30 CREDITS

## 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 ... PAD 101/ MGT 101 .....	2
The Manager and System RelationshipsPAD 102/ MGT 102 .....	2
The Manager and the Work Group.... PAD 103/ MGT 103 .....	2
Composition* .....	ENG 101 ..... 3
Mathematics*.....	100 level or higher ..... 3
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

TOTAL CERTIFICATE REQUIREMENTS..... 16 CREDITS

\* 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 Workforce Training and Community Education department 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 101 or PAD 101 .....	2
The Manager and System Relationships.....	MGT 102 or PAD 102 ..... 2
The Manager and the Work Group ..	MGT 103 or 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 Work.....	SOC 207 ..... 3

TOTAL CERTIFICATE REQUIREMENTS..... 21 CREDITS

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

## Chemistry

The Associate of Science in Chemistry provides curriculum mainly for (but not restricted to) the various transfer degree programs in the areas of life sciences (biology), physical sciences (astronomy, chemistry, geology, physics), and allied health (nursing, pharmacy, pre-med, pre-dental, and pre-vet). 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)**

## Emphasis in Chemistry

GENERAL EDUCATION REQUIREMENTS (AGEC-S).....		35 CREDITS
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences.....	PHY 230/231.....OR CHM 151/152 .....	8
Arts .....		3
Humanities.....		3
Social and behavioral sciences .....		6
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....		1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.		
<a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

CORE CURRICULUM .....	29 CREDITS
General Organic Chemistry I .....	CHM 235 .....
General Organic Chemistry II.....	CHM 236 .....
Laboratory sciences**.....	PHY 230/231.....OR
.....	CHM 151/152 .....
Calculus II.....	MAT 231 .....
Electives .....	9

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

- \* Elective courses must be transferable to all Arizona public universities.
- \*\* PHY 230/231 and CHM 151/152 are required; may count as AGEC or common courses. NOTE: Calculus III is recommended for university transfer not required.

## 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)**

## **Emphasis in Communications**

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
Information literacy .....	CIS 116 or CIS 120 .....	3
General education electives* .....		1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.		
<a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS  
Non-English language  
Second- or fourth-semester proficiency

COMMON COURSES.....	6 CREDITS
Essentials of Communication .....	COM 102 .....
Public Speaking .....	COM 110 .....

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

TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see University non-English language requirements vary. Check with your advisor.

**Elective courses must be transferable to all Arizona public universities, see [www.aztransfer.org/cas](http://www.aztransfer.org/cas).**

# 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 is designed to provide students with marketable skills and knowledge for use in the information security, network security, and information assurance fields. This course sequence combines theory with hands-on application.

The Associate of Applied Science degree in Network Technology is designed to provide the student knowledge and skills for immediate employment in the field of computer networking. The student chooses an area of emphasis from among available 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. To satisfy degree and certificate requirements for all CIS/CS programs, all courses require a grade of C or better.

## COMPUTER INFORMATION SYSTEMS

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

#### Emphasis in Computer Information Systems

##### 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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....		3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses. <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</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
Intro 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 <http://az.transfer.org/cas>.

## COMPUTER APPLICATIONS

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS	
Applied Technical Writing.....	ENG/BUS/CIS 179 .....	3
Adv Applied Technical Writing.....	ENG/CIS 279 .....	3
Intermediate Algebra .....	MAT 122.....OR	
Business Mathematics .....	BUS 104 .....	3
Information Literacy.....	CIS 116 .....	3
AAS humanities/social sciences/behavioral sciences .....	6	
CORE CURRICULUM .....	46 - 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
Introduction to the Internet .....	CIS 185 .....	3
WWW Programming.....	CIS 242.....OR	
World Wide Web Graphics .....	CIS 244 .....	3
Service & Maintenance of PCs .....	CIS 260 .....	4
Advanced Computer Applications .....	CIS 281 .....	3
World Wide Web Development .....	CIS 287 .....	3
Field Experience.....	CIS 294 .....	2
Essential Workplace Success Skills.....	BUS 160 .....	3
Administrative Assistant Skills III .....	BUS 216 .....	4
Administrative Assistant Skills IV .....	BUS 217 .....	4
Technical Presentations.....	CIS 268 .....	3
ADVANCED OPERATING SYSTEMS (SELECT ONE):		
UNIX Operating System .....	CIS 128.....OR	
Microsoft Workstation Operating Systems.....	CIS 236 .....	4
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS	

## COMPUTER INFORMATION SYSTEMS

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS	
Applied Technical Writing.....	ENG/BUS/CIS 179 .....	3
Mathematics .....	MAT 122 or higher .....	3
Information Literacy.....	CIS 120 .....	3
Adv Applied Technical Writing.....	ENG/CIS 279 .....	3
Humanities/social and behavioral sciences .....	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
Introduction to the Internet .....	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
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\* Please select 21 credits from the CIS departmental approved elective courses  
(Note-they can not include CORE courses from above)

### CIS DEPARTMENT APPROVED ELECTIVES

(PREREQUISITES APPLY)

UNIX 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
C Programming .....	CIS 204 .....	4
Java Programming .....	CIS 208 .....	4
Advanced Java Programming.....	CIS 209 .....	4
Introduction to Visual C#.Net Programming .....	CIS 217 .....	4
Visual Basic Programming .....	CIS 218 .....	4
Data Structures.....	CIS 220 .....	4
Digital Logic .....	CIS 221 .....	4
Advanced Visual Programming .....	CIS 223 .....	4
C++ Programming .....	CIS 227 .....	4
UNIX 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
UNIX Shell Programming .....	CIS 257 .....	4
Service and Maintenance of Personal Computers. CIS 260 .....	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 Desktop Publishing.....	CIS 285 .....	3
Advanced Desktop Publishing .....	CIS 286 .....	3
World Wide Web Development .....	CIS 287 .....	3
Practical Applications in Information Security .....	CIS 291 .....	4



## COMPUTER PROGRAMMER

### Certificate (Major Code - CPG)

CORE CURRICULUM.....	14 CREDITS	Humanities/Social Sciences/Behavioral Sciences.....	6																																																						
Customer Relations in the Workplace .....	BUS 168 .....																																																								
Information Literacy.....	CIS 120 .....																																																								
Programming Logic .....	CIS 130 .....																																																								
Digital Logic .....	CIS 221 .....																																																								
Systems Analysis .....	CIS 270 .....																																																								
PROGRAMMING (SELECT THREE):.....	12 CREDITS	CORE CURRICULUM.....	46 CREDITS																																																						
COBOL Programming.....	CIS 202 .....	Customer Relations in the Workplace .....	BUS 168 .....																																																						
FORTRAN Programming .....	CIS 203 .....	Programming Logic .....	CIS 130 .....																																																						
C Programming .....	CIS 204 .....	Introduction to Operating Systems .....	CIS 140 .....																																																						
Assembler w/Architecture .....	CIS 206 .....	Essentials of Networking .....	CIS 150 .....																																																						
Java Programming .....	CIS 208 .....	Introduction to the Internet .....	CIS 185 .....																																																						
Visual C#.NET Programming .....	CIS 217 .....	Digital Logic .....	CIS 221 .....																																																						
Visual Basic Programming .....	CIS 218 .....	Systems Analysis .....	CIS 270 .....																																																						
C++ Programming .....	CIS 227 .....	Field Experience in CIS.....	CIS 294 .....																																																						
ADVANCED PROGRAMMING (SELECT ONE):.....	4 CREDITS	College Algebra.....	MAT 151 or Higher .....																																																						
Advanced Java Programming.....	CIS 209 .....	PROGRAMMING (SELECT THREE):.....	12 CREDITS																																																						
Data Structures (in language selected above) ....	CIS 220 .....	COBOL Programming.....	CIS 202 .....																																																						
Advanced Visual Programming .....	CIS 223 .....	FORTRAN Programming .....	CIS 203 .....																																																						
TOTAL CERTIFICATE REQUIREMENTS.....	30 CREDITS			C Programming .....	CIS 204 .....			Assembler with Architecture.....	CIS 206 .....			JAVA Programming.....	CIS 208 .....			Visual C#.NET Programming .....	CIS 217 .....			Visual Basic Programming .....	CIS 218 .....			C++ Programming .....	CIS 227 .....			ADVANCED PROGRAMMING (SELECT ONE):.....	4 CREDITS			Advanced JAVA Programming .....	CIS 209 .....			Data Structures (in a language selected above)....	CIS 220 .....			Advanced Visual Basic Programming.....	CIS 223 .....			ADVANCED OPERATING SYSTEMS (SELECT ONE):.....	4 CREDITS			UNIX Operating System .....	CIS 128 .....			MS Workstation Operating Systems .....	CIS 236 .....			TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
		C Programming .....	CIS 204 .....																																																						
		Assembler with Architecture.....	CIS 206 .....																																																						
		JAVA Programming.....	CIS 208 .....																																																						
		Visual C#.NET Programming .....	CIS 217 .....																																																						
		Visual Basic Programming .....	CIS 218 .....																																																						
		C++ Programming .....	CIS 227 .....																																																						
		ADVANCED PROGRAMMING (SELECT ONE):.....	4 CREDITS																																																						
		Advanced JAVA Programming .....	CIS 209 .....																																																						
		Data Structures (in a language selected above)....	CIS 220 .....																																																						
		Advanced Visual Basic Programming.....	CIS 223 .....																																																						
		ADVANCED OPERATING SYSTEMS (SELECT ONE):.....	4 CREDITS																																																						
		UNIX Operating System .....	CIS 128 .....																																																						
		MS Workstation Operating Systems .....	CIS 236 .....																																																						
		TOTAL DEGREE REQUIREMENTS .....	64 CREDITS																																																						

## COMPUTER PROGRAMMING

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS	Applied Technical Writing.....	ENG/BUS/CIS 179 .....	3
Intermediate Algebra.....	MAT 122 or higher .....	Information Literacy .....	CIS 116 or CIS 120 .....	3
Information Literacy .....	CIS 116 or CIS 120 .....	Adv Applied Technical Writing.....	ENG/CIS 279 .....	3

## COMPUTER SCIENCE

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

#### Emphasis in Computer Science

GENERAL EDUCATION REQUIREMENTS (AGEC-S).....	35 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Mathematics .....	MAT 220 or higher .....
Physics w/Calculus I .....	PHY 230 .....
Physics w/Calculus II.....	PHY 231 .....
Arts .....	3
Humanities.....	3
Social and behavioral sciences .....	6
Information literacy.....	CIS 116 or CIS 120 .....
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.	
www.cochise.edu/programsofstudy/curriculum.	
CORE CURRICULUM.....	29-30 CREDITS
Assembler with Architecture.....	CIS 206 .....
Java Programming** .....	CIS 208 .....
Data Structures with Java.....	CIS 220J .....
Digital Logic .....	CIS 221 .....
General Chemistry I.....	CHM 151 .....
Discrete Math.....	MAT 227 .....
Calculus II.....	MAT 231 .....
Calculus III .....	MAT 241 or higher .....
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

\* Elective courses must be transferable to all Arizona public universities, see <http://az.transfer.org/cas>.

\*\* May be placed into through the CIS 130 waiver exam or passing CIS 130, Programming Logic.

## INFORMATION SECURITY

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Applied Technical Writing.....	ENG/BUS/CIS 179 .....
Advanced Applied Technical Writing.....	ENG/CIS 279 .....
Intermediate Algebra .....	MAT 122 or higher;
	MAT 142 recommended .....

Information Literacy .....	CIS 116 or CIS 120 .....
Humanities/social sciences/behavioral sciences .....	6
CORE CURRICULUM.....	46 CREDITS
Unix Operating Systems .....	CIS 128 .....
Introduction to Programming Logic.....	CIS 129 .....
Introduction to Operating Systems .....	CIS 140 .....
Essentials of Networking .....	CIS 150 .....
Introduction to Information Security.....	CIS 160 .....
Networking Security Fundamentals.....	CIS 161 .....
Microsoft Workstation Operating Systems.....	CIS 236 .....
Wireless Security .....	CIS 261 .....
Implementing Internet/Intranet Firewalls .....	CIS 265 .....
Implementing Operating Systems Security.....	CIS 266 .....
Systems Analysis .....	CIS 270 .....
Practical Applications in Information Security .....	CIS 291 .....
Departmental Electives .....	4
TOTAL DEGREE REQUIREMENTS:.....	64 CREDITS

## INFORMATION SECURITY

### Certificate (Major Code - ISC)

CORE CURRICULUM.....	33 CREDITS
UNIX Operating System .....	CIS 128 .....
Introduction to Programming Logic.....	CIS 129 .....
Introduction to Operating Systems .....	CIS 140 .....
Essentials of Networking .....	CIS 150 .....
Introduction to Information Security.....	CIS 160 .....
Networking Security Fundamentals.....	CIS 161 .....
Applied Technical Writing.....	CIS 179 .....
Microsoft Workstation Operating Systems.....	CIS 236 .....
Implementing Internet/Intranet Firewalls .....	CIS 265 .....
Implementing Operating System Security.....	CIS 266 .....
TOTAL CERTIFICATE REQUIREMENTS:.....	33 CREDITS

## 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 .....
Advanced Word Processing .....	BUS 214.....OR
Advanced Word I,Advanced Word II, BUS 293A,BUS 293B,	
Advanced Word III .....	BUS 293C .....

Technical Presentations.....	CIS 268.....	OR	Administrative Assistant Skills IV .....	BUS 217 .....	4
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 better.

CORE CURRICULUM.....	18-21 CREDITS	
Learning to Use the Personal Computer.....	CIS 116 .....	
0-3		
Introduction to Information Systems.....	CIS 120 .....	
3		
Introduction to Operating Systems.....	CIS 140 or waiver .....	
3		
Introduction to the Internet .....	CIS 185 .....	
3		
Technical Presentations.....	CIS 268 .....	
3		
Department approved electives.....	0-3	

#### COMPLETE ONE OF THE FOLLOWING OPTIONS:

Web Option.....	6 Credits
WWW Development.....	CIS 287 .....
3	
WWW 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	

## NETWORK ADMINISTRATOR

### Certificate (Major Code - NAD)

The Network Administrator certificate is designed to provide the student with the fundamentals of network administration: to include, math or technical writing, operating systems, computer applications, networking essentials and field experience.

CORE CURRICULUM.....	19 CREDITS
Math 122 or higher .....	OR
Applied Technical Writing.....	ENG/BUS/CIS 179 .....
3	
Introduction to Operating Systems .....	CIS 140 .....
3	
Essentials of Networking .....	CIS 150 .....
3	
Computer Applications.....	CIS 181* .....
3	
Service & Maintenance of PCs .....	CIS 260* .....
4	
Field Experience.....	CIS 294* .....
3	

#### THREE COURSES FROM THE SAME TRACK:..... 11-12 CREDITS

##### Track 1\*

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

##### Track 2\*

Cisco Network Academy Semester I.....	CNT 140 .....	4
Cisco Network Academy Semester II .....	CNT 150* .....	4
Cisco Network Academy Semester III.....	CNT 240* .....	4
Cisco Network Academy Semester IV .....	CNT 250* .....	4

##### Track 3\*

UNIX Operating Systems .....	CIS 128 .....	4
Perl Scripting.....	CIS 248* .....	3
Shell Programming.....	CIS 257* .....	4
UNIX System Administration.....	CIS 229* .....	4

#### TOTAL CERTIFICATE REQUIREMENTS..... 30-31 CREDITS

\* Prerequisites apply

## NETWORK TECHNOLOGY

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

The Associate of Applied Science degree in Network Technology is designed to provide the student with the knowledge and skills for immediate employment in the field of computer networking. The student chooses an area of emphasis from among network operating systems.

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

Applied Technical Writing.....	ENG/BUS/CIS 179 .....	3
Adv Applied Technical Writing.....	ENG/CIS 279 .....	3
Mathematics .....	MAT 122 or higher .....	3
Information Literacy .....	CIS 116 or CIS 120 .....	3
Humanities/social sciences/behavioral sciences .....	6	

#### CORE CURRICULUM..... 30 CREDITS

Introduction to Operating Systems .....	CIS 140 .....	3
Essentials of Networking .....	CIS 150 .....	3
Digital Communication/Network Hardware .....	CIS 232 .....	4
Service & Maintenance of PC .....	CIS 260 .....	4
Network Support & Troubleshooting.....	CIS 262 .....	4
Technical Presentations.....	CIS 268 .....	3
Field Experience in CIS.....	CIS 294 .....	3
Department approved electives (see list).....	6	

#### CHOOSE ONE EMPHASIS FROM THE FOLLOWING ..... 16 CREDITS

##### Microsoft Emphasis\*

Introduction to Programming Logic.....	CIS 129 .....	1
Microsoft Workstation Operating Systems.....	CIS 236* .....	4
Introduction to TCP/IP.....	CIS 238* .....	3
Advanced MS Server .....	CIS 240* .....	4
Introduction to MS Active Directory.....	CIS 241* .....	4

##### Cisco Emphasis\*

Cisco Network Academy Semester I.....	CNT 140 .....	4
Cisco Network Academy Semester II .....	CNT 150* .....	4
Cisco Network Academy Semester III.....	CNT 240* .....	4
Cisco Network Academy Semester IV .....	CNT 250* .....	4

##### Unix Emphasis\*

UNIX Operating System .....	CIS 128 .....	4
Introduction to Programming Logic.....	CIS 129 .....	1
Perl Scripting.....	CIS 248* .....	3
UNIX Shell Programming .....	CIS 257* .....	4
UNIX System Administration.....	CIS 229* .....	4

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

\* Prerequisites apply

## NETWORK SUPPORT

### Certificate (Major Code - NTS)

The Network Support Certificate is designed to provide the student with the fundamentals of network support, to include: operating systems, networking essentials, functions, field experience, hardware, and troubleshooting.

#### CORE CURRICULUM (\*PREREQUISITES APPLY)..... 21 CREDITS

Introduction to Operating Systems .....	CIS 140 .....	3
Essentials of Networking .....	CIS 150 .....	3
Digital Communications and Network Hardware CIS 232* .....	CIS 232* .....	4
Service & Maintenance of PCs .....	CIS 260* .....	4
Network Support and Troubleshooting .....	CIS 262* .....	4
Field Experience.....	CIS 294* .....	3

#### THREE COURSES FROM THE SAME TRACK..... 11-12 CREDITS

##### Track 1\*

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

##### Track 2\*

Cisco Network Academy Semester I.....	CNT 140 .....	4
Cisco Network Academy Semester II .....	CNT 150* .....	4
Cisco Network Academy Semester III.....	CNT 240* .....	4
Cisco Network Academy Semester IV .....	CNT 250* .....	4

##### Track 3\*

UNIX Operating Systems .....	CIS 128 .....	4
Perl Scripting.....	CIS 248* .....	3
Shell Programming.....	CIS 257* .....	4
UNIX System Administration.....	CIS 229* .....	4

#### TOTAL CERTIFICATE REQUIREMENTS..... 32 CREDITS

\* Prerequisites apply

## PC MAINTENANCE AND REPAIR

### Certificate (Major Code - PCM)

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

Introduction to Operating Systems .....	CIS 140 .....	3
Essentials of Networking .....	CIS 150 .....	3
Introduction to the Internet .....	CIS 185 .....	3
Service and Maintenance of PCs .....	CIS 260 .....	4
Field Experience.....	CIS 294 .....	3

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

## UNIX SYSTEM ADMINISTRATOR

### Certificate (Major Code - USA)

The UNIX Certificate course of study is designed to provide the student with basic UNIX operating system skills as they apply to users, shell programming and system administration. The UNIX Operations and Field Experience courses give the student opportunities to apply these skills to operational UNIX operating systems at the college or in the workplace.

CORE CURRICULUM.....	15 CREDITS
UNIX Operating System .....	CIS 128 ..... 4
Perl Scripting.....	CIS 248* ..... 3
UNIX Shell Programming .....	CIS 257* ..... 4
UNIX System Administration.....	CIS 229 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	15 CREDITS

\* Prerequisites apply

## WEB DEVELOPER

### Certificate (Major Code - WEBD)

CORE CURRICULUM.....	20 CREDITS
Operating System Foundation	
Microsoft Workstation Operating Systems.....	CIS 236..... OR
Unix 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	
Introduction to the Internet .....	CIS 185 ..... 3
WWW Programming.....	CIS 242 ..... 3
World Wide Graphics .....	CIS 244 ..... 3
World Wide Web Development .....	CIS 287 ..... 3
TOTAL CERTIFICATE REQUIREMENTS.....	20 CREDITS

## CISCO NETWORKING

### Certificate (Major Code - CNT)

The Cisco Networking Certificate is designed to provide students with classroom and laboratory experience in current and emerging Cisco networking technology. The student will learn appropriate methodologies for managing networks, with emphasis placed on clear and adequate documentation from the network.

CORE CURRICULUM.....	16 CREDITS
Cisco Networking Academy Semester I.....	CNT 140 ..... 4

Cisco Networking Academy Semester II.....	CNT 150 ..... 4
Cisco Networking Academy Semester III .....	CNT 240 ..... 4
Cisco Networking Academy Semester IV .....	CNT 250 ..... 4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## Culinary Arts

The Associate of Applied Science degree in Culinary Arts provides training in the culinary arts for direct employment in the field of professional cooking as an assistant to the chef or food and beverage director. The degree provides general education and allows elective study in general business and hotel administration.

The Chef de Cuisine Certificate trains students to start a career as a prep-cook or assistant cook. It provides grounding in the principles of professional cooking, restaurant sanitation, and food and beverage control.

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

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

The Sous Chef Certificate provides training in all areas of professional cooking, including food and beverage control, restaurant sanitation, meat cutting, gourmet preparations, baking and garde manger, as well as an introduction to restaurant operations and dining service operations. The certificate is intended to prepare the student for a management position in kitchens and restaurants as a professional chef.

## CULINARY ARTS

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Composition .....	ENG 101 .....3
English Composition .....	ENG 102 .....3
Business Math.....	BUS 104.....OR MAT 122 or higher .....3-5
Arts/humanities/social and behavioral sciences .....	3
Information literacy.....	CIS 116 or CIS 120 .....3
Foreign language (100 or higher).....	OR
General education elective(s) .....	3
CORE CURRICULUM.....	40 CREDITS
Introduction to Hospitality Industry .....	HAD 100 .....3
Nutrition in Food Service .....	CUL 105 .....3
Restaurant Sanitation.....	CUL 107 .....3
Food Service Math Principles .....	CUL 110 .....3
Food Purchasing and Control .....	CUL 204 .....3
Guest Service Management.....	CUL 210 .....3
Culinary Preparation I .....	CUL 215 .....3
Culinary Preparation II.....	CUL 216 .....4
Baking .....	CUL 220 .....3
Baking II .....	CUL 221 .....3
Garde-Manger.....	CUL 225 .....3
Garde-Manger II.....	CUL 226 .....3
Commercial Food Preparation .....	CUL 240 .....3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)	
Human Resources Management .....	BUS 123 .....3
Exploration of Modern Cooking.....	CUL 181 .....3
Financial Accounting .....	BUS 201 .....3
Field Experience in Culinary Arts.....	CUL 224 .....1-6
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

## CHEF DE CUISINE - FOOD PREPARATION

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

CORE CURRICULUM.....	16 CREDITS
Restaurant Sanitation.....	CUL 107 .....3
Food Service Math Principles .....	CUL 110 .....3
Food Purchasing & Control .....	CUL 204 .....3
Food Preparation Specialty	
Culinary Preparation I .....	CUL 215 .....3
Culinary Preparation II.....	CUL 216 .....4
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## CHEF GARDE-MANGER

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

CORE CURRICULUM.....	16 CREDITS
Cold Foods and Salad	
Restaurant Sanitation.....	CUL 107 .....3
Food Service Math Principles .....	CUL 110 .....3
Food Purchasing & Control .....	CUL 204 .....3
Garde-Manger Specialty	
Garde-Manger.....	CUL 225 .....3
Garde-Manger II.....	CUL 226 .....3
Electives (Any course with CUL prefix) .....	1+
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## CHEF PATISSIER - BAKER

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

CORE CURRICULUM.....	16 CREDITS
Food Service Math Principles .....	CUL 110 .....3
Restaurant Sanitation.....	CUL 107 .....3
Food Purchasing and Control .....	CUL 204 .....3
Baking Specialty	
Baking I.....	CUL 220 .....3
Baking II .....	CUL 221 .....2
Electives (Any course with CUL prefix) .....	2+ Credits
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## SOUS CHEF

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

CORE CURRICULUM.....	37 CREDITS
Restaurant Sanitation.....	CUL 107 .....3
Food Service Math Principles .....	CUL 110 .....3
Food Purchasing and Control .....	CUL 204 .....3
Culinary Preparation I .....	CUL 215 .....3
Culinary Preparation II.....	CUL 216 .....4
Baking .....	CUL 220 .....3
Baking II .....	CUL 221 .....3
Garde-Manger.....	CUL 225 .....3
Garde-Manger II.....	CUL 226 .....3
Food Service Management .....	CUL 240 .....3
Dining Service Management.....	CUL 242 .....3
Advanced Techniques in Gourmet	
Food Preparation.....	CUL 280 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	37 CREDITS

## 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)**

CORE CURRICULUM.....	25 CREDITS
Technical Graphics I .....	DFT 112 .....3
Technical Graphics II.....	DFT 113 .....3
Spatial Relationships.....	DFT 120 .....3
Computer-Aided Drafting I .....	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 .....	GTC 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 I .....	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. The 21st century will be characterized by increasing complexity and interdependency, and a concentration in economics will provide a sound foundation for students seeking academic advancement or employment.

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)**

#### **Emphasis in Economics**

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
Information literacy.....	CIS 116 or CIS 120 .....3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences must be intensive writing/critical inquiry courses.	
<a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- and fourth-semester proficiency	

COMMON COURSES .....	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
<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 list: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		
** 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.az.transfer.org/cas">www.az.transfer.org/cas</a> .		

## 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's 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 courses including Introduction to Education (EDU 201), Introduction to Special Education (EDU 222), Cultural Diversity in Education (EDU 226), Mathematics for Elementary Education Majors I and II (MAT 125 & 126) and courses in classroom management and teaching reading. 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 completion 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 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 CDA exam, which sets entry-level standards in the field nationally.

