

COCHISE COLLEGE

CREATING OPPORTUNITIES
CHANGING LIVES

40
YEARS

2004 Catalog 2005

Welcome to Cochise College



Dear Students,

Education is about choices. In deciding to attend Cochise College, you've already taken the first important step.

This catalog presents you with the many academic choices available here at the College. We offer degrees and certificates in dozens of areas, and our affordable tuition provides you with an opportunity to explore a variety of fields before settling on a program of study.

The Cochise College Catalog also is now available in an interactive, digital format on our website. Access it by downloading the Desktop Schedule Planner at www.cochise.edu. You also can use this tool to plan your class schedule each semester.

On behalf of the Cochise College Governing Board, administration, faculty and staff, welcome to our learning community. We look forward to helping you reach your goals!

Sincerely,

A handwritten signature in cursive script that reads "Karen A. Nicodemus".

Karen A. Nicodemus, Ph.D.

College President





Cochise College

Douglas Campus

(District Offices)
4190 West State 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, AZ 85613-6000
(520) 533-2391

Nogales/Santa Cruz Education Center

125 E. Madison St.
Nogales, AZ 85621
(520) 287-5583

Online Campus

901 North Colombo Avenue
Sierra Vista, AZ 85635-2317
(520) 515-5429

Douglas Prison

ASPC-Douglas
6911 North BDI Boulevard
Douglas, AZ 85607
(520) 364-7521, Extension 7120

Governing Board

Mrs. Jane Carol Strain, Chair
Mr. Juan P. Flores, Secretary
Dr. Randall H. Groth, Member
Mrs. Jan Guy, Member
Mr. Bob Nelson, Member

President

Dr. Karen Nicodemus

All information, including statements on tuition, fees, course offerings, admission, and graduation requirements, is subject to change without notice, obligation or liability.

Published: April 2004

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



COCHISE COLLEGE

Toll Free: (800) 966-7943

www.cochise.edu

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

Summer hours: May 17, 2004 through Aug. 7, 2004, 7 a.m. - 5 p.m. Monday through Thursday

Table of Contents

Telephone Directory	5	Choice of Catalog	39
Academic Calendar	6	Scholastic Honors	41
General Information		Non-Traditional Credit	41
Cochise College	9	Credit Load Limitations	41
Mission/Philosophy/Guidelines	9	Repeating Courses	41
General Education Mission Statement	10	Attendance Policy	41
Accreditation and Affiliation	11	Add/Drop Classes	44
Governance	12	Final Exams	45
Community Services	12	Graduation Requirements	45
The Cochise College Foundation	12	Transcripts	46
College Locations	12	Withdrawal from College	47
Getting Started		Veterans' Policies	47
Campus Visits	17	General Information About Degrees and Programs	
Admission Policies/Procedures	17	General Education Outcomes	49
Transfer to Cochise	17	Arizona Transfer Degrees	49
Disclosure of Social Security	18	General Education Courses	51
Aviation/Nursing Programs	18	Associate of Arts (AA)	53
International Students	18	Associate of Business (ABUS)	56
Residency Requirements/Regulations	19	Associate of Science (AS)	56
Registration Information	21	Associate of General Studies (AGS)	57
Family Educational Rights and Privacy Act	21	Associate of Applied Science (AAS)	58
Costs, Fees, Finances	23	AGEC	59
Financial Aid, Scholarships and Grants	27	Certificate Programs	59
Services for Students		Areas of Study	61
Libraries	29	Arizona Department of Corrections Offerings	127
Student Development Center	29	Course Descriptions	130
Career Services Center	31	Human Resources	
Disability Services	32	Administration	295
Health Services	32	Faculty and Professional Staff	296
Student Union	32	Associate Faculty	305
Student Activities/Organizations	32	Abbreviations	308
Residence Halls	33	Credits	309
Special Programs	35	Equal Educational Opportunity Statement	309
Academic Procedures and Information		Index	310
Grading System	39		
Probation/Suspension	39		

'Hello Dolly'

Cochise College

CATALOG
1964-65



Telephone Directory

The area code for all telephone numbers is 520.