## ELEMENTARY EDUCATION

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

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A).....</b>		<b>35 CREDITS</b>
Composition.....	ENG 101 & ENG 102 .....	6
Mathematics .....	MAT 142 or higher .....	3-5
Laboratory scient.....	.....	8
Arts† .....	.....	3
Humanities†.....	.....	3
Social and behavioral scient†.....	.....	6
Information literacy.....	CIS 116 or CIS 120 .....	3
General Education Elective*.....	.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses. See <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> . The department recommends POS 220 as three of the six credits.		
<b>NON-ENGLISH LANGUAGE REQUIREMENT**† .....</b>		<b>0-16 CREDITS</b>
<b>COMMON COURSES .....</b>		<b>18 CREDITS</b>
Mathematics for Elementary Education Majors I. MAT 125 .....		3
Mathematics for Elementary Education Majors II MAT 126 .....		3
Introduction to Education .....		EDU 201 .....
Introduction to Special Education .....		EDU 222 .....

Cultural Diversity in Education.....	EDU 226 .....	3
Education Elective .....	.....	3
Electives in content areas relevant to K-12.....	.....	7
<b>ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS) †.....</b>	<b>0-4 CREDITS</b>	
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

\* These elective credits must be chosen from the general education list or HPE 179, see [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

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

† Notes:

1. Laboratory science—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 science—UA 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.
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 requires fourth-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.az.transfer.org/cas/](http://www.az.transfer.org/cas/).

#### GRADUATION REQUIREMENTS:

- All courses must be completed with a grade of C or better.
- A course may be used to fulfill both a general education requirement and an elective in the associate's degree. Total credits toward a degree are not waived.
- 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 ethnic/race/gender awareness and contemporary global/international or historical awareness embedded in the coursework.

## 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 partic-

ipant 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

<b>CORE CURRICULUM.....</b>	<b>12 CREDITS</b>	
Intermediate Writing .....	ENG 100 .....	3
Mathematics .....	MAT 082 .....	3
Reading .....	RDG 110 or 122 or placement .....	3
General education elective* .....	.....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>12 CREDITS</b>	

\* Social/behavioral science class recommended

### TEACHER AIDE LEVEL I

#### Certificate (Major Code - TAIC)

<b>CORE CURRICULUM.....</b>	<b>15-16 CREDITS</b>	
Composition .....	ENG 101 .....	3
Mathematics .....	MAT 122 or higher .....	3
Information literacy .....	CIS 116 or 120 .....	3
Non-English language* or elective** .....	.....	3-4
Education .....	EDU 201 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>15-16 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's 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)

<b>CORE CURRICULUM.....</b>	<b>16-21 CREDITS</b>	
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 142 (preferred), 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's 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/behavioral sciences* .....	6
Laboratory sciences .....	4
Mathematics.....	MAT 125 .....
Education.....	EDU 222 or 226 .....

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

- \* Recommended social/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/critical inquiry coursework.

## EARLY CHILDHOOD CARE AND EDUCATION

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

#### Emphasis in Early Childhood Care and Education

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
Composition .....	ENG 101 .....
English Composition .....	ENG 102 .....
Mathematics† .....	MAT 142 or higher .....
Laboratory sciences† .....	8
Arts .....	ART 120 or MUS 260 .....
Humanities†.....	3
Social and behavioral sciences.....	6
Information literacy.....	CIS 116 or CIS 120 .....
General education electives*.....	0-3
Six credits of art/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses, see	
www.cochise.edu/programsofstudy/curriculum.	

### LANGUAGE REQUIREMENT\*\* .....

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

### CORE CURRICULUM..... 28 CREDITS

#### Pre-Education

Introduction to Education .....	EDU 201 .....	3
Mathematics for Elementary Education Majors I. MAT 125 .....	MAT 125 .....	3
Mathematics for Elementary Education Majors II MAT 126 .....	MAT 126 .....	3
Introduction to Special Education .....	EDU 222 .....	3
Cultural Diversity in Education.....	EDU 226 .....	3

#### Early Childhood Care

Introduction to Early Childhood Care and Education .....	ECE 150 .....	3
taken concurrently with Practicum .....	ECE 125.....	0.5

#### SELECT TWO:

Children's Language Development .....	ECE 155 .....	3
Children's Literature and Children's Literacy.....	ECE 156 .....	3
Child Growth and Development.....	ECE 160 .....	3
Any three, one-credit ECE courses in infant/toddler emphasis .....	3	
taken concurrently with Practicum .....	ECE 125.....	0.5

#### 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/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).
- \*\* University non-English language requirements vary. Check with your advisor.
- \*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas/](http://www.az.transfer.org/cas/).

#### † Notes

1. MAT 142 preferred
2. Laboratory Science – BIO 101 recommended; BIO 105 or GLG 101 also recommended
3. Humanities – PHI 130 preferred or PHI 111, HUM 205, HUM 206, HUM 207, all also fulfill intensive writing/critical inquiry requirement; or HUM 115, SPA 221, SPA 222, SPA 224, or SPA 225
4. Social and behavioral sciences – PSY 101 required; SOC 160 recommended (also fulfills intensive writing/critical inquiry requirement) or HIS 110 or HIS 111 (common EDU transfer courses)
5. Consultation with a counselor or faculty advisor in the Student Development Center is highly recommended when choosing the options for fulfilling AGEc requirements. The general education classes marked "recommended" or "preferred," while they best meet the learning outcomes of the Early Childhood Care and Education Program, are not the only options available. If transferring previous general education coursework, please see the complete listings for these AGEc categories for additional possibilities.
6. Some students will have more than 64 credits because of varying units in language, math and other classes; 64 represents the minimum for this degree.

## EARLY CHILDHOOD CARE AND EDUCATION

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Communications.....	ENG 101 and ENG 102 or ENG 111 and ENG 167 or ENG 179 .....
Mathematics*.....	BUS 104 or MAT 122 or MAT 125 or MAT 126 or MAT 142 .....
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 .....
Information literacy.....	CIS 116 or CIS 120 .....
CORE CURRICULUM.....	31-33 CREDITS
Intro to Early Childhood Care & Education.....	ECE 150 .....
Observation, Behavior and Guidance.....	ECE 152 .....
Children's Language Development.....	ECE 155 .....
Health, Safety, & Nutrition for Young Children....	ECE 158 .....
Childhood Growth and Development .....	ECE 160 .....
Understanding Families, Community and Diversity	ECE 161 .....
Curriculum Development for Early Childhood Education	ECE 170. 3
Teaching Strategies for Early Childhood Education	ECE 172 .....
Administration of Early Childhood Care and Education Programs.....	ECE 173 .....
Relationships in the Classroom .....	EDU 230 .....
CPR and First Aid .....	HLT 111 .....
OR First Aid and Safety .....	HPE 189 .....
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS) must be selected in consultation with advisor:	
Behavior Management for Early Childhood .....	ECE 174 .....
Creativity in ECE Programs .....	ECE 175 .....
Math and Science for Early Childhood Care and Education .....	ECE 176 .....
Ethnic Groups and Minorities.....	SOC 160 .....
Elements of Intercultural Communication.....	COM 204 .....
Cultural Values in Borderlands Workplace .....	HUM 167 .....
Developmental Psychology .....	PSY 240 .....
Introduction to Special Education .....	EDU 222 .....
Cultural Diversity in Education.....	EDU 226 .....
Children's Literature .....	ENG 212 .....
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

\* Students should consult an advisor for course selection.

## EARLY CHILDHOOD CARE AND EDUCATION

### Basic Certificate (Major Code - BECE)

CORE CURRICULUM.....	19 CREDITS
Safety in Early Childhood Education.....	ECE 101 .....
Health in Early Childhood Education .....	ECE 102 .....
Nutrition in Early Childhood Education.....	ECE 103 .....
Physical Activities in Early Childhood Education .	ECE 104 .....
Cognitive Activities in Early Childhood Education	ECE 105 .....
Creative Activities in Early Childhood Education .	ECE 106 .....
Self Concept.....	ECE 107 .....
Social Concept.....	ECE 108 .....
Guidance.....	ECE 109 .....
Child Development.....	ECE 160 .....
Understanding Families, Community, and Diversity .....	ECE 161 .....
Administration of Early Childhood Education Programs .....	ECE 173 .....
First Aid and Safety.....	HPE 189.....OR
CPR and First Aid .....	HLT 111 .....
TOTAL CERTIFICATE REQUIREMENTS.....	19-21 CREDITS

## Secondary Education

Secondary education majors are encouraged to complete the associate of arts, special requirements or associate of science, special requirements. 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)

#### Emphasis in Secondary Art Education

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
Information literacy.....	CIS 116 or CIS 120 .....
General education elective*.....	1-3



COMMON COURSES .....	34 CREDITS
General Chemistry I.....	CHM 151 ..... 4
General Chemistry II.....	CHM 152 ..... 4
General Organic Chemistry I .....	CHM 235 ..... 4
General Organic Chemistry II.....	CHM 236 ..... 4
Calculus II.....	MAT 231 ..... 4
Physics with Calculus I.....	PHY 230 ..... 4
Physics with Calculus II .....	PHY 231 ..... 4
Introduction to Education .....	EDU 201 ..... 3
Introduction to Special Education .....	EDU 222.....OR
Cultural Diversity in Education.....	EDU 226 ..... 3

Note: Chemistry and physics are required for the AGEC and/or common course area. The Science Department recommends students should choose one of the above to fulfill the AGEC science requirement.

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

TOTAL DEGREE REQUIREMENTS .....	64 CREDITS
* General education electives must be chosen from the general education list: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
** 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.az.transfer.org/cas">www.az.transfer.org/cas</a> .	

## SECONDARY ENGLISH TEACHING

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

#### Emphasis in Secondary English Teaching

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	

COMMON COURSES .....	12 CREDITS
British Literature I .....	ENG 220 ..... 3
British Literature II.....	ENG 221 ..... 3
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 .....

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas). 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)

#### Emphasis in Secondary History Teaching

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

#### LANGUAGE REQUIREMENT\*\* .....

Non-English language	
Second- or fourth-semester proficiency	

COMMON COURSES .....	18 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 140 ..... 3
Survey of Western Civilization II.....	HIS 141 ..... 3
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: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).
- \*\* University non-English language requirements vary. Check with your advisor.
- \*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas). The History Department recommends the following elective: HIS 142.

**SECONDARY MATHEMATICS TEACHING****Associate of Arts (Major Code - SEMT)****Emphasis in Secondary Mathematics Teaching****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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

**LANGUAGE REQUIREMENT\*\* ..... 0-16 CREDITS**

- Non-English language
- Second- or fourth-semester proficiency (elective)

**COMMON COURSES ..... 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)\*\*\*****TOTAL DEGREE REQUIREMENTS ..... 64 CREDITS**

- \* General education electives must be chosen from the general education list: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).
- \*\* 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 common course area.

**SECONDARY MUSIC EDUCATION****Associate of Arts (Major Code - SEME)****Emphasis in Secondary Music Education Teaching****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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

**LANGUAGE REQUIREMENTS\*\*..... 0-16 CREDITS**

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

**COMMON COURSES ..... 18 CREDITS**

Introduction to Education .....	EDU 201 .....	3
Cultural Diversity in Education.....	EDU 226 .....	3
Music Theory .....	MUS 132 .....	3
Music Theory .....	MUS 133 .....	3
Music Theory .....	MUS 232 .....	3
Music Theory .....	MUS 233 .....	3

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

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

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

- \*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas). The Music Department recommends the following electives: instrument and voice courses.

## SECONDARY PHYSICAL EDUCATION TEACHING

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

#### Emphasis in Secondary Physical Education Teaching

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES .....	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)\*\*\*

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

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas). The Language Department recommends the following electives: LIN 101, SPA 224, SPA 225.

## SECONDARY SPANISH TEACHING

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

#### Emphasis in Secondary Spanish Teaching

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

Information literacy..... CIS 116 or CIS 120 ..... 3

General education electives\*..... 1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

#### LANGUAGE REQUIREMENT\*\* .....

Non-English language

Second- or fourth-semester proficiency (Spanish)

#### Common Courses .....

Elementary Spanish..... SPA 101 ..... 4

Elementary Spanish..... SPA 102 ..... 4

Intermediate Spanish .....

Intermediate Spanish .....

Introduction to Education .....

Introduction to Special Education .....

Cultural Diversity in Education..... EDU 226 ..... 3

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

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

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas). The Language Department recommends the following electives: LIN 101, SPA 224, SPA 225.

## Electronics

The Associate of Applied Science in Electronics prepares students for employment in general electronics. Completion of the common core curriculum allows the student to obtain competencies in electricity, digital and analog devices and circuits, measurements, electronic communications, micro-processors 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
Arts/humanities/social and behavioral sciences .....	3
General education electives.....	6
<b>CORE CURRICULUM.....</b>	<b>45-46 CREDITS</b>
Introduction to DC Circuits .....	ELT 105 ..... 3
Introduction to AC Circuits .....	ELT 106 ..... 4
Semiconductors & Transistors.....	ELT 122 ..... 4
Electronic Circuits & Systems .....	ELT 125 ..... 4
Pulse Circuits.....	ELT 231 ..... 4
Digital Circuits & Systems.....	ELT 233 ..... 4
Modern Electronic Devices .....	ELT 243 ..... 4
Communications Electronics I .....	ELT 245 ..... 4
Communications Electronics II.....	ELT 247 ..... 4
Microprocessors & Microcomputers.....	ELT 265 ..... 4
Electives.....	6-7
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>

## 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 virtually all 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)

#### Emphasis in English

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Mathematics .....	MAT 142 and higher ..... 3-5
Laboratory sciences .....	8
Arts .....	3

Humanities\*\*\*\*..... 3  
 Social and behavioral sciences ..... 6  
 Information literacy..... CIS 116 or CIS 120 ..... 3  
 General education electives\*..... 1-3  
 Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

#### LANGUAGE REQUIREMENT\*\* .....

0-16 CREDITS

Non-English language  
 Fourth-semester proficiency

COMMON COURSES .....	12 CREDITS
British Literature I .....	ENG 220 ..... 3
British Literature II.....	ENG 221 ..... 3
American Literature II or Major	
American Writers .....	ENG 225 or ENG 265 ..... 3
Choose one course from the Electives area below .....	3

#### ELECTIVES AS NEEDED TO COMPLETE 64 CREDITS\*\*\* .....

1-17 CREDITS

Introduction to Poetry.....	ENG 209 ..... 3
The Bible as Literature.....	ENG 210 ..... 3
Introduction to Shakespeare .....	ENG 222 ..... 3
American Literature I.....	ENG 224 ..... 3
American Literature II .....	ENG 225 ..... 3
World Literature I .....	ENG 226 ..... 3
World Literature II .....	ENG 227 ..... 3
Mythology and Folklore .....	ENG 228 ..... 3
Literature of the Southwest.....	ENG 230 ..... 3
Native American Literature .....	ENG 231 ..... 3
Irish Literature .....	ENG 260 ..... 3
Major American Writers .....	ENG 265 ..... 3
Women and Literature .....	ENG 273 ..... 3

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

64 CREDITS

\* General education electives must be chosen from the general education list:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum). Department recommends that this requirement be fulfilled using 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 [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

\*\*\*\*Department recommends that the Humanities requirement be fulfilled using a 200-level literature course.

# Exercise Science, Health and Physical Education, Recreation and Wellness (HPE)

Cochise College offers a wide range of activity, health, recreation, and wellness classes for students of all ages and fitness levels. Countywide you can find an activity that suits your 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 - HPE)

#### Emphasis in Exercise Science, Health and Physical Education, Recreation and Wellness

##### 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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*		1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

##### LANGUAGE REQUIREMENT\*\* .....

Non-English language
Second- or fourth-semester proficiency

##### COMMON COURSES .....

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: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

# 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)

#### Emphasis in Family Studies and Human Development

##### 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 & Physiology I .....	BIO 201.....	OR
Human Anatomy & Physiology II.....	BIO 202 .....	8
Arts .....		3
Humanities .....		3
Social and behavioral sciences.....	PSY 101/SOC 101 .....	6
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....		1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

##### LANGUAGE REQUIREMENT .....

Non-English language
Second-semester proficiency

##### COMMON COURSES .....

Child Development.....	FCS 184 .....	3
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Nutrition.....	FON 101 .....	3
Intro to Psychological Research, Measurement & Statistics .....	PSY 250 .....	3
Experimental Psychology .....	PSY 290 .....	3
<b>RECOMMENDED ELECTIVES</b>		
Developmental Psychology .....	PSY 240 .....	3
Marriage and Family.....	SOC 210 .....	3
<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:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

## Fire Science Technology

This degree program is designed to train the student for a career in fire service. The program will cover topics in firefighter safety and entry-level operations, fire rescue operations, firefighter ground ladders and hose procedures, and fire support services, as well as general studies. NOTE: Fire science courses FST 101 and FST 103, taken prior to fall semester 2002, cannot be used to satisfy current degree or certificate requirements.

### FIRE SCIENCE TECHNOLOGY

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

<b>GENERAL EDUCATION REQUIREMENTS .....</b>		
Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 122 or higher .....	3
Arts, humanities, or social and behavioral sciences.....	6	
Information literacy.....	CIS 116 or CIS 120 .....	3
<b>CORE CURRICULUM.....</b>		
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
Emergency Medical Technology** .....	EMT 174 .....	8
Field Experience in Fire Science Technology .....	FST 224 .....	3
<b>ELECTIVES* AS NEEDED TO COMPLETE 64 CREDITS</b>		
<b>TOTAL DEGREE REQUIREMENTS .....</b>		<b>64 CREDITS</b>

\* Electives must be approved through Fire Science Program coordinator or associate dean of technology.

\*\* Challenge tests available for students holding current EMT – B or P certification

### **FIRE SCIENCE TECHNOLOGY**

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

<b>CORE CURRICULUM.....</b>		
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
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>		
<b>16 CREDITS</b>		

### **HAZARDOUS MATERIALS TECHNICIAN**

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

<b>CORE CURRICULUM.....</b>		
Hazmat Technician I.....	FST 121 .....	6
Hazmat Technician II.....	FST 222 .....	5
Hazmat Technician III.....	FST 223 .....	5
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>		
<b>16 CREDITS</b>		

## 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)**

#### **Emphasis in Geography**

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A).....</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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses:		

www.cochise.edu/programsofstudy/curriculum.	
LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES .....	10 CREDITS
Physical Geography .....	GEO 101 .....4
Intro 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: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## History

The Associate of Arts degree in History combines a strong theoretical foundation in history with the necessary general education courses needed for transfer with junior standing to all Arizona universities and to virtually all others. 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)**

##### **Emphasis in History**

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
Composition .....	ENG 101 .....3
English Composition .....	ENG 102 .....3
Mathematics .....	MAT 142 or higher .....3-4
Laboratory sciences .....	8
Arts .....	3
Humanities.....	3
Social and behavioral sciences.....	6
Information literacy.....	CIS 116 or CIS 120 .....3
General education electives*.....	1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive

writing/critical inquiry courses:	
www.cochise.edu/programsofstudy/curriculum.	
LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES .....	12 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 140 .....3
Survey of Western Civilization II.....	HIS 141 .....3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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 OR	
Honors Advisor Approved Elective .....	ENG 102H .....3
CORE CURRICULUM.....	13 CREDITS
Honors: Individual Projects.....	HON 250 .....3
Honors Seminar .....	HON 251 .....1
Leadership/Service .....	HON 255 .....3
The Human Quest for Utopia.....	HON 260 .....3
Dimensions and Directions of	
Contemporary Issues .....	HON 265 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	16 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. This degree program has been completely articulated with Northern Arizona 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 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 151 and higher .....	4-5
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 .....	3
Introduction to Property Management .....	HAD 120 .....	3
Guest Services Management .....	CUL 210 .....	3
Hospitality Law .....	HAD 235 .....	3
Hospitality Financial Management .....	HAD 250 .....	3
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

#### RECOMMENDED ELECTIVES:

Field Experience in Hospitality Administration ..	HAD 224 .....	1-6
Commercial Food Preparation Theory .....	CUL 240 .....	3
Advanced Commercial Food Preparation and LabCUL 241 .....	.....	4

#### TOTAL DEGREE REQUIREMENTS ..... 66-67 CREDITS

\* Must include GEO 102, GEO 104 or GEO 105, and HUM 205 or 206, or JRN 101.

## HOSPITALITY ADMINISTRATION

### Certificate (Major Code - HAD)

#### CORE CURRICULUM ..... 28-33 CREDITS

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 Mathematics .....	BUS 104 .....	3
Financial Accounting .....	BUS 201 .....	3
Principles of Microeconomics .....	ECN 202 .....	3
Computer Applications .....	CIS 181 .....	3

#### RECOMMENDED ELECTIVES:

Commercial Food Preparation Theory .....	CUL 240 .....	3
Advanced Commercial Food Preparation and LabCUL 241 .....	.....	4

#### TOTAL CERTIFICATE REQUIREMENTS ..... 28-33 CREDITS

## Human Services

The Associate of Applied Science degree in Human Services prepares students for entry-level positions in the wide field of Human services. At the same time it enables students to fulfill the first two years of study towards the Bachelor of Applied Science degree offered at the University of Arizona South.

## HUMAN SERVICES

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

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

Composition .....	ENG 101 .....	3
English Composition....	ENG 102 or ENG 109 or ENG 279 .....	3
Mathematics .....	MAT 122 or above .....	3
Humanities .....	COM 102 .....	3
Political Science .....	POS 110 or POS 220 .....	3
Information Literacy .....	CIS 116 or CIS 120 .....	3

#### CORE CURRICULUM ..... 30 CREDITS



Introduction to Psychology .....	PSY 101 .....	3
Personality and Adjustment.....	PSY 103.....	OR
Theories of Personality.....	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 Work.....	SOC 207 .....	3
Choose 12 credits from the following:		
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
Measurements and Statistics.....	PSY 250 .....	3
Experimental Psychology .....	PSY 290 .....	3
Social Problems .....	SOC 202 .....	3
Marriage and Family.....	SOC 210 .....	3
Interpersonal Communications.....	COM/SSV 270 .....	3
Communication in Small Groups .....	COM/SSV 271 .....	3
Prevention of Drug and Alcohol Abuse .....	SSV 221 .....	3
LANGUAGE REQUIREMENTS .....		8 CREDITS
Non-English language second-semester proficiency (Spanish or sign language suggested)		
RECOMMENDED ELECTIVES .....		8 CREDITS
Laboratory science.....	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** .....		

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

\* If POS 220 not taken in General Education requirements above)

\*\* Either to 4th semester proficiency or a 2nd proficiency at the 2nd semester level.  
Spanish or Sign language suggested.

## Humanities

Humanities majors are encouraged to complete the associate of arts, 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)**

##### **Emphasis in Humanities**

**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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives* .....		1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

**LANGUAGE REQUIREMENT\*\* .....** 16 CREDITS

Non-English language
Fourth-semester proficiency

**COMMON COURSES.....6 CREDITS**

Major Ancient Cultures .....	HUM 205 .....	3
European Culture.....	HUM 206 .....	3

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

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

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.aztransfer.org/cas](http://www.aztransfer.org/cas). The Humanities Department recommends the following electives: ART 107, ART 108, ENG 220, ENG 221, HUM 101, HUM 104, HUM 110, HUM 115, HUM 167.

# Intelligence Operations

The Intelligence Operations degrees are designed for personnel interested in associate's degree programs that meet career and educational goals.

The Associate of General Studies, Intelligence Operations (AGS, IO) is designed for students who may be planning to attend an in-state private university or out-of-state university and want more flexibility in selecting courses. Fulfilling the Arizona general education curriculum (AGEC) requirements will maintain an open door for attending an Arizona public university at a later time.

The Associate of Applied Science in Intelligence Operations (AAS, IO) is most commonly used to prepare students for employment in a specific career. This degree is intended for students who are currently employed in their field of specialty.

Credit toward the following degrees will be based on your skill level and training and/or military schools attended. See your Cochise College advisor for details.

**NOTE:** These programs are restricted to Department of Defense/Military personnel having received sufficient verifiable training in specific intelligence occupational areas. Eligibility will be determined upon an institutional evaluation. Due to the nature of these programs and frequency of revisions, please contact the Cochise College Fort Huachuca Center.

## INTELLIGENCE OPERATIONS

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

GENERAL EDUCATION REQUIREMENTS .....	35 CREDITS
Composition .....	ENG 101 ..... 3
English Composition.....	ENG 102 or ENG 109/206 ..... 3
Mathematics .....	MAT 122 or higher ..... 3-5
Laboratory sciences .....	4
Arts .....	3
Humanities.....	3
Social/behavioral sciences .....	6
Information literacy.....	CIS 116 or CIS 120 ..... 3
Foreign language/Communications.....	3-4
General education electives.....	1-4
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive	

writing/critical inquiry courses.

**CORE CURRICULUM (AREA OF EMPHASIS\*) .....** 29 CREDITS

**ELECTIVES AS NEEDED TO COMPLETE REQUIREMENTS**

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

\* Areas of Emphasis-Contact IO Advisor/Fort Huachuca Center regarding current area of emphasis/core curriculum course list.

Counterintelligence (Major Code - IO/CI)

Electronic Intelligence Analyst (Major Code - IO/EIA)

General Intelligence (Major Code - IO/GIO)

Ground Surveillance Systems Operator (Major Code - IO/GSO)

Human Intelligence Collector (Major Code - IO/HIC)

Imagery Analyst (Major Code - IO/IMA)

Imagery Ground Station Operator (Major Code - IO/IGSO)

Intelligence Analyst (Major Code - IO/IA)

Linguist (Major Code - IO/LIN)

Morse Interceptor (Major Code - IO/MI)

Signals Collection/Id Analyst (Major Code - IO/SCIA)

Signals Intelligence Analyst (Major Code - IO/SIA)

Unmanned Aerial Vehicle Maintenance (Major Code - IO/UVM)

Unmanned Aerial Vehicle Operator (Major Code - IO/UAV)

**NOTE:** These programs are restricted to Department of Defense/Military personnel having received sufficient verifiable training in specific intelligence occupational areas. Eligibility will be determined upon an institutional evaluation. Due to the nature of these programs and frequency of revisions, please contact the Cochise College Fort Huachuca Center.

## INTELLIGENCE OPERATIONS

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

GENERAL EDUCATION REQUIREMENTS .....	18-20 CREDITS
Composition .....	ENG 101 ..... 3
English Composition.....	ENG 102 or ENG 109/206 ..... 3
Mathematics .....	MAT 122 or higher ..... 3-5
Humanities/social behavioral sciences .....	6
Information Literacy .....	CIS 116 or CIS 120 ..... 3
<b>CORE CURRICULUM (AREA OF EMPHASIS*) .....</b>	<b>34 CREDITS</b>
<b>ELECTIVES AS NEEDED TO COMPLETE REQUIREMENTS .</b>	<b>10-12 CREDITS</b>
<b>TOTAL DEGREE REQUIREMENTS .....</b> 64 CREDITS	

NOTE: These programs are restricted to Department of Defense/Military personnel having received sufficient verifiable training in specific intelligence occupational areas. Eligibility will be determined upon an institutional evaluation. Due to the nature of these programs and frequency of revisions, please contact the Cochise College Fort Huachuca Center.

- \* Areas of Emphasis-Contact an IO Advisor/Fort Huachuca Center regarding current Area of Emphasis/Core Curriculum course list. (Complete listing as of Jan. 2007 follows)
  - Common Ground Station Operator (Major Code - IO/CGSO)
  - Counterintelligence (Major Code - IO/CI)
  - Electronic Intelligence Analyst (Major Code - IO/EIA)
  - General Intelligence (Major Code - IO/GIO)
  - Ground Surveillance Systems Operator (Major Code - IO/GSO)
  - Human Intelligence Collector (Major Code - IO/HIC)
  - Imagery Analyst (Major Code - IO/IMA)
  - Intelligence Analyst (Major Code - IO/IA)
  - Linguist (Major Code - IO/LIN)
  - Military Intelligence Systems Maintainer (Major Code - IO/MISM)
  - Morse Interceptor (Major Code - IO/MI)
  - Multi-Sensor Operator (Major Code - IO/MSO)
  - Signal Collector Analyst (Major Code - IO/SCA)
  - Signals Collection/Id Analyst (Major Code - IO/SCIA)
  - Signals Intelligence Analyst (Major Code - IO/SIA)
  - Unmanned Aerial Vehicle Maintenance (Major Code - IO/UVM)
  - Unmanned Aerial Vehicle Operator (Major Code - IO/UAV)
  - Unmanned Aerial Vehicle Systems Specialist (Major Code - IO/UAVS)

**CORE CURRICULUM COURSES:\***

- \* Contact IO Advisor/Fort Huachuca Center regarding current Area of Emphasis/Core Curriculum course list.

<b>COURSE NO.</b>	<b>COURSE TITLE</b>	<b>CREDITS</b>
MIO 101	Counterintelligence Investigations	3
MIO 102	Security Programs	1
MIO 103	Military Justice & Intelligence Law	1
MIO 104	Analytical Process & Products	3
MIO 105	Interrogation Operations	3
MIO 106	Map Reading & Analysis	3
MIO 107	International Morse Code	3
MIO 108	Signal Theory	3

MIO 109	Signal Analysis & Security	3
MIO 110	Remote Sensing	3
MIO 111	Information Security	3
MIO 112	Imagery Analysis Techniques	3
MIO 113	Terrorism and Counterterrorism	3
MIO 114	Reporting of Intelligence Data	3
MIO 115	Briefing Skills	1-4
MIO 116	Imagery Identification	6
MIO 117	Symbology	3
MIO 118	Intelligence Preparation of the Battlefield	3
MIO 120	Records Management	3
MIO 201	Collection Operations	3
MIO 202	Force Protection Operations & Support	3
MIO 203	Combating Terrorism	3
MIO 204	Interrogation & Interviewing Techniques	3
MIO 209	Automated Intelligence Systems	4
MIO 210	Intermediate Remote Sensing	3
MIO 211	Decision Making Process	2
MIO 212	Intermediate Imagery Analysis Techniques	3
MIO 220	Reporting of Intelligence Data III	3
MIO 221	Counter Intelligence Investigations III	3
MIO 223	Military Justice & Intelligence Law II	1
MIO 224	Force Protection Operations and Support III	3
MIO 225	Analytical Process and Products II	3
MIO 226	Interviewing Techniques III	3
ART 140	Digital Photography	2
ART 285	Beginning Photography	3
ART 286	Intermediate Photography	3
BUS 123	Human Resource Management	3
BUS 125	Management & Organizational Behavior	3
BUS 127	Leadership & Supervision	3
BUS 143	Principles of Management	3
BUS 207	Office Administration	3
BUS 282	Management Information Systems	3
COM 102	Essentials of Communication	3
COM 110	Public Speaking	3
COM 204	Elements of Intercultural Communication	3
COM 270	Interpersonal Communications	3
CIS 105	Introduction to Information Security	1
CIS 116	Learning To Use the Personal Computer	3
CIS 120	Introduction to Information Systems	3
CIS 128	UNIX Operating System	3

CIS 150	Essentials of Networking.....	3
CIS 181	Computer Applications .....	3
CIS 185	Introduction to the Internet.....	3
CIS 229	UNIX System Administration .....	3
CIS 236	Microsoft Workstation Operating Systems .....	4
CIS 240	Advanced Microsoft Server.....	3
ECN 201	Principles of Macroeconomics.....	3
ECN 202	Principles of Microeconomics .....	3
ENG 109	Written Communications & Reports .....	3
ENG 179	Applied Technical Writing .....	3
ENG 206	Critical Writing.....	3
ENG 279	Advanced Applied Technical .....	3
GEO 101	Physical Geography.....	4
GEO 102	Human Geography .....	3
GEO 104	Political Geography.....	3
GEO 121	World Regional Geography.....	3
HIS 110	US History 1607-1877.....	3
HIS 111	US History Since 1877.....	3
HIS 140	Survey of Western Civilization I.....	3
HIS 141	Survey of Western Civilization II .....	3
HIS 142	Survey of Western Civilization III.....	3
HUM 205	Major Ancient Cultures.....	3
HUM 206	European Culture .....	3
HUM 207	The Modern World.....	3
LIN 101	Introduction to Linguistics .....	3
MAT 142+	Survey of College Math or higher .....	3-5
POS 100	Introduction to Political Science.....	3
POS 110	American National Government.....	3
POS 220	Federal & Arizona Government.....	3
POS 230	World Politics.....	3
POS 240	Comparative Politics .....	3
PSY 101	Introduction to Psychology .....	3
PSY 210	Social Psychology.....	3
SOC 101	Introduction to Sociology .....	3
SOC 160	Ethnic Groups & Minorities.....	3
SOC 202	Social Problems.....	3
AMT 210	UAV Maintenance Technician .....	14
AMT 212	UAV Mechanical Technician .....	13
AVT 211	UAV Avionics Technician .....	9
Any ELT Prefix Course related to the student's specialty .....	1-11	
Any PFT Prefix Course related to the student's specialty.....	1-32	
Any Foreign Language Course 100 Level or above .....	1-16	

## 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)

##### Emphasis in Journalism and Media Arts

##### 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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

##### LANGUAGE REQUIREMENT..... 0-16 CREDITS

Non-English language
Second- or fourth-semester proficiency

##### COMMON COURSES..... 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 .....

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

\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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.

The Workplace English Certificate Program provides students with opportunities to increase communicative competence with immediate practical application to the technical and customer service aspects of the work environment, preparing them for employment or for advancement in their present position.

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)

##### Emphasis in Language

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
LANGUAGE REQUIREMENT**.....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES .....	12 CREDITS
Introduction to the English Language .....	ENG 255.....OR
Introduction to Linguistics.....	LIN 101 ..... 3
Electives .....	10
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:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## WORKPLACE SPANISH

### Certificate (Major Code - WPS)

CORE CURRICULUM.....	26 CREDITS
Elementary Spanish.....	SPA 101 ..... 4
Understanding Spanish .....	SPA 189 or
Pronouncing Spanish .....	SPA 190 ..... 1
Elementary Spanish.....	SPA 102 ..... 4
Spanish for Occupations .....	SPA 192 ..... 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.

## WORKPLACE ENGLISH

### Certificate (Major Code - WPE)

CORE CURRICULUM.....	22 CREDITS
Basic Workplace English.....	ESL 081 ..... 3
Pronouncing English.....	ESL 091 ..... 1
Applied Workplace English.....	ESL 082 ..... 3
English for Occupations .....	GTC 092 ..... 1
Workplace English in Context .....	ESL 083 ..... 3
Cultural Context: Case Studies .....	HUM 093 ..... 1
Workplace English in a Bilingual Setting .....	ESL 084 ..... 3
Intro to Translation & Interpretation .....	ENG 094 ..... 1
Exploring United States Cultures.....	HUM 100 ..... 3
Field Experience in Cooperative Education .....	CED 124 ..... 1-6
TOTAL CERTIFICATE REQUIREMENTS.....	22 CREDITS

## ENGLISH AS A SECOND LANGUAGE

Three complete programs are offered on the Douglas Campus in English as a Second Language: the intensive daytime program (for students who plan to go into regular academic or vocational programs after completing ESL); the evening program for English for professionals, (which focuses on communication skills for business or professional purposes); and the Summer Immersion Program.

**ESL** programs develop speaking, listening, reading and writing skills. The programs are designed to help students develop their proficiency in English. Audio-visual materials, computer-assisted learning, and other learning opportunities, including field trips, guest lectures, and cultural activities, enhance classroom instruction. Through the International Club, students have the opportunity to participate in sightseeing, cultural and social events. For further information about admissions to any of the programs, contact the Admissions Office.

## INTERPRETER TRAINING

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

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Communications .....	ENG 101and COM 204 ..... 6
Mathematics/laboratory sciences.....	MAT 122 ..... 3
Liberal arts .....	COM 102 and elective ..... 6
Information 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 & Numbers.....	ASL 205 ..... 2
Introduction to Interpreting .....	ITP 210 ..... 3
Classifiers, Mimetic Description & 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. 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	
Communications.....	ENG 101 or 167 .....3
Learning to Use the Personal Computer.....	CIS 116 .....3
Applied Technical Writing .....	ENG 179 .....3
Mathematics or Science Requirement .	MAT122, MAT 142, BIO 101, BIO 105, OR CHM 130 .....3-4
Essentials of Communication .....	COM 102 .....3
Ethics.....	PHI 130 .....3
CORE CURRICULUM.....	41 CREDITS
Introduction to Translation & Interpretation .....	SPA 211 .....4
Writing and Listening for Interpretation & 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 .....3
Intro Human Anatomy and Physiology .....	BIO 160 .....4
English<>Spanish Document Translation.....	ITP 284 .....4
Sight Translation and Consecutive Interpretation .	ITP 286 .....4
Capstone Course in Interpretation & Translation..	ITP 297 .....4
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 .....4
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 & Interpretation .....	SPA 211 .....4
Writing and Listening for Interpretation & 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

## 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 230/231 .....8
Arts .....	.....3
Humanities.....	.....3
Social and behavioral sciences .....	.....6
Information literacy.....	CIS 116 or CIS 120 .....3
General education electives* .....	.....1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.	
CORE CURRICULUM .....	29 CREDITS
Computer-Aided Drafting.....	DFT 150 .....3

\* 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.

Engineering Design .....	DFT 241 .....	4
Computer Aided Drafting II .....	DFT 250 .....	3
Manufacturing Materials & Processes I .....	GTC 105 .....	3
Engineering Materials & Processes .....	GTC 206 .....	4
Manufacturing Processes .....	GTC 231 .....	4
College Algebra.....	MAT 151 .....	4
Welding Survey.....	WLD 202 .....	4
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

\* Elective courses must be transferable to all Arizona public universities, see <http://az.transfer.org/cas>.

## MANUFACTURING ENGINEERING

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

<b>GENERAL EDUCATION REQUIREMENTS .....</b>	<b>18 CREDITS</b>	
Composition .....	ENG 101.....OR	
Applied Technical Writing.....	BUS/CIS/ENG 179 .....	3
English Composition .....	ENG 102.....OR	
Adv Applied Technical Writing.....	CIS/ENG 279 .....	3
Mathematics .....	MAT 122 or higher .....	3-5
Arts/humanities/social and behavioral sciences .....	3	
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives.....	1-3	
<b>CORE CURRICULUM.....</b>	<b>46 CREDITS</b>	
Computer-Aided Drafting.....	DFT 150 .....	3
Engineering Design .....	DFT 241 .....	4
Computer-Aided Drafting II.....	DFT 250 .....	3
Manufacturing Materials & Processes I .....	GTC 105 .....	3
Engineering Materials & Processes .....	GTC 206 .....	4
Manufacturing Processes .....	GTC 231 .....	4
Welding Survey.....	WLD 202 .....	4
Electives .....	21	
<b>TOTAL DEGREE REQUIREMENTS .....</b>	<b>64 CREDITS</b>	

## MANUFACTURING TECHNOLOGY

### Certificate (Major Code - MFT)

<b>CORE CURRICULUM.....</b>	<b>18 CREDITS</b>	
Manufacturing Materials & Processes .....	GTC 105 .....	3
Computer-Aided Drafting.....	DFT 150 .....	3
Welding Survey.....	WLD 202 .....	4
Engineering Materials & Processes .....	GTC 206 .....	4
Manufacturing Processes .....	GTC 231 .....	4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>18 CREDITS</b>	

## 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)

#### Emphasis in Mathematics

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A).....</b>	<b>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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		
<b>LANGUAGE REQUIREMENT** .....</b>	<b>0-16 CREDITS</b>	
Non-English language		
Second or fourth-semester proficiency		
<b>COMMON COURSES .....</b>	<b>16 CREDITS</b>	
Calculus I .....	MAT 220 .....	5
Calculus II.....	MAT 231 .....	4
Calculus III .....	MAT 241 .....	4
Differential Equations .....	MAT 262 .....	3
<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 list: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		
** University non-English language requirements vary. Check with your advisor.		
*** Elective courses must be transferable to all Arizona public universities, see <a href="http://az.transfer.org/cas">www.az.transfer.org/cas</a> . 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 common course areas.		

## 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)**

##### **Emphasis in Music**

##### **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
Information literacy.....	CIS 116 or CIS 120 .....	3
General education electives*.....	.....	1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

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

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

##### **COMMON COURSES ..... 12 CREDITS**

Music Theory .....	MUS 132 .....	3
Music Theory .....	MUS 133 .....	3
Music Theory .....	MUS 232 .....	3
Music Theory .....	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)\*\*\***

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

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## Nursing/Allied Health: Nursing

Cochise College offers an Associate Nursing program that is accredited by the National League for Nursing Accrediting Commission and approved by the Arizona State Board of Nursing. The Nursing program teaches common physical and psychosocial health needs/problems throughout the life span. The body's responses to stressors, nursing interventions relative to common health needs/problems, and alterations in growth and development. Within these areas, nursing care to be explored will include the use of a framework, which promotes effective communication, understanding philosophies of human development and the utilization of the nursing process with emphasis on intervention and evaluation. The clinical setting includes assisting the student in developing competence in discharge planning, community nursing, and leadership. The student will utilize knowledge of trends in health care to adapt to changes and to be proactive in the profession of nursing.

It is highly recommended that students complete as many co-requisite courses as possible prior to application to the Nursing program. Students must complete co-requisite courses during or prior to the semester listed in the program outline.

Upon completion of the program the student is eligible to apply to take the National Council Licensing Exam to become licensed by the State Board of Nursing as a Registered Nurse.

Acceptance into the nursing program does not guarantee successful completion of the program. Attendance at classes and clinical experiences, which means travel to many locations throughout Cochise County and elsewhere, is 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 the program and/or successful completion of the program does not guarantee a license will be granted by the State Board of Nursing.

The program is based on the ladder concept that permits students to enter or exit from the program based on their specific needs, space availability, and time limitations.

**PN.** Practical nurses give basic nursing care and assist other members of the health-care team. A student who successfully

completes the first and second semesters may take the National Council Licensing Exam as a Practical Nurse (NCLEX-PN).

**RN.** Registered nurses function as members of the health-care team in hospitals and community settings. A student who successfully completes all four semesters may take the National Council Licensing Exam as a registered nurse (NCLEX-RN).

## NURSING

### Associate Degree Nurse (Major Code - AND)

#### Associate of Applied Science

##### FRESHMAN

FIRST SEMESTER .....	19 CREDITS
Human Anatomy & Physiology I .....	BIO 201 ..... 4
Composition .....	ENG 101 ..... 3
Introduction to Psychology .....	PSY 101 ..... 3
Medication Math.....	NUR 121 ..... 1
Nursing I.....	NUR 122 ..... 8

SECOND SEMESTER .....	17 CREDITS
Human Anatomy & Physiology II .....	BIO 202 ..... 4
Developmental Psychology .....	PSY 240 ..... 3
Nursing II .....	NUR 123 ..... 10

##### SOPHOMORE

THIRD SEMESTER .....	17 CREDITS
Microbiology .....	BIO 205 ..... 4
Elective* .....	..... 3
Nursing III.....	NUR 232 ..... 10

FOURTH SEMESTER .....	17 CREDITS
Fundamental Chemistry .....	CHM 130 ..... 4
Composition II .....	ENG 102 ..... 3
Nursing IV .....	NUR 233 ..... 10

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

\* Elective: As required by the Nursing Department. Please contact the Nursing Department for a list of the accepted electives.

## 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.

## Allied Health

### COMMUNITY HEALTH WORKER

The Community Health Worker Certificate course of study is designed to enhance the skills of students who are already engaged in a helping profession or regularly volunteer in that environment or have an interest in the healthcare field. CHWs serve as links between rural, medically underserved communities and the healthcare system. They provide outreach health prevention, advocacy, education and referral services within communities and neighborhoods. Students must attend classes and be available to complete the field work required for this course. Field work placements are generally made within the student's home community. Admission is open to any interested high school or GED graduate, or to students 18 years of age or older. Students must complete a health screening and provide proof of immunization. Graduates receive a Community Health Worker Certificate of Completion and alumni of the program have found that the course of study has significantly enhanced their job skills.

### COMMUNITY HEALTH WORKER

#### Certificate (Major Code - CHW)

#### CORE CURRICULUM\* ..... 16 CREDITS

Introduction to Community Health Advisor..... HLT 120 ..... 3

First Aid and CPR .....

Community Health Advisor Practicum..... HLT 121 ..... 6

Introduction to Social Work..... SOC 207 ..... 3

Communication elective..... 3

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

\* see course descriptions for prerequisites and co-requisites.

## MEDICAL ASSISTANT PROGRAM

The Medical Assistant Program – Front and Back Office is designed to prepare the student for direct employment in a medical practice setting. The certificate program is designed to build the foundation skills necessary to interact with healthcare clients. Front office functions that include insurance and coding,

telephone techniques and patient scheduling will be covered. Back office skills, which include vital signs, electrocardiograms, medical terminology, medication administration, and assisting the healthcare provider in special procedures will be covered. The laboratory and externship courses are designed to give the student hands-on application of procedures in a medical office setting. After completing the program, the student is awarded a certificate of completion, and is eligible to take the American Medical Technology National Exam to certify them as a Registered Medical Assistant.

Program entry requires separate application, an interview with the MA program advisors as well as the following:

1. 18 years of age upon completion of course
2. Placement in or completion of MAT 082 or higher
3. Placement in, exemption from or completion of RDG 122
4. Physical Exam
5. Tuberculin skin test (TB) or negative chest X-ray report
6. Measles, Mumps, Rubella (MMR) or birth prior to 1957 or positive titer
7. Varicella (Chicken Pox) waiver or positive titer
8. Drug Screen
9. Hepatitis B series or positive titer
10. Background Check

## MEDICAL ASSISTANT

### Certificate (Major Code - MEDA)

CORE CURRICULUM*	30 CREDITS
Intro to Human Anatomy and Physiology.....BIO 160 .....	4
taken concurrently with Medical Asst I .....HLT 139 .....	8
Learning to Use the Personal Computer.....CIS 116 .....	3
taken concurrently with Medical Asst II.....HLT 140 .....	8
CPR and First Aid .....HLT 111 .....	1
Medical Assistant III.....HLT 141 .....	6
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>30 CREDITS</b>

\* see course descriptions for prerequisites and co-requisites.

## 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/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 EMT's.

### COURSE PREREQUISITES ARE:

1. 18 years of age upon completion of course
2. Valid Healthcare Provider CPR card with an expiration date no later than 6 months after the completion of the course
3. Placement in, exemption from or completion of RDG 122
4. Good physical condition
5. Tuberculin skin test (TB) or negative chest x-ray report
6. Measles, Mumps, Rubella (MMR) or birth prior to 1957 or positive titer
7. Varicella (Chicken Pox) – waiver or positive titer
8. Drug Screen

## EMERGENCY MEDICAL TECHNICIAN

### (Major Code - EMT)

CORE CURRICULUM* .....	8 CREDITS
Emergency Medical Technician .....	EMT 174 .....

\* see course description for prerequisites and co-requisites.

## PARAMEDICINE

The Associate of Applied Science in Paramedicine or the Certificate in Paramedicine program 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 students 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 separate application. Prior to acceptance in the Paramedicine program, all students must pass written and practical exams as outlined by the Arizona Department of Health/Department of Emergency Medical Services (ADHS/EMS). A required oral interview is also used in determining acceptance to the program. The testing and interview process normally takes place the month prior to class start.

Additional requirements are:

1. Current EMT-B certification
2. Valid Healthcare Provider CPR card
3. Successful completion of the HazMat First Responder Operations Course (required by ADHS-BEMS)
4. Placement in or completion of MAT 082 or higher
5. Placement in, exemption from or completion of RDG 122
6. Good physical condition
7. Tuberculin skin test (TB) or negative chest X-ray report
8. Measles, Mumps, Rubella (MMR) or birth prior to 1957 or positive titer
9. Varicella (Chicken Pox) waiver or positive titer
10. Hepatitis B series or positive titer
11. Drug Screen
12. Background Check

## PARAMEDICINE

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

GENERAL EDUCATION REQUIREMENTS*	31 CREDITS
Composition .....	ENG 101 ..... 3
English Composition .....	ENG 102 ..... 3
Introduction to Psychology .....	PSY 101 ..... 3
Introduction to Sociology .....	SOC 101 ..... 3
Human Anatomy & Physiology I .....	BIO 201 ..... 4
Human Anatomy & Physiology II .....	BIO 202 ..... 4
Chemistry.....	CHM 130 or CHM 151 ..... 4
Microbiology .....	BIO 205 ..... 4
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
TOTAL DEGREE REQUIREMENTS .....	67 CREDITS

\* see course descriptions for prerequisites and co-requisites.

\*\* Challenge tests available for students holding current EMT – B or P certification

## PARAMEDICINE

### Certificate (Major Code - PAR)

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

\* see course descriptions for prerequisites and co-requisites.

## Philosophy

Philosophy majors are encouraged to complete the associate of arts, 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)

#### Emphasis in Philosophy

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses	
www.cochise.edu/programsofstudy/curriculum.	

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Fourth-semester proficiency	

COMMON COURSES .....	13 CREDITS
College Algebra.....	MAT 151 ..... 4
Introduction to Philosophy.....	PHI 111 ..... 3
Introduction to Logic & 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: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).
- \*\* University non-English language requirements vary. Check with your advisor.
- \*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## Physics, Atmospheric Sciences, and Astronomy

The Associate of Science degree in Physics, Atmospheric Sciences, and Astronomy provides the first two years of coursework for students transferring in these areas to Arizona universities. To ensure seamless transfer, students must develop their specific program of study in close coordination with a Cochise College advisor.

### PHYSICS, ATMOSPHERIC SCIENCES, AND ASTRONOMY

#### **Associate of Science (Major Code - PAS) Emphasis in Physics, Atmospheric Sciences and Astronomy**

**GENERAL EDUCATION REQUIREMENTS (AGEC-S) ..... 35 CREDITS**

Composition .....	ENG 101 .....	3
English Composition .....	ENG 102 .....	3
Mathematics .....	MAT 220 or higher .....	3-5
Laboratory sciences .....	CHM 151/152, or PHY 230/231 .....	8
Arts .....		3
Humanities .....		3
Social and behavioral sciences .....		6
Information literacy .....	CIS 116 or CIS 120 .....	3
General education electives* .....		1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .		

**CORE CURRICULUM ..... 29 CREDITS**

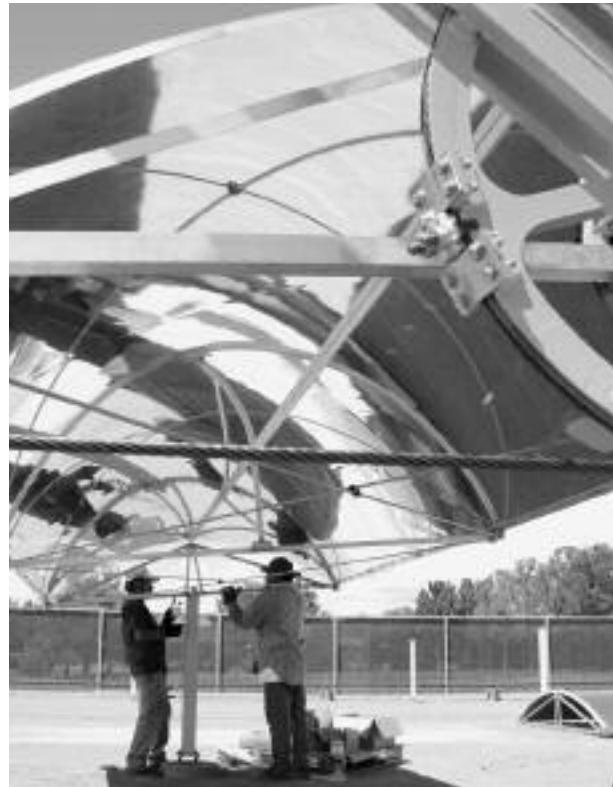
Laboratory sciences .....	8
Electives .....	21
Elective courses should be chosen after consulting the appropriate transfer guide.	
Suggested courses: ..... PHY 230/231, CHM 151/152	

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

- \* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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)

#### Emphasis in Political Science

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Fourth-semester proficiency	
COMMON COURSES.....	9 CREDITS
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 .....	64 CREDITS

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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.

The Medical Transcription Certificate prepares students for entry-level positions as a medical transcriptionist.