	DC	SVC		DC	SVC
ADA/Disability Office	417-4023	515-5337	Online Campus		515-5429
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	417-4738	515-5415
Aviation	417-4114		Registrar	417-4774	515-5411
Bookstore	364-9294	458-0262	Security	417-4022	515-5470
Business Office	417-4735	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
Cashier's Office	417-4076	515-5416	Student Union	417-4470	515-5484
Center for Economic Research		515-5486	Tech Prep		515-5347
Chiricahua Hall	417-4405		Transcripts	417-4005	515-5415
Computer Labs	417-4037	515-5326	Testing and Tutoring Center	417-4091	515-5447
Extended Campus		515-5468	Veterans Affairs	417-4035	515-5462
Financial Aid	417-4146	515-5417	Workforce Development		515-5463
Foundation Office	417-4100		Workforce Training and Community Education		515-5446
Housing	417-4062				
Huachuca Hall	417-4403		Benson Center	586-1981	
Human Resources	417-4727	515-5308	Fort Huachuca Center	533-2391	
Instructional Media	417-4083	515-5481	Nogales/Santa Cruz Education Center	287-5583	
International Student Office	417-4038		Willcox Center	384-4502	
Library	417-4082	515-5320			
Mail Room	417-4026	515-5428			
Nursing/Health Technologies	417-4016	515-5309			

Academic Calendar 2004-2005

SUMMER SEMESTER 2004

FULL EIGHT-WEEK SESSION

Registration	April 9-May 11; May 17-27
Summer hours begin.....	May 17
Memorial Day Holiday.....	May 31
Classes begin	June 7
Last day to add classes.....	June 9
Last day to change subject level	June 14
Professional pilot ends.....	June 11
AMT 2, 4 and avionics 1, 3 end	June 17
Last day to change to audit status.....	June 22
Independence Day observed.....	July 5
AMT 1, 3, 5 and avionics 2, 4 begin	July 6
Last day to drop without academic penalty	July 22
Professional pilot classes begin	July 26
Classes end	July 29

FIRST FIVE-WEEK SESSION

Registration	April 9-May 11; May 17-27
Classes begin	June 7
Last day to add classes.....	June 8
Last day to change subject level	June 14
Last day to change to audit status.....	June 16
Last day to drop without academic penalty	July 1
Classes end.....	July 8

SECOND FIVE-WEEK SESSION

Registration	April 9-May 11; May 17-27; June 21-July 1
Classes begin.....	July 12
Last day to add classes	July 13
Last day to change subject level	July 19
Last day to change to audit status	July 21
Last day to drop without academic penalty	August 5
Classes end	August 12

ENGLISH IMMERSION

SPANISH IMMERSION

First session	June 7-27
Second session	June 29-July 21

FALL SEMESTER 2004

FULL-SEMESTER CLASSES

Registration	April 9-May 11; May 17-27; August 11-12, 17-23
Last day of summer hours	August 12
Faculty return	August 16
Convocation	August 16
New-student orientation – DC.....	August 20
New-student orientation – SVC.....	August 21
Residence halls open.....	August 21
Classes begin	August 23
Last day to add classes	August 30
Labor Day Holiday.....	September 6
Last day to change subject level	September 10
AMT 1, 3, 5 and Avionics 2, 4 end.....	September 23
AMT 2, 4 and Avionics 1, 3 begin	September 27
FTSE count day.....	October 6
Columbus Day Holiday	October 11
Mid-semester exams	October 12-18
Last day to change to audit status	October 22
Graduation filing deadline (December graduates).....	October 29
Veterans Day Holiday	November 11
Thanksgiving Recess.....	November 25-26
Last day to drop without academic penalty	December 3
Classes end	December 8
Finals	December 8-14
Semester ends.....	December 14
AMT 2, 4 and avionics 1, 3 end.....	December 16
Professional pilot ends.....	December 17
Winter break	December 18-January 2

FIRST EIGHT-WEEK SESSION

Registration	April 9-May 11; May 17-27; August 11-12, 17-23
Classes begin	August 23
Last day to add classes	August 25
Last day to change subject level	August 30
Last day to change to audit status	September 13
Last day to drop without academic penalty	October 13
Classes end	October 18