## 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 better.

GENERAL EDUCATION REQUIREMENTS .....	18 CREDITS
Business Communications .....	BUS 167 ..... 3
Communications .....	BUS/CIS/ENG 179, or CIS/ENG 279, or ENG 101, or ENG 102 ..... 3
Mathematics.....	BUS 104 or MAT 122 or higher ..... 3
Information literacy.....	CIS 116 or CIS 120 ..... 3
AAS humanities/social science/behavioral sciences.....	6
CORE CURRICULUM.....	46 CREDITS
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)**

CORE CURRICULUM.....	30 CREDITS
Learning to Use the Personal Computer .....	CIS 116.....OR
Introduction to Information Systems.....	CIS 120 .....
Introduction to the Internet .....	CIS 185.....OR
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, except CIS 101. Elective course content cannot duplicate required course content for the certificate.

## MEDICAL TRANSCRIPTION

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

CORE CURRICULUM.....	13 CREDITS
Business English.....	BUS 111 .....
Speedbuilding .....	BUS M-0193 .....
Administrative Assistant Skills II.....	BUS 206 .....
Transcription and Terminology.....	BUS 212 .....

PROFESSIONAL COURSES .....	6-9 CREDITS
Advanced Medical Transcription/ Terminology ..	BUS 215 .....
Field Experience in Medical Transcription .....	BUS 226 .....

ELECTIVES* .....	2-5 CREDITS
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<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>24 CREDITS</b>
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\* Division-approved medical electives; BIO 160, BUS 211, BUS 293 and other 200-level BUS advisor-approved courses.

## ADMINISTRATIVE OFFICE AIDE

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

CORE CURRICULUM REQUIRED COURSES.....	16-18 CREDITS
Essential Workplace Success Skills.....	BUS 160 .....
Learning to Use the Personal Computer.....	CIS 116 .....
Excel I .....	BUS A193 .....
Excel II .....	BUS B193 .....
Excel III .....	BUS C193 .....
Automated Office Procedures.....	BUS 210 .....
Word Processing .....	BUS 213 .....
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.	
CORE CURRICULUM.....	30 CREDITS
Business Communications.....	BUS/ENG 167 .....
Business Math.....	BUS 104.....OR
Introduction to Accounting.....	BUS 146 .....
Essential Workplace Success Skills.....	BUS 160 .....
Technical Presentations.....	CIS 268 .....
Administrative Assistant Skills II.....	BUS 206 .....
Automated Office Procedures.....	BUS 210 .....
Administrative Assistant Skills III .....	BUS 216 .....
Electives* .....	7
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>30 CREDITS</b>

\* Field experience course is recommended. Any CIS or BUS course not used in the certificate, except BUS 101, CIS 101. Elective course content cannot duplicate required course content for the certificate.

## RECEPTIONIST

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

CORE CURRICULUM.....	18 CREDITS
Learning to Use the Personal Computer.....	CIS 116 .....
Administrative Assistant Skills I .....	BUS 106 .....
Business English.....	BUS 111.....OR
Business Communications.....	BUS/ENG 167 .....
Business Math.....	BUS 104.....OR
Introduction to Accounting.....	BUS 146 .....
Essential Workplace Success Skills.....	BUS 160 .....

Electives*.....	2-3
<b>TOTAL CERTIFICATE REQUIREMENTS</b>	<b>18 CREDITS</b>
* Field experience course is recommended. Any CIS or BUS course not used in the certificate, except CIS 101. 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, and career opportunities 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)

##### Emphasis in Psychology

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A)</b>	<b>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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
<b>LANGUAGE REQUIREMENT**</b>	<b>0-16 CREDITS</b>
Non-English language	
Second- or fourth-semester proficiency	
<b>COMMON COURSES</b>	<b>13 CREDITS</b>

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)\*\*\*

<b>TOTAL DEGREE REQUIREMENTS</b>	<b>64 CREDITS</b>
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\* General education electives must be chosen from the general education list:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## Social Work/Social Services

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 Associate of Applied Science degree in Social Services prepares students for entry-level positions in the social services. The certificate improves basic skills for entry-level social services employment.

### SOCIAL WORK

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

##### Emphasis in Social Work

<b>GENERAL EDUCATION REQUIREMENTS (AGEC-A)</b>	<b>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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General education electives*.....	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	
<b>LANGUAGE REQUIREMENT**</b>	<b>0-16 CREDITS</b>
Non-English language	
Second- or fourth-semester proficiency	
<b>COMMON COURSES</b>	<b>13 CREDITS</b>

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses:  
[www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

LANGUAGE REQUIREMENT** .....	0-16 CREDITS
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES .....	28-29 CREDITS
Introduction to Human Anatomy and Physiology .....	BIO 160.....OR
Human Anatomy and Physiology I.....	BIO 201 .....4
Introduction to Macroeconomics .....	ECN 201 .....3
Introduction to Psychology .....	PSY 101 .....3
Developmental Psychology .....	PSY 240 .....3
Introduction to Philosophy.....	PHI 111.....OR
Ethics.....	PHI 130 .....3
American National Government .....	POS 110 .....3
Introduction to Sociology .....	SOC 101 .....3
Introduction to Social Work.....	SOC 207 .....3
SELECT ONE:	
Introduction to Psychological Research, Measurements and Statistics.....	PSY 250 .....3
Business Statistics .....	BUS 219 .....3
Experimental Psychology .....	PSY 290 .....3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)***	
TOTAL DEGREE REQUIREMENTS .....	64 CREDITS

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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 Work.....	SOC 207 .....3
Ethnic Groups and Minorities.....	SOC 160 .....3
Introduction to Human Anatomy.....	BIO 160 .....4
Ethics.....	PHI 130 .....3
Information 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)

#### Emphasis in Sociology

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
Information literacy.....	CIS 116 or CIS 120 .....3
General education electives*.....	.....3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: <a href="http://www.cochise.edu/programsofstudy/curriculum">www.cochise.edu/programsofstudy/curriculum</a> .	

LANGUAGE REQUIREMENT** .....	16 CREDITS
Non-English language	
Fourth-semester proficiency	

COMMON COURSES (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 .....

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see  
[www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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 ..... 6
Teleservices Practicum .....	TLS 102.....1.5
Customer Service in the Teleservices Industry....	TLS 103 ..... 6
Teleservices Practicum II .....	TLS 104.....1.5
TOTAL CERTIFICATE REQUIREMENTS.....	15 CREDITS

## Theatre Arts

The Theatre Arts program, leading to an associate of arts degree, prepares students for transfer to a university. This program, leading to a bachelor of arts in drama production, drama education, or drama theory, provides extensive experience and training in performance and in various aspects of dramatic production.

### THEATRE ARTS

#### **Associate of Arts (Major Code - THE)**

#### **Emphasis in Theatre Arts**

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
Information literacy.....	CIS 116 or CIS 120 ..... 3
General Education Electives*.....	3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses: [www.cochise.edu/programsofstudy/curriculum](http://www.cochise.edu/programsofstudy/curriculum).

#### LANGUAGE REQUIREMENT\*\* .....

Non-English language

Second- or fourth-semester proficiency

#### COMMON COURSES .....

Acting I .....

THE 101 ..... 3

Acting II.....

THE 201 ..... 3

Stagecraft .....

THE 213 ..... 3

Dramatic Structures .....

THE 220 ..... 3

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

Introduction to Theatre .....

THE 100 ..... 3

Theatre Dance.....

THE 105 ..... 1

Theatre Workshop .....

THE 110 ..... 3

Theatre Makeup .....

THE 203 ..... 3

Essentials of Communication .....

COM 102 ..... 3

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

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

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

\*\*\* Elective courses must be transferable to all Arizona public universities, see [www.az.transfer.org/cas](http://www.az.transfer.org/cas).

## 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 will fulfill the needs of everyone from the beginner to the experienced welder looking to upgrade their skills and certifications. The General Welding Technology Certificate program will prepare students to enter the workforce with diverse welding skills.

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 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
Adv Applied Technical Writing.....	CIS/ENG 279 .....	3
Mathematics .....	MAT 122 or higher .....	3
Arts/humanities/social and behavioral sciences .....	3	
General education electives.....	6	
Computer literacy		
Reading competency		

#### CORE CURRICULUM..... 47 CREDITS

Technical Graphics I .....	DFT 112 .....	3
Technical Graphics II.....	DFT 113 .....	3
Computer-Aided Drafting.....	DFT 150 .....	3
Manufacturing Materials & Processes .....	GTC 105 .....	3
Engineering Materials & Processes .....	GTC 206 .....	4
Oxyacetylene Welding .....	WLD 105 .....	3
Arc Welding .....	WLD 106 .....	3
Welding Survey.....	WLD 202 .....	4
Gas Metal Arc Welding .....	WLD 208 .....	3
Gas Tungsten Arc Welding .....	WLD 209 .....	3
Advanced Shield Metal Arc Welding.....	WLD 210 .....	3
Pipe Fitting & Welding .....	WLD 211 .....	3
Welding Design.....	WLD 215 .....	3
Pipe Layout and Fitting .....	WLD 217 .....	3
Electives .....	3	

#### TOTAL DEGREE REQUIREMENTS ..... 65 CREDITS

## GENERAL WELDING TECHNOLOGY

### Certificate (Major Code - WLD)

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

Oxyacetylene Welding .....	WLD 105 .....	3
Arc Welding .....	WLD 106 .....	3
Blueprint Interpretation.....	WLD 203 .....	3
Gas Metal Arc Welding .....	WLD 208 .....	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..... 30 CREDITS

Technical Graphics I .....	DFT 112 .....	3
Computer-Aided Drafting.....	DFT 150 .....	3
Applied Technical Writing.....	BUS/ENG/CIS 179 .....	3
Manufacturing Materials & Processes .....	GTC 105 .....	3
Intermediate Algebra .....	MAT 122 .....	3
Oxyacetylene Welding .....	WLD 105 .....	3
Arc Welding .....	WLD 106 .....	3
Gas Metal Arc Welding .....	WLD 208 .....	3
Gas Tungsten Arc Welding .....	WLD 209 .....	3
Advanced Shield Metal Arc Welding .....	WLD 210 .....	3

#### TOTAL CERTIFICATE REQUIREMENTS..... 30 CREDITS

## AEROSPACE THERMAL FUSION

### Certificate (Major Code - AETF)

#### CORE CURRICULUM..... 30 CREDITS

Applied Technical Writing.....	BUS/ENG/CIS 179 .....	3
Manufacturing Materials & 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:

## 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.

### 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 & Air Conditioning .....	GTC 223 .....4
Hazardous Materials and the EPA .....	GTC 128 .....3
Electricity & Wiring for HVAC/R.....	GTC 227 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	16 CREDITS

## MASONRY

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

CORE CURRICULUM.....	21 CREDITS
Blueprint Interpretation and Basic Drafting.....	DFT 100 .....3
Technical Mathematics I .....	GTC 100 .....3
Masonry I .....	GTC 110 .....3
Masonry II.....	GTC 110 .....3
Masonry III .....	GTC 112 .....3
Concrete Construction and Finish.....	GTC 120 .....3
Estimating Construction.....	GTC 130 .....3
TOTAL CERTIFICATE REQUIREMENTS.....	21 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
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>16 CREDITS</b>

## Electronics Repair

A student who completes the General Electronics Technician Certificate program will be qualified for an entry-level position in electronics repair. The student will learn the nature of electronic circuits, specific diagnostics for direct and alternating current circuits, and an overview of consumer electronics repair.

The Advanced Electronics Certificate provides students with additional marketable skills in today's workforce and contributes toward seamless transfer to the College's Associate of Applied Science degree in Electronics.

## GENERAL ELECTRONICS TECHNICIAN

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

CORE CURRICULUM.....	24 CREDITS
Electronics Foundations .....	ELT 100 .....3
Introduction to DC Circuits .....	ELT 105 .....3
Introduction to AC Circuits .....	ELT 106 .....4
Math for Electronics .....	ELT 110 .....3
Radio Theory and Repair.....	CER 100 .....3
Semiconductors and Transistors .....	ELT 122 .....4
Modern Electronic Devices .....	ELT 243 .....4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>24 CREDITS</b>

## ADVANCED ELECTRONICS

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

CORE CURRICULUM.....	47 CREDITS
Consumer Electronics Repair Certificate.....	24
Advanced Mathematics for Electronics.....	ELT 120 .....3
Electronic Circuits and Systems .....	ELT 125 .....4
Pulse Circuits.....	ELT 231 .....4
Digital Circuits and Systems .....	ELT 233 .....4
Communications Electronics I .....	ELT 245 .....4
Communications Electronics II.....	ELT 247 .....4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>47 CREDITS</b>

## Telecommunications

The Telecommunications Cable Installation certificate program is intended as a comprehensive introduction and preparation for employment in the modern field of voice and data transmission support. The program 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.....	23 CREDITS
Learning to Use the Personal Computer.....	CIS 116 .....3
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 Systems.....	CIS 236 .....4
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>23 CREDITS</b>

# Fire Science

A student who completes the Lead Firefighter Certificate program will be qualified for an entry-level position as a firefighter. The student will learn the National Fire Protection Association (NFPA) requirements for certification as Firefighter I.

A student who completes the Fire Leadership Certificate program will be qualified for an entry-level position as a firefighter. The student will learn the national Fire Protection Association (NFPA) requirements for certification as Firefighter II and Fire Officer I. Completion makes the student a competitive candidate in today's job market.

## LEAD FIREFIGHTER

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

CORE CURRICULUM.....	18 CREDITS
Introduction to Fire Science .....	FST 101 .....3
Hazardous Materials First Responder .....	FST 103 .....3

Fire Fighter I .....	FST 110 .....	6
Fire Fighter II.....	FST 111 .....	6

**TOTAL CERTIFICATE REQUIREMENTS..... 18 CREDITS**

## FIRE LEADERSHIP PROGRAM

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

Prerequisite: Lead Firefighter Certificate

CORE CURRICULUM.....	18 CREDITS	
Fundamentals of Fire Prevention .....	FST 106 .....	3
Fire Service Hydraulics .....	FST 120 .....	3
Fire Apparatus and Equipment .....	FST 200 .....	3
Rescue Practices .....	FST 220 .....	3
Fire Fighting Tactics and Strategy.....	FST 240 .....	3
Supervisory Training for Firefighters .....	FST 265 .....	3
<b>TOTAL CERTIFICATE REQUIREMENTS.....</b>	<b>18 CREDITS</b>	



# Course Descriptions

Course descriptions can be found online through the current INFOline schedule information: [www.cochise.edu/information/infonline](http://www.cochise.edu/information/infonline).

**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 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 104 PRINCIPLES OF AGRONOMY (3)

Prerequisite(s): None.

This course deals with principles of field crop production with special emphasis on origin, distribution, cultural practices and improvements.

3 hours lecture.

### 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 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 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 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 140 RODEO SKILLS (3)

Prerequisite(s): None.

A course designed for a student to learn rodeo rules and to develop rodeo skills in barrel racing, team roping, calf roping, goat tying, and riding events and the personal ethics and attitudes of a good competitor.

2 hours lecture, 3 hours laboratory.

**AGR 141 ENGLISH EQUITATION (3)**

Prerequisite(s): None.

A course for students who now own or intend to purchase a pleasure horse to handle and care for the animal in an arena situation: how to handle English equipment, how to evaluate a pleasure horse and how to provide for the general well-being of the animal.

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 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: Reading level 11.0, ENG 100 or above.

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): Reading level 11.0, ENG 100 or above.

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 above, 11.0 reading grade level.

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 100 or above, or permission of instructor.

Recommended Preparation: Reading level 11.0, MAT 072 or above.

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 & MANAGEMENT (3)**

Prerequisite(s): AGR 101.

Recommended Preparation: Reading level 11.0, ENG 100 or above.

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 or 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 associate 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 associate 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. This course may be taught on a pass/fail basis.

3 hours lecture.

**AJS 101  INTRODUCTION TO ADMINISTRATION OF JUSTICE (3)**

Prerequisite(s): RDG 110 or RDG 122 or exemption or concurrent enrollment in RDG 122.

A study of the organization and jurisdiction of local, state, and federal law enforcement, judicial, and correctional systems. Also includes the history and philosophy, career opportunities and qualifying requirements, terminology and constitutional limitations of the system.

3 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 or permission of instructor.

An examination of the history of terrorism and the tactics and technology used by terrorist groups. Examines the nature of the terrorist threat and countermeasures to combat terrorism. AJS 113 is identical to MIO 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. This course may be taught on a pass/fail basis.

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 193 HAZ-MAT 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.

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, reading 11.5 grade level or higher.

A study of correctional management topics including sentencing, classification, "good time" credit, discipline, prisoner's 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 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): RDG 122 or exemption and ENG 101 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. (Course is 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 120 ♦ JOB SEARCH TECHNIQUES FOR AVIATION TECHNOLOGY (1)

Prerequisite(s): Permission of a cooperative education program coordinator.

A course to assist aviation technology students in acquiring knowledge and basic employment skills, including job hunting techniques, job applications, resumes, and interviewing upon program completion.

1 hour lecture.

### 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 systems.

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 hours 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 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 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, 160, and 260 or have 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) completion of 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. 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. 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. 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. 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 or 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. 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. 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. 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 associate 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.

**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 or 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 or 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): Placement in ENG 101, ENG 100, 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.

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 or 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 or 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.

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.

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

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.

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 hours lecture, 1.33 hours studio.

**ART 275 CERAMICS II (3)**

Prerequisite(s): None.

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 280 PAINTING I (3)**

Prerequisite(s): None.

Recommended Preparation: Art majors must have ART 103 or ART 106.

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 either ART 103 or ART 106, and ART 280

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.

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 285.

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 ART 103 and ART 231.

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): ART 192 or permission of instructor.

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 103 or 106

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 295 or permission of instructor.

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: ART 103 and ART 106.

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 hours lecture, 2 hours studio.

**ART 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate 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. ASL 215 and ITP 215 are identical.

3 hours lecture.

## Astronomy

**AST 092 SPECIAL TOPICS AND APPLICATIONS IN ASTRONOMY - 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 astronomy course emphasizing astronomy 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.

**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.

**AST 192 SPECIAL TOPICS AND APPLICATIONS IN ASTRONOMY (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 astronomy course emphasizing astronomy 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.

## 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 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 202 AUTOMOTIVE SHOP SERVICE TECHNIQUES (3)**

Prerequisite(s): AUT 101

This course provides individualized, self-paced instruction in the service and repair of automotive engines, electrical systems, transmissions, brakes, suspension and air conditioning. An opportunity is included for the student to service and repair vehicle systems and components using proper reference material. Emphasis is placed on the student's ability to demonstrate practical application of learned skills related to automotive service. Successful completion of this course is intended to prepare students for related ASE certification tests and is intended for the automotive technology major.

2 hours lecture, 2 hours laboratory.

**AUT 203 ADVANCED AUTOMOTIVE SHOP (3)**

Prerequisite(s): AUT 101

This course provides the student with an opportunity to perform advanced automotive service work in preparation for entry into the automotive trade. An option is included for the student to develop skills at an automotive worksite. This course addresses all service and repair on any vehicle system and provides the student exposure to shop management operations and strategies. Successful completion of this course is intended to prepare students for related ASE certification tests and is intended for the automotive technology major.

2 hours lecture, 2 hours laboratory.

**AUT 204 AUTOMOBILE 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 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 or equivalent. (AVT 101 may be taken concurrently)

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 INCLUDING 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 170 or AMT 210 or concurrent enrollment Sponsored employee of 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 Arial 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 Arial Vehicle (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 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, trouble-shooting, 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): GTC 127, GTC 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 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/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 (NON-MAJORS): SELECTED TOPICS (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 114A Ecology of the Sonoran Desert of Arizona
- BIO 114C Wildlife of Southern Africa
- BIO 114D Taxonomy of Birds
- BIO 114F Wildlife Ecology and Environmental Hazards of the Huachuca Mountains
- BIO 114G Flora and Fauna of Cochise County
- BIO 114H Cactus and Succulents of Arizona
- BIO 114I Birds of Southeastern Arizona
- BIO 114J Dangerous Animals of Arizona 
- BIO 114K Freshwater Environments of Cochise County
- BIO 114L Biology and Desert Survival
- BIO 114M Biology and the Cultivation of Desert Plants

**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 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 (MAJORS) (4)**

Prerequisite(s): None.

Recommended Preparation: MAT 082 and ENG 101 and high school chemistry or CHM 100 or CHM 130 or CHM 151.

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): Either BIO 181 and CHM 130 or satisfactory score on BIO 201 Proficiency Exam.

This course is an integrated study of the physical, structural, and functional features of the cells, tissues, skeletal system, muscular system, and the nervous system.

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 181.

Recommended Preparation: ENG 101 and MAT 082.

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 and ENG 101 and either BIO 101 or BIO 105 or BIO 160 or BIO 181 or BIO 183 or BIO 184 or 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 associate 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 associate dean prior to the initiation of the study. May be repeated for credit.

## Business Administration

**BUS 093 CULTURAL CONTEXT: CASE STUDIES (1)**

Prerequisite(s): Concurrent enrollment in ESL 014 or permission of instructor.

Introduction to the social norms, cultural values and assumptions underlying workplace behavior, with emphasis on case studies and practical application.

2 hours laboratory.

**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.

This course examines the fundamentals of business mathematics and the use of the number language to communicate in the business world. Basic mathematics background is suggested prior to enrolling.

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 multi-cultural 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 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 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 126 EXPLORING YOUR POTENTIAL AS A MANAGER (3)**

Prerequisite(s): None.

A course to assist women in evaluating their aptitudes, capabilities and values, and relating this evaluation to possible career choices in the business world.

3 hours lecture.

**BUS 127<sup>WF</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>WF</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>WF</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>WF</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 INTRODUCTION TO ACCOUNTING (3)**

Prerequisite(s): None.

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. Business Math course or equivalent is suggested prior to enrolling.

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 161 WRITING WITHIN ORGANIZATIONS (2)**

Prerequisite(s): None.

This course provides a study of organizational writing to include its purposes, strategies and processes. Emphasis will be on the production of clear, concise, and accurate communications ranging in form from simple to complex memos, short reports, long reports, proposals, feasibility studies and evaluation reports.

2 hours lecture.

**BUS 167 BUSINESS COMMUNICATIONS (3)**

Prerequisite(s): CIS 116 or equivalent proficiency and either BUS 111 or placement into 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 172  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 into ENG 101. College-level reading.

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 hours lecture.

- BUS 192A Business Communications and Writing Skills
- BUS 192B Making Presentations with Confidence and Power
- BUS 192C Communicating Across Cultures
- BUS 192D Fundamentals of Supervision
- BUS 192E Personnel Aspects of Supervision
- BUS 192F Leadership Techniques for Technical Managers
- BUS 192G Conflict Resolution
- BUS 192H Thinking Beyond the Boundaries
- BUS 192I Harmony in the Workplace
- BUS 192J Self-Directed Work Teams
- BUS 192K Management Skills for Support Staff
- BUS 192L Leading Organizational Change
- BUS 192M Positive Approaches to Change
- BUS 192N Proofreading, Editing and Grammar Skills
- BUS 192O Customer Service - A Positive Approach
- BUS 192P Introduction to Grant Writing
- BUS 192Q Intermediate Grant Writing
- BUS 192R Positive Approaches to Difficult People
- BUS 192S Mastering Negativity
- BUS 192T Coping with Stress
- BUS 192U Project Management
- BUS 192V Starting a Small Business
- BUS 192W Write a Winning Business Plan
- BUS 192X Marketing Your Small Business on the Internet
- BUS 192Y Developing a Safety Program for Business
- BUS 192Z Coaching and Counseling for Supervisors
- BUS A192 Write Effective Contract Proposals
- BUS B192 QuickBooks for Windows, Part I
- BUS C192 QuickBooks for Windows, Part II
- BUS D192 Ethics in Local Government

**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 193D Beginning Data Entry
- BUS 193E Intermediate Data Entry
- BUS 193F Advanced Data Entry
- BUS 193G Windows I
- BUS 193H Windows II
- BUS 193I Windows III
- BUS 193J Document Preparation Review I
- BUS 193K Document Preparation Review II
- BUS 193L Document Preparation Review III
- BUS 193M PowerPoint I
- BUS 193N PowerPoint II
- BUS 193O PowerPoint III
- BUS 193Q Internet
- BUS 193R Introduction to Computers I
- BUS 193S Introduction to Computers II
- BUS 193T Introduction to Computers 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 G193 Computerized Accounting I
- BUS H193 Computerized Accounting II
- BUS I193 Computerized Accounting III
- BUS J193 Developing Proofreading Skills I
- BUS K193 Developing Proofreading Skills II
- BUS L193 Developing Proofreading Skills III
- BUS M193 Speedbuilding I
- BUS N193 Speedbuilding II
- BUS O193 Speedbuilding III

### **BUS 201 FINANCIAL ACCOUNTING (3)**

Prerequisite(s): BUS 104 or MAT 122.

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: 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): BUS 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 212 TRANSCRIPTION AND TERMINOLOGY (3)**

Prerequisite(s): BUS 111 and either BUS 213 or BUS 216.

A study of complex terminology encountered in medical records, legal documents, or various types of business documents, as well as use of proper punctuation, capitalization and grammar. Emphasis will be on machine transcription. Practice tapes containing a variety of documents will be used.

3 hours lecture.

**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 215 ADVANCED MEDICAL TRANSCRIPTION AND TERMINOLOGY (3)**

Prerequisite(s): BUS 212.

A further study of medical terminology encountered in medical records and medical office machine transcription. Practice sets in medical records will be utilized.

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 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 225 ♦ FIELD EXPERIENCE IN OFFICE TECHNOLOGY (1 - 6)**

Prerequisite(s): A declared major in office technology and 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 office 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.

**BUS 226 ♦ FIELD EXPERIENCE IN MEDICAL TRANSCRIPTION (1 - 6)**

Prerequisite(s): A declared major in Medical Transcription and 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 medical transcription/terminology and medical records. 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 or 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 will be placed on the process of drawing up a personal financial plan.

3 hours lecture.

**BUS 229 BUSINESS INVESTMENTS (3)**

Prerequisite(s): BUS 104 or 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 230 MONEY AND BANKING (3)**

Prerequisite(s): ECN 201.

The practical aspects of money and banking, and monetary theory needed by the banking student. Students will be introduced to major private and public institutions in the field of money and banking, the three major traditional divisions of finance (corporate finance, investments, capital markets), the role of the Federal Reserve, and the growth of monetary aggregates and its impact on the economy.

3 hours lecture.

**BUS 233  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.

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 242 REAL ESTATE FINANCE (3)**

Prerequisite(s): None.

Recommended Preparation: CIS 116 or higher.

A course in basic real estate finance which includes the mortgage lending process, primary sources of loans, the secondary money market, documents used in mortgage lending, compliance issues and the Federal Truth-in-Lending law.

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 280 ADVANCED COMPUTERIZED ACCOUNTING (3)**

Prerequisite(s): BUS 180.

A project approach to working with advanced computerized accounting concepts and a variety of computerized software.

2 hours lecture, 3 hours laboratory.

**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 143, BUS 145, BUS 201, BUS 202 and CIS 181.

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  ELECTRONIC COMMERCE (3)**

Prerequisite(s): CIS 116 or 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 293D Advanced Outlook

BUS 293E Machine Transcription and Terminology

BUS 293F Legal Terminology

BUS 293G Legal Transcription

BUS 293H Medical Terminology

BUS 293I Medical Transcription

BUS 293J Advanced Legal Applications

BUS 293K Advanced Medical Applications

BUS 293L Advanced Office Professional I

BUS 293M Advanced Office Professional 2

BUS 293N Advanced Office Professional 3

BUS 293O Advanced Word Projects

BUS 293P Advanced Word Applications I

BUS 293Q Advanced Word Applications II

BUS 293R Advanced Word Applications III

BUS 293S Advanced Medical Terminology and Transcription

BUS 293T Advanced Medical Specialty Terminology

BUS 293U Advanced Medical Specialty Transcription

BUS 293V Advanced Medical Specialty Terminology and Transcription

BUS 293W Medical Transcription with Foreign Accents I

BUS 293X Medical Transcription with Foreign Accents II

BUS 293Y Medical Transcription with Foreign Accents III

BUS A293 Post-Advanced Office Professional I

BUS B293 Post-Advanced Office Professional II

BUS C293 Post-Advanced Office Professional III

BUS D293 Expert Office Professional I

BUS E293 Expert Office Professional II

BUS F293 Expert Office Professional III

**BUS 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of associate dean.

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 associate dean prior to the initiation of the study. May be repeated for credit.

**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 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 following courses, CER 100, 102, 104, 200, 202, 204, 205 and 206 were designed specifically for 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.

**CER 206 ADVANCED TELEVISION REPAIR (4)**

Prerequisite(s): CER 104.

A course designed to teach students advanced television receiver theory picture-in-picture, projection and high definition televisions. Students learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.

4 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.

**CET 101 ENGINEERING SURVEY II (3)**

Prerequisite(s): CET 100.

Advantages, disadvantages and restriction of various methods used in surveying and mapping; principles of directional control; geodetic relationships and subdivision layout.

2 hours lecture, 3 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 100 PREPARATION FOR CHEMISTRY (4)**

Prerequisite(s): MAT 082.

Elements of general chemistry adapted to the needs of those students who have not had high school chemistry.

3 hours lecture, 3 hours laboratory.

**CHM 130 FUNDAMENTAL CHEMISTRY (4)**

Prerequisite(s): MAT 082.

A one-semester course introducing fundamentals of general chemistry. Emphasis is placed on principles important to the understanding of human biological functions and related medical aspects. Especially adapted to the needs of students in nursing and other health related fields. Serves as a laboratory science for degree requirements.

3 hours lecture, 3 hours laboratory.

**CHM 140 FUNDAMENTAL ORGANIC AND BIOCHEMISTRY (4)**

Prerequisite(s): CHM 130 or CHM 151.

Principles of organic and biochemistry designed for students who do not intend to take further chemistry, such as majors in nursing, agriculture, home economics and physical education.

3 hours lecture, 3 hours laboratory.

**CHM 151 GENERAL CHEMISTRY I (4)**

Prerequisite(s): MAT 122 and one year high school chemistry or CHM 100 or CHM 130 with a grade of C or better.

Introduction to the general principles of chemistry with emphasis on quantitative relationships, including properties of matter, chemical bonding and structure, nomenclature, chemical equations, stoichiometry, thermochemistry, states of matter, and 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 associate 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 associate 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 100 COMPUTER INFORMATION SYSTEMS CAREER ACADEMY (3)

Prerequisite(s): None.

An introduction to some of the skills in the computer information systems field. An opportunity for the student to experience the skills required, level of commitment needed to be successful in this field. This course is designed to better acquaint the youth of our community with the Computer Information Systems field and as a career choice. This course may be taught on a pass/fail basis.

3 hours lecture.

## CIS 101 INTRODUCTION TO COMPUTER INFORMATION SYSTEMS (1)

Prerequisite(s): None.

A brief, introductory class in computer information systems. Students will be exposed to the two major operating systems used on personal computers (Windows and Unix). Students will install the operating systems, connect to network resources, install and start applications, use the Internet, and attach a printer.

3 hours laboratory.

## 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 116 COMPUTER ESSENTIALS (3)

Prerequisite(s): CIS 091 or a score of 70 or higher on the CIS placement test or permission of department chair.

An introduction to the personal computer and applications. Emphasis will be placed on Word, Excel, Access, PowerPoint and the integration of all the applications. This course is taught in a hands-on environment.

3 hours lecture.

## CIS 120 INTRODUCTION TO INFORMATION SYSTEMS (3)

Prerequisite(s): CIS 091 or a score of 70 or higher on the CIS placement test or permission of department chair.

A comprehensive study of computer concepts, information on computer and network basics, file management and protection, and Internet and LAN technology, the World Wide Web, digital media, today's computer industry, information systems analysis and design, databases, fundamentals on computer programming, computer hardware and software. Includes hands-on experience using applications software on systems.

3 hours lecture.

## CIS 128 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 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 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  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  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  APPLIED TECHNICAL WRITING (3)**

Prerequisite(s): ENG 100 or placement into ENG 101; RDG 122 or exemption; and either 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 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 185 INTRODUCTION TO INTERNET (3)**

Prerequisite(s): CIS 116.

An introduction to the Internet and its navigation. Emphasis is on the World Wide Web as a research tool. Use and management of electronic mail and file transfers are also covered. Strategies for conducting research on the Internet are developed. Basic HTML is addressed. 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 hours lecture.

CIS 192Q	Microcomputer Orientation
CIS 192Z	Beginning Microsoft Windows
CIS A192	Intermediate Microsoft Windows
CIS B192	Front Page
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 M192	Intermediate PowerPoint
CIS O192	Outlook
CIS Q192	Using the Internet, Part I
CIS R192	Using the Internet, Part 2
CIS S192	Building a Homepage on the Internet
CIS T192	Doing Business on the Internet
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 193A	2D Computerized Digital Imaging I
CIS 193B	2D Computerized Digital Imaging II
CIS 193C	2D Computerized Digital Imaging III
CIS 193D	2D Advanced Digital Imagery I
CIS 193E	2D Advanced Digital Imagery II
CIS 193F	2D Advanced Digital Imagery III
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 193P	Personal Computer Basics
CIS 193Q	Laptop Basics
CIS 193R	Introduction to Computer Information Systems I
CIS 193U	Introduction to Email
CIS 193V	Word Processing I
CIS 193W	Word Processing II
CIS 193X	Word Processing III
CIS 193Z	Intro to Outlook
CIS A193	Slicing and Dicing Web Pages
CIS B193	2D Computer Animation I
CIS C193	2D Computer Animation II
CIS D193	2D Computer Animation III
CIS E193	2D Computer Animation With Action Scripting I
CIS F193	2D Computer Animation with Action Scripting II
CIS G193	2D Computer Animation with Action Scripting III
CIS H193	3D Computer Generated Imagery I
CIS I193	3D Computer Generated Imagery II
CIS J193	3D Computer Generated Imagery III
CIS K193	3D Computer Generated Imagery IV
CIS L193	3D Computer Generated Animation I
CIS M193	3D Computer Generated Animation II
CIS N193	3D Computer Generated Animation III
CIS O193	3D Computer Generated Animation IV
CIS P193	Advanced 3D Computer Generated Imagery I
CIS Q193	Advanced 3D Computer Generated Imagery II
CIS R193	Advanced 3D Computer Generated Imagery III
CIS S193	Advanced 3D Computer Generated Imagery IV

CIS T193 Computer Generated Video Production I  
CIS U193 Computer Generated Video Production II  
CIS V193 Computer Generated Video Production III  
CIS W193 Computer Generated Video Production IV

### **CIS 202 COBOL PROGRAMMING (4)**

Prerequisite(s): CIS 130 or a score of 70 or better 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 or placement into 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 better 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 better 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 better 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 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 220B DATA STRUCTURES ASSEMBLER (4)**

Prerequisite(s): CIS 206

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 Assembler.

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 220E DATA STRUCTURES-COBOL (4)**

Prerequisite(s): CIS 202

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 COBOL.

3 hours lecture, 3 hours laboratory.

**CIS 220F DATA STRUCTURES-FORTRAN (4)**

Prerequisite(s): CIS 203

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 FORTRAN.

3 hours lecture, 3 hours laboratory.

**CIS 220G DATA STRUCTURES-PASCAL (4)**

Prerequisite(s): CIS 201

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 PASCAL.

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 150, CIS 128, CIS 204 or CIS 208

Number systems, conversion methods, binary and complement arithmetic, Boolean and switching algebra, circuit minimizations, ROMs, PLAs, flipflops, synchronous sequential circuits, 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 227  C++ PROGRAMMING (4)**

Prerequisite(s): CIS 130 or score of 70 or better 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  UNIX SYSTEM ADMINISTRATION (4)**

Prerequisite(s): CIS 248 or CIS 257.

An introductory course in UNIX system administration. Topics include: starting and stopping the system; security; administering users, groups, file systems, terminals, printers, disks; electronic mail; backing up the system; tuning and troubleshooting the system.

3 hours lecture, 3 hours laboratory.

**CIS 232 DIGITAL COMMUNICATIONS (4)**

Prerequisite(s): CIS 150 and one of (CIS 128, CIS 234, or CIS 236).

Binary and hex number systems, Boolean algebra, circuit optimization, switches, routers, firewall configuration and installations. Implement network management.

3 hours lecture, 3 hours laboratory.

**CIS 236 MICROSOFT WORKSTATION OPERATING SYSTEMS (4)**

Prerequisite(s): CIS 140 and CIS 150.

Microsoft is the leading supplier of desktop operating systems for home and business use. This class will use the most current and widely accepted version of Microsoft's business desktop operating system. The student will learn proper installation of the operating system, the features of the system, maximum utilization of the user interface, and efficient file handling. The student 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. The student 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 240.

This class will give the student an understanding of the TCP/IP suite of protocols (version 4) as it is currently implemented by the Windows Server operating system. This will include 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 240.

In this course, students will be introduced to Microsoft's directory services. The class will include 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 management of trees and forests and administration of network resources, identification and resolution of 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 websites. Also covered is 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 257  UNIX SHELL PROGRAMMING (4)**

Prerequisite(s): (CIS 129 or CIS 130 or pass the CIS 130 placement exam) and CIS 128.

A beginning course in UNIX Shell Programming. Topics include the find, awk, grep, and sed utilities, regular expressions, Bourne, C and Korn shell programming languages.

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 and CIS 260 and either CIS 128 or 236 or (CIS 140 and CNT 150)

This is a course designed for individuals who intend to support a network. Topics will 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 and 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 129, CIS 161, and CIS 236 or permission of instructor.

This course provides hands-on experience in securing the Linux and Windows operating systems. Coverage includes networking and security utilities (both command line and graphical), as well as the knowledge to design and implement an effective security strategy in a network environment. 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 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 285 INTRODUCTION TO DESKTOP PUBLISHING (3)**

Prerequisite(s): Typing, word processing or computer experience helpful.

Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production.

3 hours lecture.

**CIS 286 ADVANCED DESKTOP PUBLISHING (3)**

Prerequisite(s): CIS 285.

Advanced techniques and practices to create printed materials of diverse size and complexity using a desktop publishing system and a drawing software package. Emphasis will be on improving and enhancing the visual appearance of printed materials.

3 hours lecture.

**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 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 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****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 TCP/IP suite and IP addressing. 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, Cisco Internetwork Operating System (IOS) software, intermediate TCP/IP and access control lists (ACLs). 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 ADVANCED ROUTING AND SWITCHING (4)

Prerequisite(s): CNT 150.

Cisco Advanced Routing and Switching introduces the student to Local Area Network (LAN) switching and advanced routing concepts through the hands-on use of switches and routers. Topics covered include classless routing, open shortest path first (OSPF) routing protocol, enhanced interior gateway routing protocol (EIGRP), switch architecture and configuration, spanning tree protocol and virtual LANs. 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 240.

Cisco Wide Area Network (WAN) Technologies is the capstone course in the Cisco Certified Network Associate (CCNA) curriculum. Students will receive hands-on experience in configuring routers and switches for use in WAN environments. Topics covered will include scaling Internet protocol (IP) addresses using network address translation (NAT) and private address translation (PAT), WAN standards, design and communications, integrated digital service network (ISDN), frame relay operation and configuration. This is the final of four courses to prepare students to take the CCNA certification exam.

3 hours lecture, 3 hours laboratory.

# Communications

## COM 091 PRONOUNCING ENGLISH (1)

Prerequisite(s): Placement test.

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.

## 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 COMMUNICATIONS (3)

Prerequisite(s): Placement in ENG 101 or completion of ENG 100.

A study of the communication process as it relates to all communication (one-to-one dialogs, small-group discussions, and large-group speaking situations), with an emphasis on communicating with an audience. The study includes basics in all communication: choosing and researching a topic, organizing material for speaking, and delivering speeches of information, persuasion, and demonstration.

3 hours lecture.

## COM 109 PUBLIC SAFETY COMMUNICATIONS (3)

Prerequisite(s): Placement in ENG 101 or completion of ENG 100.

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 instructor permission.

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 193A Coping with "Stage Fright"

COM 193B Diversity Issues

COM 193C Gender Differences in Communications

COM 193D Difficult People

COM 193E Improving Small Group Communication

COM 193F Improving Group Problem Solving

COM 193G Preparing For and Running Public Meetings

**COM 204  ELEMENTS OF INTERCULTURAL COMMUNICATION (3)**

Prerequisite(s): ENG 101 or permission of instructor.

Introduction to communication between cultures. Emphasis will be on 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 or 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. May be offered in a pass/fail format.

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. May be offered in a pass/fail format.

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. May be offered in a pass/fail format.

1 hour lecture.

**CPD 150 ACADEMIC EXCELLENCE SEMINAR (3)**

Prerequisite(s): College reading level.

This course provides an introduction to higher education, Cochise College, and the skills necessary to succeed as a student and in life. This course provides a unique opportunity to acquire study and life skills. Vocabulary will be expanded in preparation for college materials. An introduction to critical-thinking skills and respect for diverse cultures will be included. Research skills, and current internet, web and other common and cutting-edge, digital technology will also be integrated into course assignments.

3 hours lecture.

**CPD 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the instructor and appropriate dean.

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 associate dean prior to the initiation of the study. May be repeated for credit.

## Culinary Arts

**CUL 105 NUTRITION IN FOODSERVICE (3)**

Prerequisite(s): None.

Principles of culinary nutrition. Includes scientific aspects, life-style 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 FOODSERVICE 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 181 EXPLORATION IN MODERN COOKING (1)**

Prerequisite(s): None.

Each semester, this course explores a new specialty in culinary arts, to enhance the specialized skills necessary to progress in haute cuisine settings. Specialized courses shall include: ice carving, sauces of the world, chocolate fantasies, food sculptures, table top designs, desserts of the world, and regional cuisine.

1 hour lecture.

**CUL 204 FOODSERVICE PURCHASING AND CONTROL (3)**

Prerequisite(s): None.

Recommended Preparation: CUL 110

The course includes the principles of selecting sources as well as quality and type of foods, and determining quantities to purchase. Fundamentals of receiving operations, quality, and volume assurance. Includes planning, control system design, cost analysis and control of 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 interorganizational liaison.

3 hours lecture.

**CUL 215 CULINARY PREPARATION I (3)**

Prerequisite(s): CUL 107.

This course includes the preparation of cuisine specialties. Includes basic cooking principles, recipes, pre-preparation, stocks and sauces, vegetable cookery, starches, breakfast preparation, meat cookery, poultry, fish and shellfish, salads and salad dressings, sandwiches, presentation and garnishing, and bake shop production.

2 hours lecture, 2 hours laboratory.

**CUL 216 CULINARY PREPARATION II (4)**

Prerequisite(s): CUL 215.

Recommended Preparation: CUL 207.

This course is a continuation of CUL/HAD 215. The course includes a review of the rules of good sanitation, modern kitchen equipment, cooking methods, art of seasoning, creating recipes, food cost, menu development, nutritional considerations, healthy alternatives, soups, family of sauces, butchering of meat for quantity food preparation, purchasing guidelines, government regulations, cuts and usage of pork, lamb/veal, and beef, cooking methods, vegetable cookery, and potatoes and other starches.

3 hours lecture, 3 hours laboratory.

**CUL 220 BAKING I (3)**

Prerequisite(s): CUL 107

This course includes the essentials of baking including basic principles, ingredients, quick breads, yeast dough, syrups, creams, icings, and sauces, pastries, pies, cake mixing and decorating, cookies, custards, puddings and mousses, and display pieces.

2 hours lecture, 2 hours laboratory.

**CUL 221 FOOD SERVICE SPECIALTY: BAKING II (3)**

Prerequisite(s): CUL 220.

This course is a continuation of CUL/HAD 220. It includes advanced baking principles, baking process, 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 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 FOOD SERVICE SPECIALTY: GARDE-MANGER II (3)**

Prerequisite(s): CUL 225.

This course is a continuation of CUL/HAD 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 (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.

## 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): DFT 112.

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 120.

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, 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 120, DFT 150.

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 2D COMPUTERIZED DIGITAL IMAGING (3)**

Prerequisite(s): None.

Introduction to using the digital camera and other means of digitizing pictures to prepare images for use on the computer. Basic enhancement and manipulation techniques for images will be explored. This course is taught in a hands-on environment.

3 hours lecture.

**DMA 111 2D COMPUTER ANIMATION (3)**

Prerequisite(s): DMA 110

This course will provide an overview of using 2D animation software utilizing beginning and intermediate software features. This course is taught in a hands-on environment.

3 hours lecture.

**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 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 ADVANCED 2D COMPUTERIZED DIGITAL IMAGING (3)

Prerequisite(s): DMA 110

Advanced class in using the digital camera and other means of digitizing pictures to prepare images for use on the computer. Advanced enhancement and manipulation techniques for images will be explored. This course is taught in a hands-on environment.

3 hours lecture.

## DMA 211 2D COMPUTER ANIMATION WITH ACTION SCRIPTING (3)

Prerequisite(s): DMA 111

This course will provide an overview of using 2D animation software utilizing intermediate and advanced software features for making your animation more effective. This course is taught in a hands-on environment.

3 hours lecture.

## 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 or 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 or 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 103, and DMA 260.

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 I (3)**

Prerequisite(s): None.

Recommended Preparation: ART 103 and DMA 260.

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): Completion of ECE 101, 110, or 121ABC, ECE 102, 112, or 122ABCD, ECE 103, 113, 123AC and ECE 104, 114, 124ABC.

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 125 PRACTICUM (0.5 - 3)**

Prerequisite(s): Concurrent enrollment in other ECE curriculum.

A supervised practicum in early childhood care and education, allowing students to apply entry-level skills gained in the classroom in a real world-of-work situation.

**ECE 150 INTRODUCTION TO EARLY CHILDHOOD CARE  
AND EDUCATION (3)**

Prerequisite(s): None.

Recommended Preparation: Current employment in early childhood care or education or enrollment in work/study in an early childhood care or education setting.

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): 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 techniques, and listening skills. Meaningful two-way communication will be emphasized.

3 hours lecture.

**ECE 155 CHILDREN'S LANGUAGE DEVELOPMENT (3)**

Prerequisite(s): Placement in or completion of ENG 100.

Recommended Preparation: For ECE degree seekers: ECE; current employment and/or work/study placement in a child care center or preschool setting.

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 LITERACY (3)**

Prerequisite(s): Placement in or completion of ENG 100.

Recommended Preparation: For ECE degree seekers: Current employment and/or work/study placement in a child care center or preschool setting.

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): Concurrent enrollment in HPE 188 or HPE 189.

In-depth examination of the 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 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 is designed to address growth, development, and socialization of the child from birth, infancy and toddlerhood, to early childhood and middle childhood with childcare implications.

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): Completion of ENG 101 and Six credit hours in Early Childhood Education (ECE) coursework.

In-depth examination of child development and preschool programs 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 English at the ENG 100 level.

Investigation into the multifaceted nature of the creative processes from a comprehensive review of the developmental, emotional, social, and physical and promoting creativity through visual, movement, 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.

### **ECN 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to the initiation of the study. May be repeated for credit.

# 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 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 193A EFFECTIVELY DEALING WITH LINGUISTIC DIVERSITY IN THE CLASSROOM

EDU 193B Curriculum Development for Culturally Diverse Student Population

EDU 193C Content-Specific Teaching Strategies for Bilingual and Limited English Proficiency Students

EDU 193D A Holistic Approach to Language and Literacy

EDU 193E Cooperative Learning

EDU 193F Effectively Managing the Educational Institution

EDU 193G Professional Development of Instructional Staff

EDU 193H Involving Parents and the Community in the Educational Process

EDU 193I Minimizing the Adverse Impact of Social Problems

EDU 193J Technology and Teaching

## EDU 201 INTRODUCTION TO EDUCATION (3)

Prerequisite(s): RDG 122 or exemption and ENG 100 or concurrent enrollment.

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 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> TEACHING METHODS FOR ENGLISH AS A SECOND LANGUAGE LEARNERS (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 12.0 or higher reading grade level or official Cochise College equivalent.

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 CLASSROOM LEARNING THROUGH HANDS-ON ACTIVITIES IN ART (3)**

Prerequisite(s): None

This course will examine the theory and practice for using art activities to enhance learning in the elementary classroom. The philosophy of Discipline-Based Art Education (D.B.A.E.) will also be provided, as students will design and participate in lessons that model the integration of the visual and performing arts with the general curricula. Designed to increase awareness of the integration of art with other subjects and the development of meaningful art projects, the course will inspire teachers to include hands-on learning to increase student learning.

2 hours lecture, 2 hours laboratory.

**EDU 226 CULTURAL DIVERSITY IN EDUCATION (3)**

Prerequisite(s): ENG 101, 12.0 or higher reading grade level or official Cochise College equivalent.

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 230 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◊ METHODOLOGY FOR TEACHING AT THE COMMUNITY COLLEGE (1)**

Prerequisite(s): Instructor qualification. Recommendation: 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 290 INSTRUCTOR SKILL DEVELOPMENT (3)**

Prerequisite(s): RDG 122 or exemption and ENG 101 or permission of instructor.

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.

## 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 multi-stage 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 224 ♦ FIELD EXPERIENCE IN ELECTRONICS (1 - 6)**

Prerequisite(s): A declared major in electronics 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 electronics 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.

**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, 122, and 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.

**ELT 270 ♦ MICROCOMPUTER SYSTEMS (4)**

Prerequisite(s): ELT 233 and concurrent enrollment in ELT 265.

Analysis of small computer systems. Computer organization and the hardware and software required for peripheral interfacing.

3 hours lecture, 3 hours laboratory.

## Emergency Medical Tech

**EMT 174 ♦ EMERGENCY MEDICAL TECHNICIAN (8)**

Prerequisite(s): Students must meet the following requirements:

- 1) 18 years of age upon completion of course.
- 2) Valid Health Care Provider CPR card from American Heart Association or American Red Cross with an expiration date no later than 6 months after the completion of the course.
- 3) Placement in, exemption from or completion of RDG 122.
- 4) Good physical condition
- 5) Tuberculin skin test (TB) or negative chest x-ray report.
- 6) Measles, Mumps, Rubella (MMR) or birth prior to 1957 or positive titer.
- 7) Varicella (Chicken Pox) - waiver or positive titer.
- 8) Drug Screen

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/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.

Medical Direction: Arizona Certified EMT-Basics are authorized to provide medical treatment, perform medical procedures and utilize skills as defined by the National Highway Traffic Safety Administration's 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): Prior to enrollment in the paramedicine course, all students must pass written and practical exams as outlined by the ADHS/EMS. 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) Minimum 1 year working experience as an EMT-B with an out of hospital provider of emergency medical care
- 2) Valid Health Care Provider CPR card
- 3) Successful completion of the HazMat First Responder Operations Course (required by ADHS-BEMS)
- 4) Placement in or completion of MAT 082 or higher
- 5) Placement in, exemption from or completion of RDG 122
- 6) Good physical condition
- 7) Tuberculin skin test (TB) or negative chest X-ray report
- 8) Measles, Mumps, Rubella (MMR) or birth prior to 1957 or positive titer
- 9) Varicella (Chicken Pox) waiver or positive titer
- 10) Hepatitis B series or positive titer
- 11) Drug screen
- 12) Background check

Recommended Preparation: BIO 160 or BIO 201

Paramedicine 201 is the first in a series of three courses preparing the student to perform as a Nationally Registered Emergency Medical Technician - Paramedic (NREMT-P). This course provides the education required to achieve student readiness 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. Topics include preparatory information, including roles and responsibilities of the EMT-P, medical and ethical issues, basic and advanced airway management, patient assessment for both the medical and trauma patient, EMS systems, pharmacology, vascular access techniques, and pre-hospital research.

10 hours lecture, 6 hours laboratory.

## **EMT 202 ♦ PARAMEDICINE II (14)**

Prerequisite(s): EMT 201 and concurrent enrollment in MAT 122.

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 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, etc.

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 010A ENGLISH FUNDAMENTALS I (3)**

Prerequisite(s): Placement or permission of instructor.

Recommended Preparation: Keyboarding skills.

A review of standard oral and written English with an emphasis on sentence construction and vocabulary development, and introducing paragraph development. Instructors will diagnose students' use of non-standard grammar, usage, spelling, and punctuation and assign exercises and tutorials appropriate to individual students.