SECOND EIGHT-WEEK SESSION

Registration	August 11-12, 17-21; September 29-October 20
Classes begin	October 20
Last day to add classes	October 22

Last day to change subject level	October 27
Last day to change to audit status	November 8
Last day to drop without academic penalty	December 3
Classes end	December 8

SPRING SEMESTER 2005

FULL-SEMESTER CLASSES

Registration	November 19-December 15; January 3-8
Faculty return	January 3
AMT 1, 3, 5 and avionics 2,4 begin	January 3
New-student orientation – DC	January 7
New-student orientation – SVC	January 8
Residence halls open	January 8
Classes begin	January 10
Professional pilot begins	January 10
Martin Luther King Holiday	January 17
Last day to add classes	January 18
Last day to change subject level	January 28
Faculty and Staff Development Day	February 18
Presidents' Day Holiday	February 21
FTSE count day	February 23
Mid-semester exams	February 28-March 5
Last day to change to audit status	March 11
Spring break	March 14-19
AMT 1, 3, 5 and avionics 2,4 end	March 24
Graduation filing deadline for diplomas and certificates (May graduates)	March 25
AMT 2, 4 and avionics 1, 3 begin	March 28
Awards Ceremony, SVC	April 26
Awards Ceremony, DC	April 27
Last day to drop without academic penalty	April 29
Classes end	May 4
Final exams	May 4-10
Semester ends	May 10
Commencement	May 13

FIRST EIGHT-WEEK SESSION

Registration	November 19-December 15; January 3-8
Classes begin	January 10
Last day to add classes	January 12
Last day to change subject level	January 18
Last day to change to audit status	January 31
Last day to drop without academic penalty	February 28
Classes end	March 5

SECOND EIGHT-WEEK SESSION

Registration	January 3-8; February 16-March 9
Classes begin	March 9
Last day to add	March 11
Last day to change subject level	March 21
Last day to change to audit status	March 28
Last day to drop without academic penalty	April 29
Classes end	May 4

SUMMER SESSION 2005

FULL EIGHT-WEEK SESSION

Registration	April 15-May 11; May 16-19
Summer hours begin	May 16
Memorial Day Holiday	May 30
Classes begin	May 31
Last day to add	June 2
Last day to change subject level	June 7
Professional pilot classes end	June 10
Last day to change to audit status	June 15
AMT 2, 4 and avionics 1, 3 end	June 16
Classes end	June 30

FIRST FIVE-WEEK SESSION

Registration	April 15-May 11; May 16-19
Classes begin	May 31
Last day to add	June 1
Last day to change subject level	June 6
Last day to change to audit status	June 9
Last day to drop without academic penalty	June 23
Classes end	June 30

SECOND FIVE-WEEK SESSION

Registration	June 27
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ENGLISH IMMERSION June 27-August 5

SPANISH IMMERSION

First session	June 6-26
Second session	June 28-July 20

FALL SESSION 2005

Registration	April 15-May 11; May 16-19
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COCHISE COLLEGE



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COCHISE COLLEGE DOUGLAS, ARIZONA

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General Information

COCHISE COLLEGE

Cochise College was established in 1961 as the second community college in Arizona. The College is located in an area rich in history and cultural diversity. The original 540-acre Douglas Campus is unique in its architecture and provides panoramic views of the Mule and Chiricahua Mountains as well as neighboring Sonora, Mexico.

Cochise College has come a long way from its humble beginnings when the administration offices were first housed in the Gadsden Hotel. The opening of the College doors in September 1964 can be attributed to the efforts of the dedicated citizens of Cochise County. From the first semester, the College has been committed to serving citizens throughout the county by offering classes in Benson, Bisbee, Douglas, Fort Huachuca, Sierra Vista, Willcox and outlying areas. 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 the Extended Campus. 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 two Santa Cruz County locations in October 2003. The College contracted 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.

ACCREDITATION AND AFFILIATION

Cochise College is accredited by the Higher Learning Commission of the North Central Association. The College holds memberships in the Arizona Community College Association, 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
<http://www.ncahigherlearningcommission.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.