3 hours lecture, 1 hour laboratory.

## **ENG 010B ENGLISH FUNDAMENTALS II (3)**

Prerequisite(s): Placement or ENG 010A or permission of instructor.

Recommended Preparation: Keyboarding skills.

A review of standard oral and written English that continues the developmental sequence begun in ENG 010A, focusing on spelling, vocabulary, grammar, usage, punctuation, and studying, responding to, and summarizing the text in writing of paragraphs and short essays. Appropriate exercises and tutorials may be assigned.

3 hours lecture, 1 hour laboratory.

## **ENG 011 BASIC GRAMMAR (1)**

Prerequisite(s): None.

An introduction to English grammar terminology. This course will prepare students who plan to study a foreign language by introducing them to general grammatical terms and usage. In addition, this course will review basic terms for English speaking students to facilitate improved sentence structure and punctuation. This course is not designed for ESL students who do not already have a strong command of English.

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 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 100 INTERMEDIATE WRITING (3)**

Prerequisite(s): Placement or ENG 010B 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, 1 hour laboratory.

**ENG 101<sup>WF</sup> COMPOSITION (3)**

Prerequisite(s): Placement 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 101 A, 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>WF</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): Completion of ENG 101 with a grade of A, recommendation of ENG 101 instructor, GPA of 3.5 or above, 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>WF</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 into ENG 101; RDG 122 or exemption; and either 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 192 SPECIAL TOPICS IN LANGUAGE AND LITERATURE (0.5 - 1)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing linguistic development and change, regional language and literature, literary styles, folklore and related topics. The title of the course will vary depending on the topic each time the course number is used. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs. Course may be repeated.

**ENG 203 ADVANCED COMPOSITION (3)**

Prerequisite(s): ENG 102.

An introduction to writing critically about literature with analysis of various literary genres. Credit for ENG 104 will not be granted if the student has taken ENG 203.

3 hours lecture.

**ENG 206 CRITICAL WRITING (3)**

Prerequisite(s): ENG 101 & 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<sup>wf</sup> 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<sup>wf</sup> 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): Two of the following: ENG 101, 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.

Recommended Preparation: CIS 285.

Production of the College literary and arts magazine. Includes application of promotion, editing, design, layout, and production techniques. May be taken more than once 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.

**ENG 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to the initiation of the study. May be repeated for credit.

## English as a Second Language

**ESL 009 ADULT BASIC READING FOR ESL (3)**

Prerequisite(s): Recommendation from placement test.

An introduction to reading and writing English for non-literate, non-native speakers of English who need an adult basic education approach to the alphabet, English phonetics, and how to read print and to form words into basic English sentences.

3 hours lecture.

**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 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 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 044 ESL WRITING IV (3)**

Prerequisite(s): ESL 034 or recommendation from placement test.

An intermediate to high-intermediate level writing course for students learning English as a Second Language, designed to review the writing process, develop coherent essays and increase vocabulary suitable for academic discourse.

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 056 ORAL COMMUNICATION V (3)**

Prerequisite(s): Recommendation from ESL oral placement testing or final oral assessment from previous semester.

A continuation of English oral communication skills for students whose native language is not English, this course addresses the development of skills needed to handle complex communicative tasks at the fifth-semester level. Extensive work on accent reduction and oral communication strategies for social and business purposes.

3 hours lecture, 2 hours laboratory.

### **ESL 066 ADVANCED ORAL COMMUNICATION (3)**

Prerequisite(s): Recommendation from ESL oral placement testing or final oral assessment from previous semester.

Advanced oral communication skills for students whose native language is not English, this course addresses the development of skills needed to handle complex communicative tasks. Further work on accent reduction, oral communication strategies for a full range of social and business purposes, and extended oral discourse.

3 hours lecture, 2 hours laboratory.

### **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): Completion of ESL 070; placement 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; 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, and concurrent enrollment in HUM 093.

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.

**ESL 100 ACADEMIC SKILLS (3)**

Prerequisite(s): Placement test.

A course designed to develop and integrate students' academic language proficiency and study skills through tasks, which simulate the American college classroom. Emphasis is on note-taking from

lectures and texts, previewing and reviewing research, asking questions and participating in discussions. Recommended concurrent enrollment in COM 100.

3 hours lecture, 2 hours laboratory.

**ESL 193 AMERICAN IDIOMS (1)**

Prerequisite(s): None.

An overview of common idiomatic expressions, collocations and phrasal verbs that can be confusing or difficult for students whose native language is not English.

1 hour lecture.

## 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 hours lecture.

EVS 192A OSHA Hazmat and Emergency Response Refresher

EVS 192B Asbestos Awareness

EVS 192C Lead Awareness - In Paint, Soil and Water

EVS 192D Confined Space Safety and Rescue

EVS 192E State Water/Wastewater Operator Certification

EVS 192F Respiratory Protection

## 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): Placement into RDG 122 or exemption or completion of either RDG 021, RDG 110 or RDG 122.

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 equivalent, or permission of instructor.

A study of the principles of human nutrition and their application in health and illness.

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 Marshall.

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 Firefighter II certification exam through the State Fire Marshall'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. Identical to AJS 112.

1 hour lecture.

**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 & NFPA 472) Safety and Entry Level Operations.

6 hours lecture.

**FST 124 CITIZEN FIRE ACADEMY (2)**

Prerequisite(s): Age 18 or older and student must 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. This course may be taught on a pass/fail basis.

2 hours lecture.

**FST 193 SPECIAL TOPICS IN FIRE SCIENCE (1)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing fire science topics of current interest to area fire departments and related public service agencies. Includes seminars based upon National Fire Academy field courses. The title of this course may differ each term, depending on the topic being covered when the course is offered.

1 hour lecture.

**FST 193A INCIDENT COMMAND SYSTEM**

- FST 193B Fire Science Supervision: Increasing Personal Effectiveness
- FST 193C Fire Science Supervision: Increasing Team Effectiveness
- FST 193D Volunteer Fire Service Management
- FST 193E Firefighter Health and Safety
- FST 193F Firefighter Safety and Survival: The Company Officer's Responsibility
- FST 193G Public Fire Education Planning
- FST 193H Instructional Techniques for Company Officers
- FST 193I Basic Fire Prevention Inspections
- FST 193J Ventilation
- FST 193K Self-Contained Breathing Apparatus

**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, trouble-shooting, 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 & 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 & 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 260 FIRE INVESTIGATION (3)**

Prerequisite(s): Current employment with a fire department or law enforcement agency or permission of instructor.

A practical introduction to accidental, suspicious, and incendiary fire cause determination with special emphasis on arson and incendiarism as well as appropriate procedures for handling each situation.

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 092 SPECIAL TOPICS AND APPLICATIONS IN GEOGRAPHY - 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 geography course emphasizing geography 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.

**GEO 101<sup>❖</sup> PHYSICAL GEOGRAPHY (4)**

Prerequisite(s): RDG 122 or exemption. MAT 082 or concurrent enrollment. 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<sup>❖</sup> INTRODUCTION TO HUMAN GEOGRAPHY (3)**

Prerequisite(s): None.

Recommended Preparation: RDG 122 or exemption. ENG 101.

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<sup>❖</sup> POLITICAL GEOGRAPHY (3)**

Prerequisite(s): ENG 100, or concurrent enrollment. 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): RDG 122 or exemption. ENG 101 or concurrent enrollment.

An exploration of major world geographical regions with emphasis upon human cultural adaptation to the physical habitat.

3 hours lecture.

**GEO 192 SPECIAL TOPICS AND APPLICATIONS IN GEOGRAPHY (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 geography course emphasizing geography 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.

# 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 or 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 or 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 or 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 092 SPECIAL TOPICS AND APPLICATIONS IN GEOLOGY - 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 geology course emphasizing geology 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 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 – Chiricahuas (0.5)

GLG 192B Geology Field Trip with a Digital Camera - Cochise County Road Cuts (0.5)

**GLG 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to the initiation of the study. May be repeated for credit.

# 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 002 GENERAL TECHNICAL MATH I (1)**

Prerequisite(s): Math placement test scores below requirements for successful completion of MAT 072 and low for successful completion of MAT 005.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in computation skills and techniques. Includes basic operations with whole numbers and addition of fractions using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

**GTC 003 GENERAL TECHNICAL MATH II (1)**

Prerequisite(s): GTC 002.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in skills and techniques of computation. Includes basic operations with fractions and decimals using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

**GTC 004 GENERAL TECHNICAL MATH III (1)**

Prerequisite(s): GTC 003.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in skills and techniques of computation. Includes basic operations and applications of decimals, ratio, proportion, and percent using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

**GTC 005 READ-STUDY SKILLS (1)**

Prerequisite(s): Referral from faculty or college counselor to Student Development Center director concerning "a special needs student."

Tutorial for pre-vocational students functioning below the eighth-grade level. A review of reading comprehension necessary to a vocational program. Required competencies include study strategies for textbooks, vocabulary, interpreting visuals, writing related to study assignments, and exams.

1 hour lecture.

**GTC 006 WORD ID-SPELLING (1)**

Prerequisite(s): Recommendation by a counselor or vocational program advisor to the Student Development Center director for individualized instruction. The class may be repeated once for credit.

Introduction to basic decoding/spelling rules with application for adults functioning below grade level 7.0 on a standardized placement test indicating a need for phonetic/structural analysis.

1 hour lecture.

**GTC 007 GENERAL TECHNICAL MATH IV (1)**

Prerequisite(s): Indicated mathematics deficiency.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in computational skills and techniques. Includes fundamental math operations with whole numbers, fractions, and prime factorization. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.

1 hour lecture.

**GTC 008 GENERAL TECHNICAL MATH V (1)**

Prerequisite(s): GTC 007.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in computational skills and techniques. Includes basic operations with fractions, decimals, ratio, and proportion. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.

1 hour lecture.

**GTC 009 GENERAL TECHNICAL MATH VI (1)**

Prerequisite(s): GTC 008.

A vocationally oriented basic arithmetic course in an open-entry/open-exit format emphasizing drill in skills and techniques of computation. Includes operations with percentages and signed numbers. Also emphasized are conversions within and between English and metric systems of measurement. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.

1 hour lecture.

**GTC 012 GENERAL AUTOMOTIVE MECHANICS (3)**

Prerequisite(s): None.

Automotive maintenance and repair including tune-up, electrical systems, fuel systems, cooling systems, lubrication systems and oils, transmissions and clutches, brake systems and accessories, such as air conditioning.

2 hours lecture, 3 hours laboratory.

**GTC 014 KNOW YOUR AUTOMOBILE (3)**

Prerequisite(s): None.

A course to develop entry-level auto mechanic skills. This is classroom theory and supporting laboratory experience for basics of engine operation, powertrain operation, use of tools, care and selection of tires, use of jack, changing tires, lubrication system service, checking of all fluid levels, cooling system and minor service, use of repair manuals, brake system theory and minor service, repack wheel bearings, fuel system theory and very minor service, basics of electricity, basics of battery, starter and charging system theory, ignition system service, diagnosis: what to do if the car won't start, and selecting a used car.

3 hours lecture.

**GTC 016 BASIC AUTO REFRIGERATION (3)**

Prerequisite(s): None.

Basic application of theory of refrigeration and techniques of servicing automotive air conditioners.

1 hour lecture, 4 hours laboratory.

**GTC 017 ADVANCED AUTO REFRIGERATION (3)**

Prerequisite(s): GTC 016 or permission of instructor.

Advanced techniques of testing, trouble-shooting, and repair of automotive air conditioner.

1 hour lecture, 4 hours laboratory.

**GTC 018 COMMERCIAL REFRIGERATION (3)**

Prerequisite(s): GTC 016.

Theory, techniques and practices of commercial refrigeration and servicing of refrigerators, freezers, and commercial air conditioners.

1 hour lecture, 4 hours laboratory.

**GTC 022 WATER AND WASTE WATER PLANT OPERATION (3)**

Prerequisite(s): Admissibility to Cochise College.

A course designed to provide the student with the knowledge, skills, and techniques required to pass a State of Arizona Certification Examination or Class I or Class II or Waste Water Plant Operator.

2 hours 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 101 TECHNICAL MATHEMATICS II (3)**

Prerequisite(s): GTC 100 or permission of instructor.

A comprehensive study of trigonometry as applied to electronics and drafting industrial situations with an introduction to calculus.

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 104 TECHNOLOGY CAREER SAMPLER (2)**

Prerequisite(s): None.

An exploration of existing and emerging technologically advanced careers with a focus on the technology, processes, work environment and employment potential in each field. Includes direct hands-on activities as well as a study of the academic and skill requirements for entry-level employment and for advancement in each career. Careers explored may include, but are not limited to, any combination of the following: computer-aided drafting, machine technology, avionics, welding, aviation mechanics, building trades, computer service and repair, health technology and professions, fire science, and law enforcement. The course may be offered in a pass/fail content.

2 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 110 MASONRY I (3)**

Prerequisite(s): None.

An examination of the masonry profession with an emphasis upon the use of masonry tools and the techniques of laying brick and block.

2 hours lecture, 3 hours laboratory.

## **GTC 111 MASONRY II (3)**

Prerequisite(s): GTC 110.

A continuation of Masonry I, with emphasis on the decorative and design possibilities of brick and block and upon the development of a smooth style of work with different types and patterns of brick and block.

2 hours lecture, 3 hours laboratory.

## **GTC 112 MASONRY III (3)**

Prerequisite(s): GTC 111.

A continuation of Masonry II concentrating on the design and construction of various types of fireplaces and on decorative stone-work, arches, and tile.

2 hours lecture, 3 hours laboratory.

## **GTC 117 SMALL ENGINE OPERATION AND REPAIR (3)**

Prerequisite(s): None.

A study of the operation, maintenance, troubleshooting and repair of various types and models of air-cooled engines up to 18 horsepower. Emphasis will be given to as much hands-on small engine operation and repair experience as possible. Knowledge gained will prepare students to begin entry-level jobs in small-engine service centers.

2 hours lecture, 2 hours laboratory.

## **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 120 CONCRETE CONSTRUCTION AND FINISHING (3)**

Prerequisite(s): None.

A combination of step-by-step layout and finish techniques with the theory of practical concrete formulation.

2 hours lecture, 3 hours laboratory.

## **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, trouble-shooting, 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 trouble-shooting, 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, trouble-shooting, 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 130 ESTIMATING CONSTRUCTION (3)**

Prerequisite(s): GTC 100 and DFT 100.

Techniques and procedures of contract interpretation; material selection; and materials, labor and time estimation.

3 hours lecture.

**GTC 131 PRINCIPLES OF TECHNOLOGY I (6)**

Prerequisite(s): GTC 101.

An introductory course in applied science and associated mathematics to study how concepts such as force, work, rate, resistance and energy apply to mechanical, fluidic, electrical and thermal energy systems for those students preparing to enter high-technology career fields.

3 hours lecture, 6 hours laboratory.

**GTC 132 PRINCIPLES OF TECHNOLOGY II (6)**

Prerequisite(s): GTC 131.

An intermediate course in applied science and related mathematics to study how concepts such as power, force transformation, momentum, waves, vibrations and energy conversion apply to mechanical, fluidic, electrical and thermal energy systems for the student preparing to enter high-technology career fields.

3 hours lecture, 6 hours laboratory.

**GTC 133 PRINCIPLES OF TECHNOLOGY III (6)**

Prerequisite(s): GTC 132.

An advanced course in applied science and associated mathematics to study how concepts such as transducers, radiation, light, optics, and time constants apply to mechanical, fluidic, electrical and thermal energy systems for students preparing to enter high-technology career fields.

3 hours lecture, 6 hours laboratory.

**GTC 134 BUSINESS AND INDUSTRIAL CLEANING (3)**

Prerequisite(s): None.

A course to provide the student with proficiency in business and industrial cleaning techniques and their practical application with a concern for safety. The student will identify various types of chemicals and equipment used in industrial and business cleaning and how to properly handle, store and use them.

2 hours lecture, 3 hours 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, 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 collaborative RDG 110 or completion of 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 collaborative RDG 110 or completion of 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 140 SURVEY OF WESTERN CIVILIZATION I (3)**

Prerequisite(s): RDG 122 or exemption; and either ENG 101 or concurrent enrollment in a collaborative ENG 101.

A study of major historical trends from the emergence of western civilization through the early Middle Ages, with emphasis upon the cultural development of humankind and historical relationships.

3 hours lecture.

**HIS 141 SURVEY OF WESTERN CIVILIZATION II (3)**

Prerequisite(s): RDG 122 or exemption; and either ENG 101 or concurrent enrollment in a collaborative ENG 101.

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 upon historical relationships.

3 hours lecture.

**HIS 142 SURVEY OF WESTERN CIVILIZATION III (3)**

Prerequisite(s): RDG 122 or exemption; and either ENG 101 or concurrent enrollment in a collaborative ENG 101.

A study of the major historical trends in western civilization from 1800 and early modern civilization to the present, with emphasis on the cultural development of humankind and upon historical relationships.

3 hours lecture.

**HIS 160 A HISTORY OF RUSSIA (3)**

Prerequisite(s): ENG 101 and either RDG 122 or exemption.

A survey of Russian history from Peter the Great to the present. The course includes a study of Russia's geography, ethnic minorities, economics and religions. The Russian Empire; the Romanov Dynasty; the Russian Revolution and Lenin; Stalin, the Cold War and Communism, as well as the Gorbachev and Yeltsin period, are covered in the course.

3 hours lecture.

**HIS 192 SPECIAL TOPICS IN HISTORY (0.5 - 1)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing local, regional, and international historical topics, 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.

HIS 192B Ghost Towns of Cochise County

HIS 192E Women and the West

HIS 192G History of Tombstone During Arizona's Territorial Period

HIS 192H History of Cochise County

HIS 192M Military History of Fort Huachuca, Arizona

HIS 192N Islamic Civilization in World History

HIS 192O Family History (Genealogy)

HIS 192P History and Art of Heraldry

HIS 192Q Conflict in the Middle East

**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.

# 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): Completion of MAT 005 or Accuplacer math placement test score of 30 or higher and reading level 9.0 or higher.

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 hours 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 120 INTRODUCTION TO COMMUNITY HEALTH WORKER (3)**

Prerequisite(s): None.

The first course of a 16-credit Community Health Worker program. It prepares the individual to provide outreach health prevention, advocacy, education, and referral services within prescribed neighborhoods. Competencies taught include community health and human services, communication, organization, and advocacy skills.

3 hours lecture.

## **HLT 121 ♦ COMMUNITY HEALTH WORKER PRACTICUM (6)**

Prerequisite(s): HLT 120.

The second course of a 16-credit Community Health Worker Certificate program. Community health worker skills are practiced and evaluated in community-based health and human service agencies/settings. Students complete 320 clock hours of direct service.

20 hours laboratory.

## **HLT 139 ♦ MEDICAL ASSISTANT I (8)**

Prerequisite(s):

- 1) 18 years of age on completion of course.
- 2) Placement in or completion of MAT 082 or higher
- 3) Placement in, exemption from or completion of RDG 122
- 4) Physical Exam
- 5) Drug Screen
- 6) Background Check
- 7) Tuberculin skin test (TB) or negative chest X-ray report
- 8) Measles, Mumps, Rubella (MMR) or birth prior to 1957 or positive titer
- 9) Varicella (Chicken Pox) waiver or positive titer
- 10) Hepatitis B series or positive titer.

Recommended Preparation: BIO 160.

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 students 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): HLT 139 and 140, CIS 116, BIO 160 and HLT 111.

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 (3)**

Prerequisite(s): 12 credits completed at Cochise College, minimum 3.5 GPA or exception through petition to the Honors Committee. Approval of enrollment by the instructor and the Honors Committee.

Recommended Preparation: Completion of HON/SLE 254A, B and/or C or concurrent enrollment.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) is a formal civic engagement experience designed to hone the student's leadership and service aptitudes. Cochise College students must meet regularly with their instructor/mentor and provide mentoring and academic support to area public school students a minimum of four hours per week. Students must successfully pass a fingerprint/background check as required by state law prior to providing services to public school students.

3 hours lecture.

**HON 221 MENTORING FOR SUCCESS (COOKIES) II (3)**

Prerequisite(s): Minimum 3.5 GPA or exception through petition to the Honors Committee. Successful completion of HON 220. Approval of enrollment by the instructor and the Honors Committee.

Recommended Preparation: Completion of HON/SLE 254 A, B and/or C or concurrent enrollment.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) II is a second semester continuation of HON 220 with a focus on program leadership, team-building strategies, program assessment and the creation of individualized action plans for recipients of tutoring services. Cochise College students must meet regularly with their instructor/mentor and provide a minimum of four hours per week direct mentoring and academic support to area public school students. Cochise College students must successfully pass a fingerprint/background check as required by state law prior to providing services to public school students.

3 hours lecture.

**HON 222 MENTORING FOR SUCCESS (COOKIES) III (3)**

Prerequisite(s): Minimum 3.5 GPA or exception through petition to the Honors Committee. Successful completion of HON 221. Approval of enrollment by the instructor and the Honors Committee.

Recommended Preparation: Completion of HON/SLE 254 A, B and/or C or concurrent enrollment.

COOKIES (Creating Optimistic Outlooks and Keeping Interest in Educational Success) III is the third semester continuation of HON 220 and HON 221 with added focus on effective role modeling, program assessment, program design, and incorporation of assessment findings into a continuous process of program improvement. Cochise College students must meet regularly with their instructor/mentor and provide mentoring and academic support to area public school students a minimum of four hours per week. Students must successfully pass a fingerprint/background check as required by state law prior to providing services to public school students.

3 hours lecture.

**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 of 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 of 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 of 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 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): Required 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/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 105B STEP AEROBICS - EXTENDED DURATION (2)**

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, 2 hours 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. Course grading is on a pass/fail basis.

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. Course grading is on a pass/fail basis.

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 142 BASKETBALL (1)**

Prerequisite(s): None.

A practical introduction to the basic skills, rules, and strategies of recreational basketball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 143 BEGINNING BOWLING (1)**

Prerequisite(s): None.

A practical introduction to bowling with emphasis on the acquisition of basic skills and knowledge of bowling and on bowling as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 144 INTERMEDIATE BOWLING (1)**

Prerequisite(s): HPE 143 or permission of instructor.

A practical introduction to the advanced skills and knowledge of bowling with emphasis on the acquisition of a lifelong leisure activity.

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 activity.

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 180 ORIENTATION TO PHYSICAL EDUCATION (3)**

Prerequisite(s): None.

A comprehensive introduction to the basic foundations of physical education and sport. Includes an examination of career preparation and opportunities.

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 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 designed for 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 115 GARDEN CROP PRODUCTION (3)**

Prerequisite(s): HRT 110, 111, or permission of instructor.

A review of propagation, cultivation, and harvest of popular garden fruits and vegetables, from seedbed preparation to retail/wholesale distribution. Focus is on original production of high-demand products created from raw materials and labor.

1 hour lecture, 5 hours laboratory.

**HRT 118 FLORICULTURE (3)**

Prerequisite(s): HRT 110 or permission of instructor.

Hands-on introduction to creation of floral arrangements and a practical review of propagation, culture, and economic production of flower and foliage plants.

1 hour lecture, 5 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 130 ORGANIC GARDENING (3)**

Prerequisite(s): HRT 101.

Practical applications in the utilization of natural, organic methods of pest control and soil fertilization. Advantages and disadvantages of organic gardening routines will be examined.

1 hour lecture, 5 hours laboratory.

**HRT 140 LANDSCAPE IRRIGATION SYSTEMS (3)**

Prerequisite(s): HRT 111 or permission of instructor.

The course will develop skills in designing, installing, operating and maintaining traditional irrigation systems, emphasis on current developments to include sprinklers, bubblers, drip emitters, manual and automated systems.

3 hours lecture.

**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.

**HRT 208 GREENHOUSE MANAGEMENT (3)**

Prerequisite(s): HRT 110, 111 and 120.

Focus on actual problems and opportunities in daily activities as well as seasonal projects involved in greenhouse operation. Emphasis will include greenhouse construction, maintenance, environment control, and commercially-oriented production.

1 hour lecture, 5 hours laboratory.

**HRT 216 LANDSCAPE ESTIMATING (3)**

Prerequisite(s): HRT 111, 140, 201, or permission of instructor.

Emphasis on completed job estimates based on current labor costs and material prices. Various practical projects including landscape construction, installation, and maintenance contract bids will be developed.

1 hour lecture, 5 hours laboratory.

**HRT 224 CERTIFIED NURSERY PROFESSIONAL (3)**

Prerequisite(s): None.

A review of technical practices and knowledge necessary in the nursery/landscape industry as specified by the Arizona Nursery Association. Emphasis is on preparation for the examination leading to certification as a nursery professional.

2 hours lecture, 4 hours laboratory.

**HRT 232 NATIVE PLANTS OF THE DESERT SOUTHWEST (3)**

Prerequisite(s): HRT 101 or permission of instructor.

This course researches the production and environmental needs of native Southwestern desert plants in conjunction with today's landscapes. Focus is on how to use native plants in a landscape properly.

1 hour lecture, 4 hours laboratory.

# Humanities

**HUM 093 CULTURAL CONTEXT: CASE STUDIES (1)**

Prerequisite(s): Concurrent enrollment in ESL 017 or permission of Instructor.

Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on case studies and practical application.

2 hours laboratory.

**HUM 100 EXPLORING UNITED STATES CULTURES (3)**

Prerequisite(s): Concurrent placement in ENG 100 or RDG 020 or equivalent proficiency in reading and writing.

Recommended Preparation: Basic word processing proficiency.

An exploration of diverse cultural patterns in the United States, including consideration of geography, climate, immigration, and historical shaping of present day society with concentration on language, religion, food, festivals, and work.

3 hours lecture.

**HUM 101  HUMANITIES IN CONTEMPORARY LIFE (3)**

Prerequisite(s): ENG 100 or placement into 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 folklórico 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 folklórico. May be taught in a bilingual English/Spanish format. May be offered on a pass/fail basis.

1 hour lecture, 3 hours laboratory.

**HUM 110 INTRODUCTION TO FILM AND VIDEO (3)**

Prerequisite(s): None.

A study of film and video as art forms and as media 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 (0.5 - 1)**

Prerequisite(s): None.