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

The Arizona State Board of Nursing
1651 E. Morten Ave., Suite 210
Phoenix, AZ 85020
(602) 331-8111
<http://www.azboardofnursing.org>

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 MISSION STATEMENT

General education at Cochise College provides students with the knowledge, information and technical skills essential

for a successful life. To help students acquire these, Cochise College stresses the importance of self-esteem, self-confidence, independent learning and the ability to adapt to a changing environment. In its desire for excellence, the College emphasizes the importance of students establishing realistic goals.

General education provides students with the knowledge to write clearly, read and think critically, and make sound ethical decisions. It provides students with knowledge of mathematics, the physical and life sciences and the varieties of human societies and cultures. It provides students with an understanding of human history and the global community. It provides students with the ability to understand and appreciate the arts.

Inherent in the idea of general education is the love of learning and the idea of civility, which the College defines here as respect for all persons.

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 faculty 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.

THE 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 organiza-

tion (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.

COLLEGE LOCATIONS

Douglas Campus

The 17-building Douglas Campus serves approximately 1,300 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 Campus

The Extended Campus provides many of the College's programs and services in communities throughout Cochise County and beyond the county's boundaries. Courses and services are schedule through the Adult Education program, the Benson Center, the Center for Economic Research, cultural events, the Nogales/Santa Cruz Education Center, Online Campus, and the Willcox Center. The Extended Campus 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.

Benson Center

The Cochise College Benson Center is located at 1025 State Route 90. The 13,000-square-foot facility includes five class-

rooms, 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. A full-time staff offers placement and GED testing, advising, admissions, registration and financial aid.

Nogales/Santa Cruz Education Center

Cochise College began offering classes in two Santa Cruz County locations in October 2003. Students may register for classes at the Nogales/Santa Cruz Education Center, 125 E. Madison St. in 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.

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.

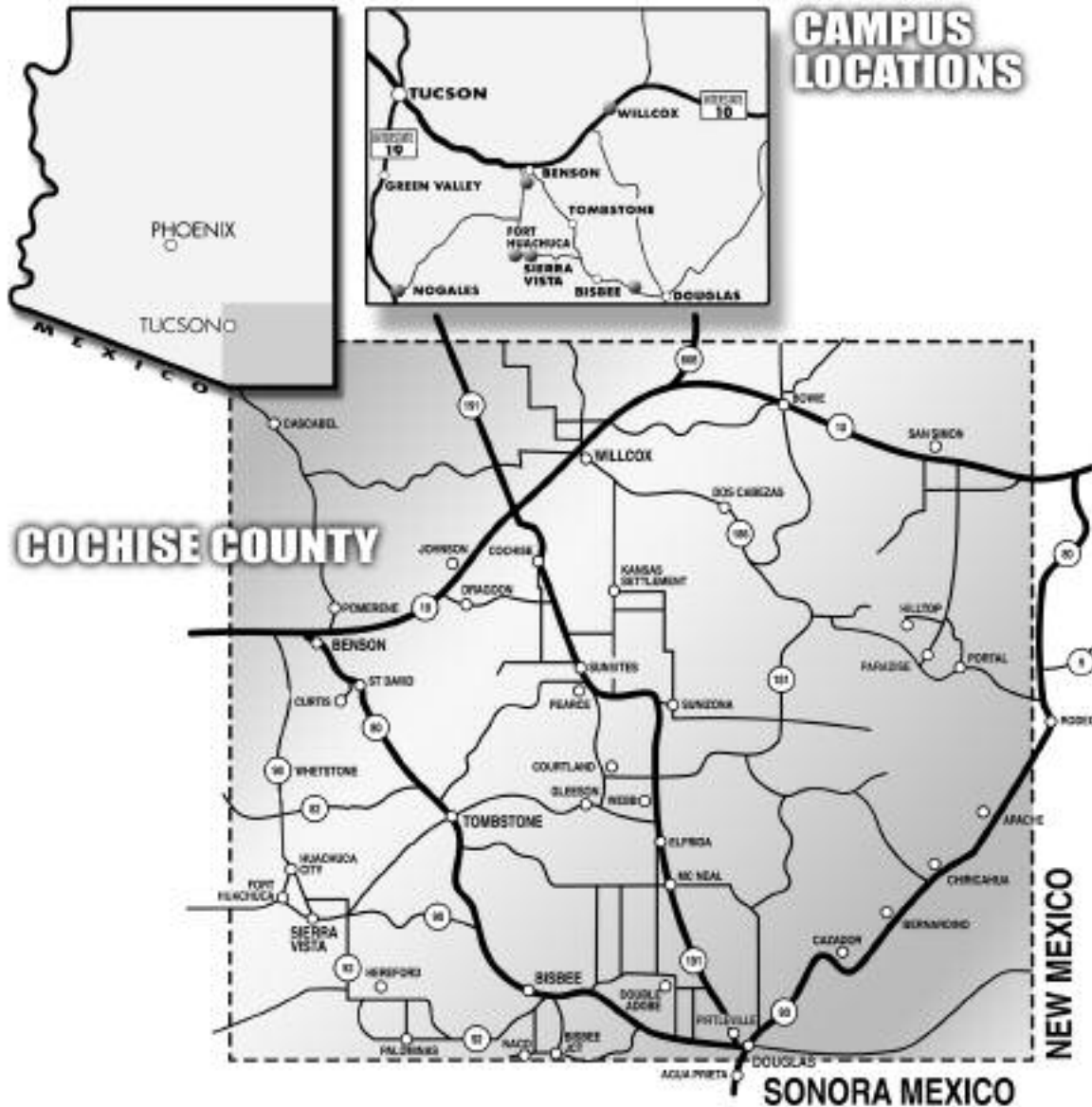
Through the Online Campus, students can design their own class schedule to meet personal needs. For more information, visit the Online Campus at: <http://xwing.cochise.edu>.