A rotating forum/seminar emphasizing connections among literature, philosophy and the arts. 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.

**HUM 205<sup>❖</sup> 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<sup>❖</sup> 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<sup>❖</sup> 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 associate 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 associate dean prior to the initiation of the study. May be repeated for credit.

**Interculture Studies****ICS 193 SPECIAL TOPICS IN INTERCULTURAL STUDY (1)**

Prerequisite(s): None.

A rotating forum/seminar on a variety of topics of interest to individuals who wish to learn more about the values and interactions of Spanish-speaking and English-speaking people and their cultural foundation. Topics will vary in accordance with 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.

**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. ASL 215 and ITP 215 are identical.

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 out of class.

4 hours lecture.

**ITP 268 AMERICAN SIGN LANGUAGE AND ENGLISH ETYMOLOGY (2)**

Prerequisite(s): ASL 202 or fourth semester proficiency and 12th grade reading level.

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 out of class.

4 hours lecture.

**ITP 282 ENGLISH <> SPANISH MEDICAL TERMINOLOGY (4)**

Prerequisite(s): SPA 211 or concurrent enrollment, and either ENG 100 or ENG 101.

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 either ENG 100 or ENG 101.

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 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 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 ITP 286 or concurrent enrollment and prior 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 ITP 286 or concurrent enrollment and prior 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 all core requirements for the Associate of Applied Science Degree in ITP; AND ITP 225A or ITP 225B AND ITP 286 or concurrent enrollment approval from 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

Publication of a monthly newspaper for the Cochise College community. Includes news judgment, news gathering, news and editorial writing, editing and headline writing, digital photography, electronic page design and computer pagination, advertising, and other publication activities. Also includes newsroom management and ethical and legal considerations. Requires extensive use of computers, scanners and publishing software. May be repeated for credit.

2 hours lecture, 3 hours laboratory.

**JRN 224 ♦ FIELD EXPERIENCE IN COMMUNICATION AND/OR MEDIA TECHNOLOGY (1 - 6)**

Prerequisite(s): 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 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.

Recommended Preparation: CIS 285

Production of the college literary and arts magazine. Includes application of promotion, editing, design, layout, and production techniques. May be taken more than once for credit. Identical to ENG 257.

3 hours lecture.

**JRN 299 INDIVIDUAL STUDIES IN NEWSPAPER (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate 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 or 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 or 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 or 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.

## 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 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, percent, units of measure, geometry, scientific notation, ratio and proportion, averages, basic operations with signed numbers and solving simple algebraic equations.

3 hours lecture.

**MAT 082 ELEMENTARY ALGEBRA (3)**

Prerequisite(s): Appropriate placement test score or completion of 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 and quadratic equations and applications.

3 hours lecture.

**MAT 092 SPECIAL TOPICS AND APPLICATIONS IN MATHEMATICS - NON-TRANSFER (0.25 - 4)**

Prerequisite(s): For MAT 092 in conjunction with an existing course, concurrent enrollment in the existing course is required.

Recommended Preparation: For MAT 092 offered as a special topic forum/seminar/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 vary each term depending on the topic.

**MAT 122<sup>❖</sup> INTERMEDIATE ALGEBRA (3)**

Prerequisite(s): Appropriate placement test score or completion of 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 and inequalities, functions, basic analytical geometry, systems of equations, polynomials, exponents, radicals and quadratic equations. May or may not transfer for credit to four-year universities.

3 hours lecture.

**MAT 125 MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS I (3)**

Prerequisite(s): MAT 142 or MAT 151.

The objective of this course is to provide an understanding of problem solving, sets and functions, numeration systems, whole numbers, integers, rational numbers, decimals, and number theory.

3 hours lecture.

**MAT 126 MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS II (3)**

Prerequisite(s): MAT 125.

The objective of this course is to provide an understanding of probability, statistics, introductory geometrics, problem solving and LOGO turtle graphics (optional).

3 hours lecture.

**MAT 142 SURVEY OF COLLEGE MATHEMATICS (3)**

Prerequisite(s): Indicated placement score or MAT 122.

A course designed to give students 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  COLLEGE ALGEBRA (4)**

Prerequisite(s): Indicated placement score or MAT 122.

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 167  ELEMENTS OF STATISTICS (3)**

Prerequisite(s): MAT 151.

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, experimental design, probability distributions, hypothesis testing, regression and correlation, various parametric and non-parametric statistical tests.

3 hours lecture.

**MAT 172 FINITE MATHEMATICS (3)**

Prerequisite(s): MAT 151.

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  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  PRECALCULUS (5)**

Prerequisite(s): Indicated placement test score or completion of MAT 122.

Topics from college-level algebra and trigonometry essential to the study of calculus and analytic geometry. Includes algebraic, exponential, logarithmic, trigonometric, and inverse trigonometric functions, complex numbers, linear and nonlinear systems of equations and inequalities, and sequences and series.

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 MATHEMATICS (0.25 - 4)**

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 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 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): MAT 151 or MAT 187.  
Elementary topics in analytic geometry, and differential and integral calculus with business applications.  
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 MATH (3)**

Prerequisite(s): MAT 151 or MAT 187.  
Recommended Preparation: MAT 220.  
The objective of this course is to provide an understanding of formal logic, proofs, induction, recursion, sets, counting, permutations and combinations, relations, functions, matrices, graphs, trees, Boolean algebra, and logic networks.  
3 hours lecture.

### **MAT 231 CALCULUS II (4)**

Prerequisite(s): MAT 220.  
A continuation of MAT 220. Includes techniques of differentiation and integration of transcendental functions, and an introduction to infinite series. Also covers topics in analytic geometry, 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, vector-valued functions, partial differentiating, and multiple integration.

4 hours lecture.

### **MAT 252 INTRODUCTION TO LINEAR ALGEBRA (3)**

Prerequisite(s): MAT 231.  
Matrices and systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, and applications. For math majors, physics majors, pre-engineering, and computer science majors.  
3 hours lecture.

### **MAT 262 DIFFERENTIAL EQUATIONS (3)**

Prerequisite(s): MAT 231.  
Ordinary differential equations with applications including linear equations, nonlinear and separable equations, homogeneous equations, power series solutions, Euler equations, LaPlace transforms (optional) and numerical methods (optional).  
3 hours lecture.

### **MAT 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to initiation of the study. May be repeated for credit.

# 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 Workforce Training and Community Education area.

A practical introduction to private and non-profit 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. May be offered in a pass/fail grading format. 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. May be offered in a pass/fail grading format. 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. May be offered in a pass/fail grading format. 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 non-profit 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 non-profit 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. May be offered in a pass/fail grading format.

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 non-profit 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.

# Military Intelligence

## **MIO 101 COUNTERINTELLIGENCE INVESTIGATIONS (3)**

Prerequisite(s): None.

A course designed to introduce the student to the principles, objectives, procedures, and reports used to conduct counterintelligence investigations under US Army jurisdiction. This includes the planning, communicating, operating, credentialing, and investigatory processes related to counterintelligence investigations.

3 hours lecture.

**MIO 102 SECURITY PROGRAMS (1)**

Prerequisite(s): None.

A course designed to provide an overview of the principles, objectives and basic procedures used to develop, protect, control, account for and eventual destruction of Department of Defense information and material relating to national security. This knowledge assists in the investigation of national security crimes as well as in continued protection of classified information/material given into custody of counterintelligence agents.

1 hour lecture.

**MIO 103 MILITARY JUSTICE AND INTELLIGENCE LAW (1)**

Prerequisite(s): None.

A course designed to provide an overview of the legal principles of military intelligence law as they apply to counterintelligence investigations and operations. The course will prepare the student to apply the legal aspects of military justice and intelligence law in the performance of their duty as a counterintelligence special agent.

1 hour lecture.

**MIO 104 ANALYTICAL PROCESS AND PRODUCTS (3)**

Prerequisite(s): None.

A course designed to provide the student with the basic knowledge needed to prepare and use the time-event chart, association matrix, activity matrix and link diagram as analytical tools to perform analysis and threat assessment. Training includes conventional and non-traditional threat forces, various types of organizations, associated weapons and equipment and tactics.

3 hours lecture.

**MIO 105 INTERROGATION OPERATIONS (3)**

Prerequisite(s): None.

A course designed to provide the student with the basic skills and knowledge needed to support collection, dissemination, and protection of intelligence information during HUMINT operations. Training includes conventional and unconventional sources in various situations that require students to perform as a member of an interrogation team during simulated operations at both the tactical and strategic level.

3 hours lecture.

**MIO 106 MAP READING AND ANALYSIS (3)**

Prerequisite(s): None.

A study of map analysis and reading including marginal data, identification of terrain features, calculation of azimuths, and foundation analytical skills. Map analytical skills include gathering information, collection capabilities, and interpretation of assets.

3 hours lecture.

**MIO 107 INTERNATIONAL MORSE CODE (3)**

Prerequisite(s): None.

A study of the language known as International Morse Code. The International Morse Code process, transmission, and required formats will use a computer based recording, forwarding, and storing system. The student will be prepared to format and copy International Morse Code letters, numbers and special characters.

3 hours lecture.

**MIO 108 SIGNAL THEORY (3)**

Prerequisite(s): None.

A study of the basic skills necessary to intercept, analyze, and report non-communication signals including the handling of classified material, signal and wavelength theory, radar theory, use of electronic intelligence parameters, and basic collection operations. Student will learn worldwide non-communications threats to include weapons systems operations, message information extraction, opposing forces operations, and situation analysis.

3 hours lecture.

**MIO 109 SIGNAL ANALYSIS AND SECURITY (3)**

Prerequisite(s): None.

A study of All Source Analysis System Single Source Enclave (ASAS-SSE). Students learn how to operate the ASAS-SSE software functions, display automated situation map updating and operate electronic messaging including participating as a team member of an analysis control element.

3 hours lecture.

**MIO 110 REMOTE SENSING (3)**

Prerequisite(s): None.

A course designed to provide the student with the basic knowledge to analyze hard and soft copy imagery collected from the electronic magnetic spectrum. Students will use intelligence databases, automated processing and dissemination systems to provide valid, accurate, and timely intelligence to appropriate agencies.

3 hours lecture.

**MIO 111 INFORMATION SECURITY FOR INTELLIGENCE OPERATIONS (1)**

Prerequisite(s): None.

This course is a brief overview of Information Security as it applies to Intelligence Operations in the military (INFOSEC). Topics covered include: information security; safekeeping and storage of classified materials; applying classification markings to applicable documents; and proper destruction of classified materials.

1 hour lecture.

**MIO 112 IMAGERY ANALYSIS TECHNIQUES (3)**

Prerequisite(s): None.

A course designed to develop the basic skills required to successfully employ and analyze imagery in an operational environment. Students will be introduced to basic analytical techniques, sensor capabilities and limitations, characteristics of military activity, spectral and stereoscopic imagery and full motion video.

3 hours lecture.

**MIO 113  TERRORISM AND COUNTERTERRORISM (3)**

Prerequisite(s): None.

Recommended Preparation: ENG 101 or permission of instructor.

An examination of the history of terrorism and the tactics and technology used by terrorist groups. Examines the nature of the terrorist threat and countermeasures to combat terrorism. AJS 113 is identical to MIO 113.

3 hours lecture.

**MIO 114 REPORTING OF INTELLIGENCE DATA (3)**

Prerequisite(s): None.

Identification of essential elements of information, selection of reporting vehicle, and production of concise, timely and technical summaries.

3 hours lecture.

**MIO 115 BRIEFING SKILLS (1 - 4)**

Prerequisite(s): None.

Training in the skills and knowledge required to perform duties and operations associated with conducting military briefings in the military intelligence field.

**MIO 116 IMAGERY IDENTIFICATION (6)**

Prerequisite(s): None

Students will be trained to identify military equipment, to include Naval vessels; fixed, swing, and rotary wing aircraft; engineer and decontamination equipment; trucks by model and function; armored personnel carriers (APCs); missiles, rockets and launch sites; communication and radar sites; artillery and artillery associated equipment; and tanks and armored recovery vehicles (ARVs) on aerial imagery. In addition, students will learn to identify organizations and activity in relation to the Ground Order of Battle (GOB) on aerial imagery.

6 hours lecture.

**MIO 117 SYMBOLOLOGY (3)**

Prerequisite(s): None.

This course provides students the skills and knowledge necessary to translate incoming message traffic into military symbols.

3 hours lecture.

**MIO 118 INTELLIGENCE PREPARATION OF THE BATTLEFIELD (3)**

Prerequisite(s): None.

Students will identify characteristics of the battlefield that will influence friendly and threat operations. Students will apply this information to evaluate the threat and draft intelligence estimates of the battlefield.

3 hours lecture.

**MIO 120 RECORDS MANAGEMENT (3)**

Prerequisite(s): None.

A course designed to introduce students to the principles and applications of military funds management. Topics will include objectives, procedures, regulations and forms involved in accurately accounting for military funds. Students will also learn to effectively manage Department of Defense funds, thus increasing their ability to function as custodians of military funds in an operating environment.

3 hours lecture.

**MIO 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.

**MIO 201 COLLECTION OPERATIONS (3)**

Prerequisite(s): MIO 101 or permission of instructor.

A course designed to develop student source collection operations learning in the operational cycle. Course includes collection planning, identifying, assessing, recruiting, training, tasking, interviewing, and providing source operations support.

3 hours lecture.

**MIO 202 FORCE PROTECTION OPERATIONS AND SUPPORT (3)**

Prerequisite(s): MIO 101 or 102 or 103 or permission of instructor.

A course designed to teach how to assimilate, analyze, and distribute multidiscipline counterintelligence products in support of tactical force protection. Areas covered will include counterintelligence operations in a deployed environment.

3 hours lecture.

**MIO 203 COMBATING TERRORISM (3)**

Prerequisite(s): MIO 101 or 102 or 103 or permission of instructor.

A course designed to familiarize the student with the history and development of terrorism; train the student to recognize the phases of a terrorist incident; understand a terrorist group's structure, degree of support and scope of operation; and teach the student to use the basic analytical tools available to combat terrorism.

3 hours lecture.

**MIO 204 INTERROGATION AND INTERVIEWING TECHNIQUES (3)**

Prerequisite(s): MIO 104 or 105 or permission of instructor.

A course designed to provide the student with the basic skills and knowledge needed to prepare for and question a source, collect all information of intelligence value, and report this information in the proper format. Training includes the questioning techniques needed to collect intelligence information using the Order of Battle model.

3 hours lecture.

**MIO 209 AUTOMATED INTELLIGENCE SYSTEMS (4)**

Prerequisite(s): None.

This course will cover the use of automated intelligence systems in the field of intelligence. Students will learn basic system operations and conventions.

4 hours lecture.

**MIO 210 INTERMEDIATE REMOTE SENSING (3)**

Prerequisite(s): MIO 110

This is an intermediate course designed to build on the topics of MIO 110. Students will be instructed and evaluated on the ability to apply knowledge of intelligence operations and activity observed through analyzing hardcopy and softcopy imagery. Exercises are given in querying imagery databases to provide accurate and timely imagery reports, imagery intelligence briefs, and assessments to organizations per given scenarios and PIRs.

3 hours lecture.

**MIO 211 MILITARY DECISION MAKING (2)**

Prerequisite(s): None.

A practical study of mission analysis and the military decision-making process. Includes a review of situational analysis, problem analysis, decision analysis and the relationship between the decision maker and the decision environment.

2 hours lecture.

**MIO 212 INTERMEDIATE IMAGERY ANALYSIS TECHNIQUES (3)**

Prerequisite(s): MIO 112

This course builds on the fundamentals taught in MIO 112, imagery analysis techniques. Students will be evaluated on the ability to apply photogrammetry techniques, equipment identification techniques, and softcopy and hardcopy imagery manipulation techniques to produce accurate imagery analysis and assessments of activity on imagery.

3 hours lecture.

**MIO 214 REPORTING OF INTELLIGENCE DATA II (3)**

Prerequisite(s): None.

A course in the preparation of intelligence reports based on pertinent information to satisfy the appropriate requirements.

3 hours lecture.

**MIO 215 BRIEFING SKILLS II (1 - 3)**

Prerequisite(s): None.

An advanced course in the preparation and delivery of military briefings in the military intelligence field.

**MIO 220 REPORTING OF INTELLIGENCE DATA III (3)**

Prerequisite(s): None.

Recommended Preparation: MIO 114 or permission of instructor.

A tactical human intelligence course designed for the advanced intelligence soldier maintaining a HUMINT specific Military Occupational Specialty (MOS). This course is designed to enhance the student's ability to properly and accurately plan, prepare and write military intelligence reports in a timely and effective manner in both urban and rural environments.

3 hours lecture.

**MIO 221 COUNTERINTELLIGENCE INVESTIGATIONS III (3)**

Prerequisite(s): None

Recommended Preparation: MIO 101 or permission of instructor.

An advanced-level course designed to challenge the student to better understand the objectives, apply the procedures and produce the reports used to conduct advanced counterintelligence investigations under U.S. Army jurisdiction. Students must have knowledge in the planning, communicating, operating, credentialing, and investigating processes related to advanced counterintelligence investigations. This course is designed for the tactical HUMINTer.

3 hours lecture.

**MIO 223 MILITARY JUSTICE AND INTELLIGENCE LAW II (1)**

Prerequisite(s): None.

Recommended Preparation: MIO 103 or permission of instructor.

A course designed to improve the students' understanding of the legal principles of military intelligence law, in accordance with Army Regulations 27-10 and 27-53 and Department of Army Pamphlet 27-1, as they apply to counterintelligence investigations and operations. The course will challenge students to better apply the intelligence law and render military justice in the performance of their duty as tactical HUMINTers.

1 hour lecture.

**MIO 224 FORCE PROTECTION OPERATIONS AND SUPPORT III (3)**

Prerequisite(s): None.

Recommended Preparation: MIO 202 or permission of instructor.

A tactical course designed to challenge HUMINT soldier's ability to assimilate, analyze, and distribute multidiscipline human products in support of tactical force protection operations. Focus will be specifically on HUMINT operations in a tactically deployed environment.

3 hours lecture.

**MIO 225 ANALYTICAL PROCESS AND PRODUCTS II (3)**

Prerequisite(s): None.

Recommended Preparation: MIO 104 or permission of instructor.

A tactical HUMINT course designed to improve students' ability to prepare analytical tools that enhance an understanding of 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 tactics, techniques and procedures of groups or forces identified as posing a threat to U.S. interests.

3 hours lecture.

**MIO 226 INTERVIEWING TECHNIQUES III (3)**

Prerequisite(s): None.

Recommended Preparation: MIO 204 or permission of instructor.

An advanced tactical HUMINT course designed to improve the student's skill in preparing for and questioning a HUMINT source and in collecting and reporting that information which is of intelligence value.

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 105 THEATRE DANCE (1)**

Prerequisite(s): None.

Study and practice in stage movement and choreography for theatrical production designed for students in musical theatre productions. Meets one day a week for three hours. (Not intended for transfer credit.)

3 hours rehearsal/performance.

**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. May be offered on a pass/fail basis.

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 (3)**

Prerequisite(s): MUS 100 or permission of instructor.

A study of the construction of music including scales, intervals, transposition, analysis and figured bass symbols, types of cadences and non-harmonic tones, and melodic organization.

3 hours lecture.

**MUS 133 MUSIC THEORY (3)**

Prerequisite(s): MUS 132 or permission of instructor.

A continuation of MUS 132, including voice-leading, seventh chords, modulation types, secondary dominants and 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 (1 - 3)**

Prerequisite(s): Audition or permission of instructor.

Participation in a college musical or operatic production either in a performance capacity or as production crew.

**MUS 230 ART SONG REPERTORY I (1)**

Prerequisite(s): Permission of instructor.

Class performance of representative selections from the standard vocal repertory. 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 repertory. Art songs in German, Italian, French and English will be sung as well as other vocal literature.

1 hour lecture.

**MUS 232 MUSIC THEORY (3)**

Prerequisite(s): MUS 132 & 133.

Continuation of MUS 132 and 133, dealing with music from the late Medieval period through early-19th century art and music in chronological order. Major forms are analyzed both melodically and harmonically.

3 hours lecture.

**MUS 233 MUSIC THEORY (3)**

Prerequisite(s): MUS 232.

Continuation of MUS 132 and 133, dealing with art music from the 19th and early 20th centuries. Major forms are analyzed both 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 101 A+ CERTIFICATION (2)**

Prerequisite(s): None.

Recommended Preparation: Exposure to DOS, Windows 3.1, Windows 95 and MAC OS is beneficial.

A+ certification is an industry-recognized credential, which validates that the holder has achieved a level of competence that is accepted, valued, and in some cases, demanded by the microcomputer industry. This course is designed to help students pass the A+ certification tests as quickly and easily as possible.

2 hours lecture.

**NET 105 PRESENTATION PROFICIENCIES (3)**

Prerequisite(s): None.

Intensive and fast paced instruction in Microsoft Word, Excel, PowerPoint, and Outlook designed to prepare students in the use of these computer applications. This course elevates the student from a basic knowledge in these applications to the required competency level necessary to excel in college courses.

2 hours lecture, 2 hours laboratory.

**NET 110 PC HARDWARE FUNDAMENTALS (3)**

Prerequisite(s): Six 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): Six 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 equivalent

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 121 MEDICATION MATH (1)**

Prerequisite(s): Admission to Nursing Program.

Recommended Preparation: MAT 122.

The accurate calculation of drug dosages is an essential skill in nursing. This course will give the student the skills necessary to calculate drug dosages, convert numbers from one measurement system to another, and measure accurately in the devices (tools, implements, equipment, etc.) used for medication administration. Experience and techniques are provided for calculation of oral and parenteral drug dosages for adults and children, and in the calculation of intravenous flow rates.

1 hour lecture, 1 hour laboratory.

**NUR 122 ♦ NURSING I (8)**

Prerequisite(s): Admission to the Cochise College nursing program.

Nursing I is the first semester of the associate degree nursing program, and is designed to help the nursing student learn the basic concepts and skills necessary to provide basic nursing care to clients in a variety of settings. Concepts included in this course are: the roles of the nurse and other health care professionals, ethical and legal issues in nursing, the nursing process, therapeutic communication skills, functional health patterns, theories of growth and development, introduction to pharmacology, and normal psychological and physiology patterns as they relate to nursing care of individuals. All of these concepts assist the first semester nursing student to recognize and meet the 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): NUR 121, NUR 122, BIO 201, ENG 101, and PSY 101.

Nursing II, NUR 123, which is the second semester of the associate degree nursing program, is designed to help the nursing student continue to build on the basic concepts and skills necessary to provide nursing care to clients in primary care, acute, and chronic care settings. Concepts included in this course are the roles and responsibilities of the professional nurse, alterations in growth and development throughout the life span, and the application of the nursing process in normal/abnormal psychological and physiological patterns of individual care of persons of all ages and cultures. Upon successful completion of Nursing I and Nursing II, the student is eligible to take the National Certification Licensing Exam as a Practical Nurse.

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): LPN, RN, Paramedic or either NUR 123 or concurrent enrollment.

This course is designed for the sophomore nursing student, LPN, RN and paramedic who wish to broaden his/her knowledge of pharmacology. Information about current medications will be presented and applied to client care. The student will learn to evaluate information, think critically, evaluate situations and make decisions for the safe administration 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 121, NUR 122, NUR 123, ENG 101, PSY 101, BIO 201, BIO 202 and PSY 240.

Nursing Three is based on nursing practice set at the associate degree nurse level associated with common physical and psychosocial health needs/problems throughout the life span. The body's response to stressors, nursing interventions relative to common health needs/problems, and alterations in growth and development are presented. Within these areas, nursing care to be explored will include the use of a framework, which promotes effective communication, understanding philosophies of human development and the utilization of the nursing process with emphasis on intervention and evaluation. The clinical setting includes assisting the student in developing competence in discharge planning, community nursing, and leadership. The student will utilize knowledge of trends in health care to adapt changes and to be proactive in the profession of nursing.

6 hours lecture, 12 hours laboratory.

**NUR 233 ♦ NURSING IV (10)**

Prerequisite(s): NUR 121, NUR 122, NUR 123, NUR 232, ENG 101 PSY 101, BIO 201, BIO 202, PSY 240, BIO 205 and any one of the following: ANT 102, CIS 116, FON 201, HLT 225, NUR 203, PSY 218, or PSY 250.

Nursing Four is a continuation of NUR 232. This course is based on nursing practice set at the associate degree nurse level associated with common physical and psychosocial health needs/problems throughout the life span. The body's response to stressors, nursing interventions relative to common health needs/problems, and alterations in growth and development are presented. Within these areas, nursing care to be explored will include the use of a framework, which promotes effective communication, understanding philosophies of human development and the utilization of the nursing process with emphasis on intervention and evaluation. The clinical setting builds on learning from NUR 232 to assist students in applying the nursing process with emphasis on implementation and evaluation. During the nursing preceptorship, students work intensively with a RN to promote the transition from student to beginning RN.

6 hours lecture, 12 hours laboratory.

**NUR 240 CRITICAL CARE NURSING FOR THE HEALTH CARE PRACTITIONER (3)**

Prerequisite(s): Licensed nurse or paramedic, both with ACLS certification.

Recommended Preparation: Basic knowledge of ECG.

This course is designed to assist the acute care provider in updating his or her knowledge of anatomy and physiology, and pathophysiology as related to the disease process. The participant will develop knowledge of advanced assessment skills, pharmacology, and the physical and emotional needs of the critically ill patient. This course is focused on skill development.

3 hours lecture.

**NUR 299 NURSING I ELECTIVE STUDY (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to the initiation of the study. May be repeated for credit. Nursing 1 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. May be offered in a pass/fail grading format. 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. May be offered in a pass/fail format. 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. May be offered in a pass/fail grading format. 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): Completion of PFT 111, 112, 113 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): Completion of PFT 120 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): Completion of PFT 111, 112, and 113, 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): Completion of PFT 101, 102, 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 MULTIEGINE RATING FLIGHT (1)**

Prerequisite(s): Five hours solo in a complex airplane. Concurrent enrollment or prior completion of PFT 210.

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): Completion of PFT 215.

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, 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): Completion of 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. Concurrent enrollment or prior completion of PFT 231.

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 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; Completion of 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 hours 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, worker's 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. Concurrent enrollment or prior completion of PFT 250.