Those interested can 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 Division

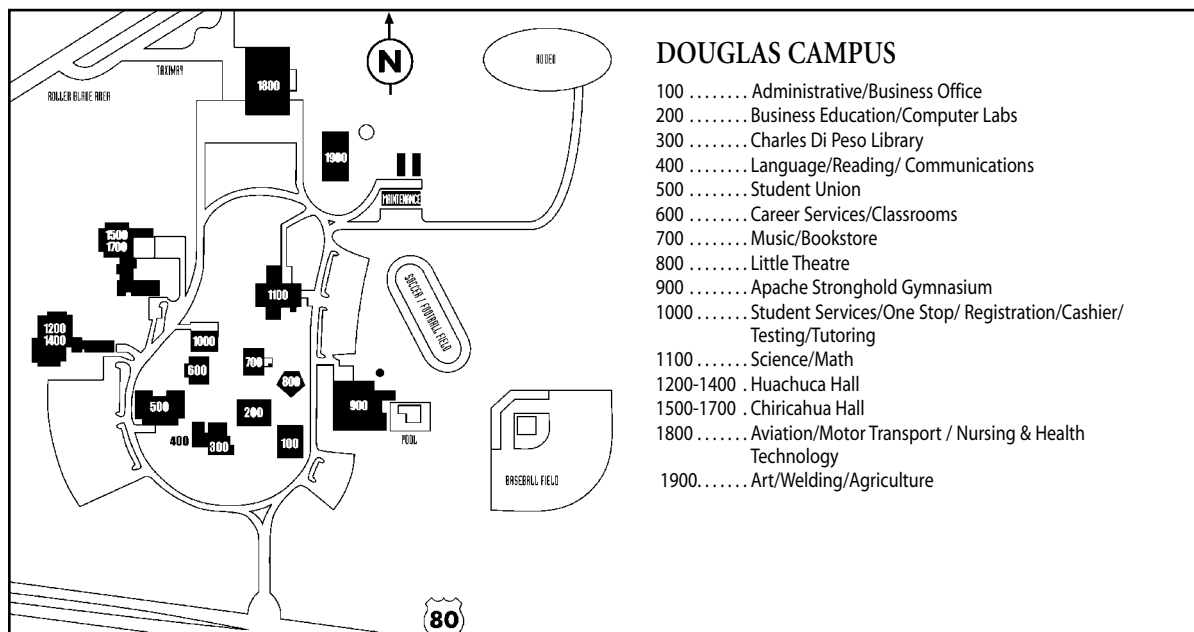
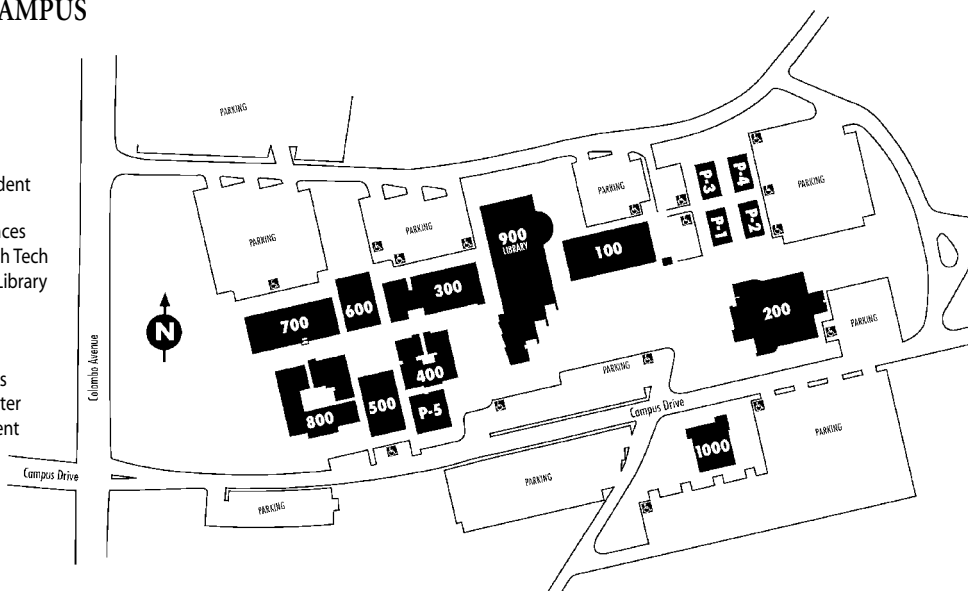
This program located at the Arizona State Prison in Douglas offers a wide range of vocational courses and programs to meet the diverse needs of inmate students. All credit courses are selected from the College catalog and taught by faculty certified by the Arizona Community College Board.