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 hour 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 171. 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 299 INDIVIDUAL STUDIES (1 - 4)

Prerequisite(s): Approval of the associate 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 associate dean prior to initiation of the study.

# Pharmacy Technology

## PHT 224 FIELD EXPERIENCE IN PHARMACY TECHNOLOGY (1 - 6)

Prerequisite(s): Prior approval of 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 092 SPECIAL TOPICS AND APPLICATIONS IN PHYSICS - 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 physics course emphasizing physics 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.

## PHY 110 FUNDAMENTALS OF PHYSICAL SCIENCE (4)

Prerequisite(s): MAT 082 and either RDG 122 or exemption or concurrent/collaborative enrollment in 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.

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 192 SPECIAL TOPICS AND APPLICATIONS IN PHYSICS (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 physics course emphasizing physics 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.

**PHY 230 PHYSICS WITH CALCULUS I (4)**

Prerequisite(s): MAT 220.

Coverage of the same areas as PHY 111(classical mechanics) 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.

**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.

**PHY 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to initiation of the study.

## Political Science

**POS 110<sup>◊</sup> AMERICAN NATIONAL GOVERNMENT (3)**

Prerequisite(s): RDG 122 or concurrent enrollment or exemption; and either 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<sup>◊</sup> FEDERAL AND ARIZONA CONSTITUTION (3)**

Prerequisite(s): RDG 122 or exemption and completion of ENG 101.

Recommended Preparation: Completion of 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<sup>◊</sup> 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 142 or concurrent enrollment in HIS 142.

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 142 or concurrent enrollment in HIS 142.

Introduction to the study of comparative politics with emphasis on the comparison of political systems, movements, ideologies and economic development.

3 hours lecture.

**POS 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to initiation of the study. May be repeated for credit.

# Psychology

**PSY 101  INTRODUCTION TO PSYCHOLOGY (3)**

Prerequisite(s): RDG 122 or exemption.

Recommended Preparation: ENG 100 or ENG 101 or concurrent enrollment in ENG 100.

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 either 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 either 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, MAT 122, and either ENG 101 or ENG 102.

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 either 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): Appropriate placement test score.

Recommended Preparation: Computer 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): Appropriate placement test score or completion of RDG 019.

Recommended Preparation: Computer 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 020B READING FUNDAMENTALS II (3 - 4)**

Prerequisite(s): Appropriate placement test score or completion of RDG 020A.

Recommended Preparation: Computer keyboarding skills.

A continuing review of basic reading, spelling and study skills. This class emphasizes literal and inferential comprehension, vocabulary development, review of spelling rules, dictionary skills, basic study skills, and library use.

**RDG 021 POWER READING (3)**

Prerequisite(s): Placement test score or RDG 020A or RDG 020B.

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 or completion of either RDG 020A or RDG 020B.

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): Appropriate placement test score or completion of RDG 110.

Recommended Preparation: Computer 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 or 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): Instructor approval and concurrent enrollment in a content course.

A community-focused service-learning experience that provides an opportunity for students to participate actively in an organized service experience and, through reflection activities, to relate those experiences to academic and occupational course content. The combination of service and course content enhances students' understanding of their relationship to their community and how classroom learning applies to the greater society beyond the College. A minimum of 25 direct service hours per credit are required. May be repeated for elective credit.

**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.

## 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 or concurrent enrollment or permission of instructor; and either RDG 110 or 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 202<sup>❖</sup> SOCIAL PROBLEMS (3)**

Prerequisite(s): ENG 101 or concurrent enrollment or instructor permission and either RDG 110 or 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<sup>❖</sup> INTRODUCTION TO SOCIAL WELFARE (3)**

Prerequisite(s): ENG 101 or concurrent enrollment or permission of instructor; and either 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 or concurrent enrollment or permission of instructor; and either RDG 110 or 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 or concurrent enrollment or permission of instructor; and either RDG 110 or 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 or concurrent enrollment or permission of instructor; and either RDG 110 or 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 associate 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 associate 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. May be offered in a pass/fail format.

3 hours lecture.

**SPA 092 SPANISH FOR OCCUPATIONS (1)**

Prerequisite(s): Concurrent enrollment in SPA 102 or permission of instructor.

Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

**SPA 101 ELEMENTARY SPANISH (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.

**SPA 102 ELEMENTARY SPANISH (4)**

Prerequisite(s): SPA 101 or 2 years of high school Spanish.

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.

**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): Concurrent enrollment in or prior completion of SPA 101.

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): Concurrent enrollment in or prior completion of SPA 101.

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): Concurrent enrollment in or prior completion of SPA 101.

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 or 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 or 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): Oral fluency in Spanish

Recommended Preparation: English 100 reading level

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 or ENG 101 or some equivalent proficiency per instructor assessment or other College-recognized measure.

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 or completion of equivalent course with permission of instructor.

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 or completion of equivalent course with permission of instructor.

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 267 SPANISH BUSINESS COMMUNICATIONS (3)**

Prerequisite(s): SPA 202.

A study of business compositions prepared in a business organization, typical internal and external communications (letters, memos, and reports), with emphasis on applying Spanish fundamentals, usage, syntax, and methods of organization.

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): completion of SPA 202, 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 294 ♦ FIELD EXPERIENCE IN SPANISH (1 - 6)**

Prerequisite(s): Approval of the cooperative education program coordinator.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in Spanish. 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.

**SPA 299 INDIVIDUAL STUDIES (1 - 4)**

Prerequisite(s): Approval of the associate 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 associate dean prior to initiation of the study. May be repeated for credit.

## Social Services

**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): 12.0 reading level.

This course will examine strategies and programs used to prevent drug and alcohol abuse problems with focus on the workplace, schools, and community.

3 hours lecture.

**SSV 223 PSYCHO-PHARMACOLOGY (3)**

Prerequisite(s): SSV 183 and 12.0 reading level.

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 12.0 reading level.

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 or SOC 101 or PSY 101 and 12.0 reading level.

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 with COM 270.

3 hours lecture.

**SSV 271 COMMUNICATIONS IN SMALL GROUPS (3)**

Prerequisite(s): COM 102 or SOC 101 or PSY 101 and 12.0 reading level.

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 (1)**

Prerequisite(s): None.

The study, comprehension and execution of basic dance styles often used in musical theater (ballet, modern, tap, and improvisation); introduction of basic steps, skills, combinations and short routines.

3 hours laboratory.

**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 associate 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 associate 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 and 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): Completion of TLS 101, 102 and 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 hours lecture.

WFD 101A Effective Workplace Communications

WFD 101B Business Ethics and Etiquette

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 101G Leadership Styles and Skills

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 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 hours lecture.

**WFD 110A COACHING FOR PERFORMANCE IMPROVEMENT**

WFD 110B Motivation

WFD 110C Personality Preferences

WFD 110D Time Management

WFD 110E Conflict Resolution

WFD 110F Change Management

WFD 110G Community Crisis Support Training

WFD 110H Character and Ethics

WFD 110I Effective Delegation Skills

WFD 110J Planning and Organizing I

WFD 110K Planning and Organizing II

**WFD 120 SPECIAL TOPICS IN SUBSTANCE ABUSE EDUCATION (0.25 - 1)**

Prerequisite(s): None.

Seminars or Workshops designed to enhance the overall awareness, effectiveness and value to the organization of public and private-sector employees in substance abuse awareness, prevention and treatment. Classes combine current theory with practical application and emerging issues, and may include topics such as addiction, criminal justice impact, impact on the family, community networking and individual programs. These classes are focused on the mastery of the substance abuse topic under study. Titles and credit hours for this course will vary at each offering dependent on the topic.

## 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 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 208 GAS METAL ARC WELDING (GMAW) (3)**

Prerequisite(s): WLD 105 or permission of instructor.

Safety practices, set-up and operation of gas metal arc welding equipment, using flux core and hard wire on ferrous metals.

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 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 208.

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.

# Administration

**President**

Karen Nicodemus  
John F. Kennedy College, B.A.  
University of Nebraska, M.P.E., Ph.D.

**Vice President for Information Technology**

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University of Puerto Rico, B.A.  
University of Southern California, M.S.

**Vice President for Instruction/Provost**

Joanna Michelich, Cochise College, A.A.  
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University of Arizona, M.Ed.  
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**Associate Vice President for Human Resources**

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# Faculty and Professional Staff

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 Casillas, Denise  
 Chacon, Arturo (B.A.)  
 Chaim, David (B.A., M.A.)  
 Clark, Judith (B.S.)  
 Charnley, Carol (B.A., M.A.)  
 Collins, Judy (A.S., B.A.)  
 Concannon, Celia (B.A.)  
 Conroy, William (A.A.S.)  
 Cook, Michael (A.A., B.S., M.A.)  
 Corbit, Jacqueline (B.A., M.Ed.)  
 Courtland, David (B.A., M.Ed.)  
 Cox, Dawn (B.A., M.S.)  
 Cramer, Peg (B.S.W.)  
 Crawford, Mike (A.A., B.S.)  
 Cronn, Suzanne (B.S.)  
 Cross, Gus (B.S.)  
 Crouch, Michael (A.A., B.S.)  
 Crowlie, Colleen (M.L.S.)

Curry, Kendall (B.S., M.A.)  
Curry, Laurence (B.A., M.A., Ph.D.)  
Dale, Sandra  
Davis, Kathryn  
Deakin, JoAnn (B.S.)  
Decker, Gary (A.A., B.M.E.)  
Dennis, Carolyn (B.A.)  
Dewey, Nancy (A.A.S., B.A., M.A.)  
Diekema, Bridget (B.A., M.A.)  
Diekema, Larry (B.S., M.A.)  
Dietz, Chris (B.S., M.S.)  
Dodd, Carena  
Dodge, Richard (B.S., M.A., Ph.D.)  
Dodge, Linda (B.A., M.P.H.)  
Dombrowski, David (B.A., M.A.)  
Dominguez, Diana (A.A.S.)  
Dominguez, Virginia (B.S.N., M.B.A.)  
Drake, John (A.A., B.S., M.S., Ph.D.)  
Dyjak, Deborah (B.S.N., M.S.)  
Dyorich, Matthew (A.A., B.S.)  
Echazarreta, Katherine (B.S.)  
Ecker, James (B.S.)  
Eisinger, James (B.A., M.S.)  
Ellis, Debra (A.A.S., B.S., M.Ed.)  
Ellis, Penny  
Enriquez, Beverly (B.A., M.Ed.)  
Escarcega, Denisse (B.A., M.A.)  
Eveningred, Joseph  
Fagergren, Peter (B.A., M.A., M.A., M.A., Ed.D.)  
Fee, Ed (B.S., M.A., M.A.)  
Fichtl, Sonja (B.M.)  
Figueroa, Gregoria (A.A., B.F.A.)  
Fisher, Kari (A.S., B.S.)  
Fleming, Nancy (B.A., M.A.)  
Flissar, Wayne (A.A.S., B.S.)  
Flynn, William (B.A., M.A.)  
Fogleman, Mary (B.S.)  
Forsythe, Jill (A.A., B.A., M.Ed.)  
Foster, Len (A.A., A.A.S.)  
Fox, Kenneth (B.A., M.A.)  
Freeman, Lee (A.G.S.)  
Frey, Daniel (B.A., M.A.)  
Fritts, Ron (B.F.A., M.F.A.)  
Fuller, Molly Jo (B.A., M.A.)  
Gae, Lynelle (B.A., M.S.)  
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Gahn, Gayle (B.M.)  
Galvez, Mara (B.S., M.A.)  
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Garcia, Angela (B.S.)  
Garino, Michael (B.S.)  
Garmon, William (A.G.S., B.S., M.S.)  
Garner, Dona Sue (A.A.)  
Garrett, Sandy (B.S.N., M.S.N., Ph.D.)  
Gibson, Terrie (B.S.N.)  
Gies, Tracy (B.S., M.A.)  
Gill, Rick (B.A., M.S.)  
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Gray, Andrew  
Gray, Shirley (B.A., M.Ed.)  
Griffin, Abigail (A.A., B.A.)  
Groth, Jan (B.S.)  
Hagen-Hale, Teresa (A.S., A.A., A.G.S.)  
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Haldorson, Erick (B.S.N., M.S.N.)  
Hamlett-Redus, Laretta (A.A., B.S., B.A., M.S.)  
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Harwood, Randy (B.A., M.S.)  
Hays, Barbara (B.A., B.S., M.A.)  
Hays, John (B.S., M.S.)  
Hazlett, Robert (B.S., M.S.)  
Hennings, James (Ron) (B.S., M. Ed., A.B.D.)  
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Herlinger, Darlene  
Hernandez, Norma  
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Hollis, Mignonne (B.S., M.B.A.)  
Holm, Anid  
Honda, Edward (B.S.)  
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Hunter, Sherry  
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Johnson, Kelly (A.D.N., B.S.N.)  
Johnson, Kyle  
Jolly, Dean (A.G.S., B.S., M.C.)  
Jones, Clara Sue (B.S., M.S.)  
Jones, Gary  
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King, Vicky (B.A., M.S.N.)  
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Lukes, Nicole (B.A., M.S.)  
Lund, Ann (B.A., J.D.)

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Mapp, Pati (B.S., M.Ed.)  
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Martin, Ruth P. (B.A.)  
Martinez, Dominic (B.S.)  
McDevitt, Athena (B. Univ Studies, M. Acct)  
McDonald, Amanda (B.A.)  
McFarland, Nancy  
McInerney, Bary (B.F.A., M.F.A.)  
McIntosh-Moreno, Judith (B.A., M.A.)  
McKay, Margaret (B.S., M.S.)  
McLain, Carolyn (B.S., B.S., M.S.)  
McLain, Michael (M.S.)  
Mead, Cheryl (B.A.)  
Meigs, Susan (B.A., M.A.)  
Melchor- McPherson, Rosa (B.A., M.A.)  
Melito, Matthew (B.S., M.M., M.A.)  
Melton, Penny (B.S.N.)  
Mendez, Luz (B.S.)  
Mercer, Brena (B.A., M.P.A.)  
Mills, Bryan  
Mingus, Leslie (B.A.)  
Mitzner, Maureen (A.A.S.)  
Modesitt, Marlene  
Mohler, John (B.A.)  
Molina, Frank (A.A., B.S.)  
Montaño, George (M.A.)  
Moroney, Dennis (A.A., B.S., B.S., M.Ed.)  
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.)  
Mulkey, Edward (B.S., M.A.)  
Mullaney, William (A.A.)  
Murphy, Cathy (A.A., B.A.)  
Myers, Frank (B.A., M.Ed.)  
Natoli, Steven (B.M.E., M.ESL/Ling)  
Neace, Gary (B.S., M.B.A.)  
Neese, Shirley (A.A.S., A.A.)  
Nicholas, Lindy (A.S., B.A., M.Ed.)  
Nolan, Bill  
Nolan, Nathan (B.S., M.A.)  
Nolan, Sara (A.D.N.)  
Nolander, Caroline (B.A., M.A., Ph.D.)  
Nolander, John (B.A., M.Ed.)  
Novoa, Mario  
O'Callaghan, Jenifer (B.S.N.)  
O'Connell, Anne (B.S., M.S.)  
O'Donohue, Ellen (B.S.N.)  
Ofe, Tom (B.A.)  
Orozco, Rebecca (M.A.)  
Ortega, Madeline (A.A.S.)  
Ortiz, Blanca (B.A., M.A.E.)  
Ortiz, Cathy (A.S., B.S.)  
Ouellette, Michel (B.S., M.S., Ph.D.)  
Paredes, Aida (B.A., M. Ed.)  
Parra, Joseph (B.A., B.S.)  
Parry, David (B.S., M.S.)  
Pearson, John (B.S., M.S.)  
Peters, Mike  
Peters, James (B.S.)  
Peterson, Christa (B.S.)  
Peterson, Mark (B.A.)  
Pike, Mary (B.A., M.A.)  
Pilcher, Bob  
Pottinger, Carolyn (B.A., M.Ed.)  
Premo, David (B.S., M.S.)  
Pyeatt, Marie (A.A.S., B.S.)  
Rackers, Alicia (B.S., M.S.)  
Rauh, Norene (A.D.N.)  
Redmond, Randy (B.S.)  
Reiber, Marianne  
Richardson, Anthony (B.S., M.S.)  
Richardson, Bruce (B.S., B.S., M.B.A.)  
Richardson, Burke (B.A.)  
Riggs, Janna (B.S.)  
Roberts, Helen (B.S., M.A., Ed.D.)  
Roberts, Mark (M.A.)  
Robidoux, Jean (B.S.N., M.S.N., P.N.P.)  
Robinson, Natasha (A.A.S.)  
Rodgers, Lois (B.A., M.Ed.)  
Rodriguez, Vicente (B.F.A.)  
Roe, Angela (A.S., B.S.)  
Rogers, Rebecca (B.S., M.A.)  
Romero, Alfredo (A.A., B.A.)  
Romero-Davis, Armando (B.A., B.A., B.A., M.Ed.)  
Ross, David  
Rowden, Kelly (B.A.)  
Rubsamen, Coco  
Ryan, Jodie  
Sancho, Chris  
Schade, Brian (A.A.S., B.S., M.S.)  
Schirmer, John (B.S., M.A.)  
Schroeder, Katie (B.S.W., M.S.)  
Schupp, Leslie (B.A., M.A.)  
Schuttner, Mark (B.A., M.A., M.Ed.)  
Schweighart, Holly (B.A., M.Ed.)  
Seamans, Gary (B.S., M.S.)  
Sedgwick, Kathy (A.A.S.)  
Self, George (B.S., M.S.)  
Sennet, Richard (B.A., M.A.)  
Sexton, Maria (A.A., B.A.)  
Simmons, Melody (B.S., M.S.)  
Sims, Cheryl (A.A.S.)  
Slarve, Al (A.A., A.S., A.A.S.)  
Slinker, Kent (B.A., M.A.)  
Smith, Alvie (A.A.S., B.S.)  
Sokolowski, Andrew (A.S., B.S.)  
South, Lisa (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.)  
Sproule, Linda  
Stewart, Ellyn (B.S., M.A.T.)  
Stillwater, J. Mackenzie (B.S.)  
Stratman, Oana (B.A.)  
Strebe, David (A.A., B.S.)  
Struck, Susan (B.S.N., M.A.)  
Sulzer , Albert (A.S., B.S., M.A.O.M.)  
Swan, Peggy (B.A.)  
Sweet, Donna (B.S., M.A.)  
Tann, Kevin (A.G.S., B.S., M.P.A.)  
Tartaglia, Louie  
Taylor, Brian (B.A.)  
Tellez, Kristin (B.A., M.Ed.)  
Thomas, Michael  
Thomas, Sharon (A.A., B.S.)  
Thorpe, Del (B.A., B.A., M.Ed.)  
Tobiason, Beverly (B.A., M.S., Ph.D.)  
Toczko, Leslie (A.A., B.Ed., M.Ed., Ph.D.)  
Tomlinson, Albert (A.A.)  
Trachtman, Sean  
Travis, Rebecca (B.S.W. , M.S.W.)  
Treiber, Vicki (A.A.S.)  
Tribe, Virginia (B.A., M.A.)  
Tubb, William  
Valdez, Eddie (A.A.)  
Valera, Victor (B.S.)  
Veach, Dori (B.A.)  
Vergara, Eric (A.A., B.S.)  
Vindiola, Norma (B.S., M.P.E.)  
Walker, Allen (B.A., M. Ed.)

Warner, John (B.A., M.S., Ph.D.)  
 Warren, Lorena (A.S.N., B.S.N.)  
 Warwick, Mimi (A.S.N., B.S.N.)  
 Weatherwax, Larry (B.A., M.A.)  
 Webster, Brandi (B.S., M.Ed.)  
 Webster, MaryBeth (B.Ed., M.Ed., Ph.D.)  
 Wesolowski, Meredith (B.S., M.A.)  
 Westermann, John (A.A.S.)

Whipple, Richard (B.F.A.)  
 Whiting, Debra (A.A., B.A., B.A., M.A.)  
 Whiting, Richard (B.A.)  
 Wiese, Janice (B.S., M.S.)  
 Wilkins, Judy (B.M., M.M.)  
 Williams, Katherine (B.S.)  
 Williams, Louisa (B.S., M.Ed.)  
 Wilson, Esther

Wilson, Robert (A.S., B.S., M.S.)  
 Witham, Traci (B.A.)  
 Wojsko, Marcia (B.S., M.B.A.)  
 Wolfe, David (A.A.)  
 Wright, Carolyn Sue (B.A., M.A.)  
 Young, Jerome  
 Young, Zoe (B.A., M.A.)

## Administrative Support Staff

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 Cochise College, A.S.

Sandra Arevalos; Payroll Specialist (2006)  
 Cochise College, A.A.

Carlos Arguello;  
 Assistant Baseball Coach (2006)  
 Arizona State University, B.A.

Victor Armenta; Academic Specialist (2005)  
 Arizona State University, B.A., M.A.

Dartle Atherton; Director,  
 Financial Aid (1990)  
 Grand View College, B.A.  
 University of Arizona, M.A.

Christopher Bermingham;  
 Hall Director (2002)  
 Arizona State University, B.S.

Ben Berry; Director,  
 Center for Teacher Education (2003)  
 Northern Arizona University, B.S., M.Ed.

Byron Berry; Manager,  
 Maintenance and Operations, (1997)  
 Cochise College, A.A.

Kathleen Boyer, Transfer Analyst (2007)  
 Cochise College, A.A.  
 Wayland Baptist University, B.S.

LeSandra Bryan; Policy Analyst (1993)  
 University of Arizona, B.S., B.A.

Jeff Caha; Assistant Coach (2003)  
 Cochise College, A.A.  
 Wayland Baptist, B.S.

Diane Carpenter; Systems Analyst (2004)  
 Chemeketa Community College, A.S.

Robert Carreira; Director,  
 Institutional Research (2003)  
 St. Leo University, B.A.  
 Troy State University, M.S.I.R., M.S.F.E., M.P.A.

Macaela Cashman; Director, Professional  
 Development and Learning Innovations (2002)  
 St. Cloud State University, B.E.S.  
 Boston University, M.Ed.  
 Oregon State University, Ph.D.

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 Instituto Technologico de Sonora, B.S.

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 Database Administrator (1994)  
 Cochise College, A.A.

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 American Indian College, B.A.

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 Training and Community Education (2005)  
 Wheeling Jesuit University, B.S.  
 University of Southern California, M. Ed., M.S.

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 Learning and Workforce Development (1992)  
 Iowa State University, B.B.A., M.B.A.

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 Cochise College, A.A., A.A.S.

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 State University College at Buffalo, B.A.  
 University of Arizona, M.A.

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 Curriculum, Learning and Assessment (2003)  
 Duquesne University, B.A.  
 Western Michigan University, M.A.  
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 Northern Arizona University, B.S.

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 Cochise College, A.A.S.

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 West Texas State University, B.S.

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Southern Arkansas University, A.A.S.

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Northern Arizona University, B.S.

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Northern Arizona University, B.S., M.Ed.

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University of Arizona, B.A.

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University of Dhaka, B.A., M.A., M.B.A.  
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Hartnell College, A.A.  
San Francisco State University, B.A.  
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Cochise College, A.A.S.

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University of Phoenix, B.S., B.A., M.B.A.

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Lake Erie College, B.A.  
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Colorado College, B.A.  
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# Abbreviations

ASL .....	American Sign Language	ESOL .....	English for Speakers of Other Languages
AA .....	Associate of Arts	FAA .....	Federal Aviation Administration
AAEE.....	Associate of Arts Elementary Education	FCC .....	Federal Communications Commission
AA-GR.....	Associate of Arts – General Requirements	FERPA .....	Family Education Rights and Privacy Act
AAS .....	Associate of Applied Science	FTSE .....	Full-Time Student Equivalent
AA-SR.....	Associate of Arts – Special Requirements	GED.....	General Education Development
ABE .....	Adult Basic Education	GMAW ....	Gas Metal Arc Welding
ABUS.....	Associate of Business	GPA .....	Grade Point Average
ADA.....	Americans with Disabilities Act	GTAW .....	Gas Tungsten Arc Welding
AFCEA.....	Armed Forces Communications and Electronics Association	HPE .....	Health and Physical Education
AGEC.....	Arizona General Education Curriculum	LAN .....	Local Area Network
AGEC-A ...	Arizona General Education Curriculum – Associate of Arts	MIG .....	Metal Inert Gas
AGEC-B....	Arizona General Education Curriculum – Associate of Business	NAU.....	Northern Arizona University
AGEC-S....	Arizona General Education Curriculum – Associate of Science	NCLEX-PN .	National Certification Licensing Exam for Practical Nurse
AGS .....	Associate of General Studies	NCLEX-RN .	National Certification Licensing Exam for Registered Nurse
AMT.....	Aviation Maintenance Technology	NET .....	Nursing Entrance Test
ARS .....	Arizona Revised Statute	NFPA.....	National Fire Protection Association
AS.....	Associate of Science	OSHA .....	Occupational Safety and Health Administration
ASU .....	Arizona State University	PFT.....	Professional Pilot Technology
AUT.....	Automotive Technology	PTK .....	Phi Theta Kappa
AVT .....	Avionics Technology	RN .....	Registered Nurse
BCT .....	Building and Construction Technologies	SARA.....	Superfund Amendments and Reauthorization Act
CAD.....	Computer Aided Design	SBDC.....	Small Business Development Center
CER .....	Center for Economic Research	SCUBA ....	Self-Contained Underwater Breathing Apparatus
CHA.....	Community Health Advisor	SDC .....	Student Development Center
CIS .....	Computer Information Systems	SOC .....	Servicemembers Opportunity College
CLEP .....	College Level Examination Program	TIG.....	Tungsten Inert Gas
CPM.....	Certified Public Manager	TOEFL.....	Test of English as a Foreign Language
CPR .....	Cardiopulmonary Resuscitation	UA .....	University of Arizona
CPU.....	Central Processing Unit	UAV .....	Unmanned Aerial Vehicle
CSC .....	Career Services Center	VA.....	Veterans Affairs
DOC.....	Department of Corrections	VICA .....	Vocational Industrial Clubs of America
EMT.....	Emergency Medical Technician	WAN .....	Wide Area Network
ESL.....	English as a Second Language		

# About This Publication

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