Area and Campus Maps



SIERRA VISTA CAMPUS

- 100 Technology
- 200 Science
- 300 Languages/Music
- 400 Computer Labs
- 500 Student Services
- 600 Administration/Student Union
- 700 English/Social Sciences
- 800 Art/Nursing & Health Tech
- 900 Andrea Cracchiolo Library
- 1000 Adult Education
- P-1 Math
- P-2 Tutoring Services
- P-3 Community Services
- P-4 Career Services Center
- P-5 Student Development Center

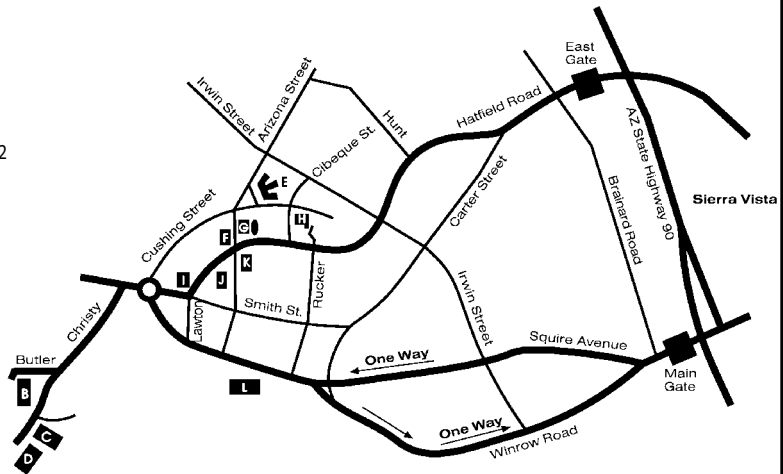


DOUGLAS CAMPUS

- 100 Administrative/Business Office
- 200 Business Education/Computer Labs
- 300 Charles Di Peso Library
- 400 Language/Reading/ Communications
- 500 Student Union
- 600 Career Services/Classrooms
- 700 Music/Bookstore
- 800 Little Theatre
- 900 Apache Stronghold Gymnasium
- 1000 Student Services/One Stop/ Registration/Cashier/
Testing/Tutoring
- 1100 Science/Math
- 1200-1400 . Huachuca Hall
- 1500-1700 . Chiricahua Hall
- 1800 Aviation/Motor Transport / Nursing & Health
Technology
- 1900 Art/Welding/Agriculture

FORT HUACHUCA

- B ACAP Classrooms, Bldg. 22420
- C WIU Education Classroom, Bldg. 21114
- D Cochise College Education Annex A, Bldg. 21112
- E Greely Hall
- F Army Education Center, Bldg. 52104
- G Barnes Field House
- H Talmadge Hall, Bldg. 62702
- I Fire Station
- J PX
- K Commissary
- L Hospital

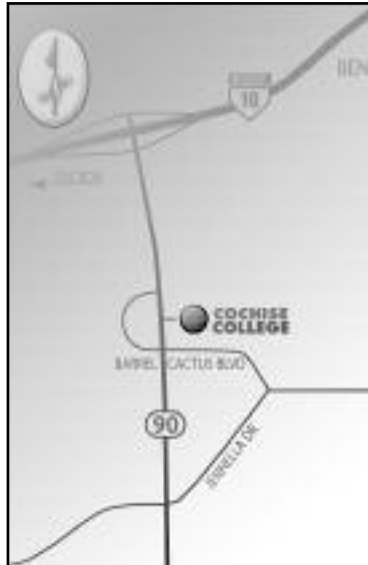


For information contact: Army Education Center, 533-3010
Cochise College Fort Huachuca Representative, 533-2391

Willcox Center



Benson Center



Nogales/Santa Cruz Center



COCHISE
COLLEGE

IN ARIZONA'S
COCHISE COUNTY



alog seems to be no joke

By HARRYAN PUTZ
HUNTINGTON

COCHISE COLLEGE
COCHISE COUNTY
COCHISE COUNTY
COCHISE COUNTY



ATHLETICS
1975-76
Cochise College



Sharon Ray
September 1975
Outstanding Player
Basketball



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) 515-5412 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 on INFOnline at <http://ocs.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. A \$10 application fee for those classified as out-of-state for tuition purposes;
3. High school transcripts - all applicants under the age of 18 are requested to submit either an official high school transcript or GED certificate with test scores before registration will be permitted. Final high school transcripts or GED certificate are requested of all students who apply for any financial aid program offered through Cochise College. High school transcripts should be sent directly by the sending institution to the transcript office. Official transcripts carried by the applicant cannot be accepted if previously opened.
4. Student health record: Part II - This self-appraisal form must to be completed by all applicants applying for admission to the Aviation or Nursing programs, those 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 Col-

leges, 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.

DISCLOSURE OF SOCIAL SECURITY ACCOUNT NUMBER

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 insuring that full credit is received for all academic work completed at Cochise College.

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

Students, faculty and staff have the option to obtain an individual identification number for no additional fee that is

not identical to an individual's social security number in admission and telecommunication applications.

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.

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 is the last working day of the prior January. The NET is usually given in February and should be taken prior to the fall semester of expected admission.

Please contact the Nursing/Health Technologies 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 discharged five years prior to applying for a license. Contact the Nursing/Health Technologies 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).
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 \$13,000 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. \$550 bank guarantee (in US 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 or the Cochise College website - www.cochise.edu. Click on Admissions.

DISABILITY SERVICES

If you have a disability and require any auxiliary aids, services or other accommodations as a student at Cochise College, please contact the ADA coordinator at (520) 515-5337 or (520) 417-4023.

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.

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)

A **dependent** is 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.

An **alien** is entitled to classification as an in-state refugee student if such person has been granted refugee status in accordance with all applicable laws of the United States and has met all other requirements for domicile.

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.

Cochise College has designated the following items as directory information: student name, address, telephone number, date and place of birth, 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 and most recent previous school attended.



Veterans receive education benefits

AN EXTENSIVE GROUP of veterans and their families are receiving education benefits from the Central Arizona College. The college has a program that provides financial aid to veterans and their families. The program is designed to help veterans and their families pay for college. The college has a long history of providing education to veterans and their families. The program is a testament to the college's commitment to serving the community.



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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 <http://ocs.cochise.edu> for up-to-date information.

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 2004/2005 FISCAL YEAR

I. Tuition-Effective July 1, 2004 to June 30, 2005

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.

Application fee (out-of-state, non-refundable) \$10
Border commuter application fee \$20
International student application fee \$50
International student illness/accident insurance \$34
Credentialing fee To be determined per contract

FALL/SPRING/SUMMER TUITION

In-state \$38 per credit
Out-of-state (1-6 credits) \$55 per credit
 over 6 credits (retroactive to first credit) \$216 per credit
Online Campus \$76 per credit
Aviation (resident) \$55 per credit

SENIOR "GOLDEN APACHE" TUITION

(60 years or older, resident of Cochise County or adjacent unorganized counties)

One-time application fee \$5
Per credit \$19

MILITARY TUITION ASSISTANCE (active-duty personnel)

In-state tuition (per credit) \$38
Online course tuition (per credit) \$71
Out-of-state tuition (per credit for 1-6 credits) \$53
Out-of-state tuition (per credit, more than six credits, retroactive to first credit) \$193

MISCELLANEOUS FEES

Credit by examination (nonrefundable) per credit \$38
(may require additional special lab fee)
Co-op education courses (per credit hour) \$19
CLEP general and subject examination
 (current cost per test) plus \$20 proctor fee
Accuplacer testing (initial and one re-test fee) \$5
General Education Development (GED) \$35
Transcript fee (official/unofficial) \$5
Returned check fee (for each returned) \$30
Graduation fee \$25
Nursing Entrance Test fee \$20

Nursing liability insurance	\$30
Nursing testing fee	\$70
CNA liability insurance	\$20
MA liability insurance	\$20
EMT liability insurance	\$40
Paramedicine liability insurance	\$47
EMT testing fee	\$50
Nursing student name badge	\$6
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)	\$160
Spanish Immersion field trip to Mexico-DC (summer II)	\$30

MISCELLANEOUS FEES FOR NON-STUDENTS

Accuplacer testing	\$5
Proctor fee	\$20

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 require 50 percent of the fee at registration, with the balance due within five weeks. Apartments are \$350 per month, payable in advance.

A. Regular Students – 17-week semester

19-meal plan

Semester one	\$1,751
Semester two	\$1,701
Semester three	\$1,626
Semester four	\$1,626
Semester five	\$1,626

14-meal plan

Semester one	\$1,651
Semester two	\$1,601
Semester three	\$1,526
Semester four	\$1,526
Semester five	\$1,526

B. Professional Pilot – 21-week semester

19-meal plan

Semester one	\$2,159
Semester two	\$2,097
Semester three	\$2,034
Semester four	\$2,034
Semester five	\$2,034

14-meal plan

Semester one	\$2,035
Semester two	\$1,973
Semester three	\$1,910
Semester four	\$1,910
Semester five	\$1,910

C. Aviation Maintenance Technology and Avionics Technology – 12-week semester

19-meal plan

Semester one	\$1,234
Semester two	\$1,199
Semester three	\$1,146
Semester four	\$1,146
Semester five	\$1,146

14-meal plan

Semester one.....	\$1,163
Semester two.....	\$1,128
Semester three	\$1,075
Semester four	\$1,075
Semester five	\$1,075

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 housing 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 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. 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 \$5 to hundreds of dollars per course. 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 of \$70 per semester 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 CC. 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.

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. 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.

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.

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.



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Vol. 2

and the Faculty, Staff and Friends of Cochise College



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 www.cochise.edu/library.

The libraries house more than 66,000 books, 2,400 video-tapes, 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 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 special needs/ADA coordinator, who may be contacted by calling (520) 515-5337 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. They must be citizens or nationals of the United States (meet federal financial aid residency requirements). They must have a need for academic support and meet at least one of the following guidelines (a minimum of two-thirds of the participants must meet the first two criteria):

- 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 campus 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 <http://c3po.cochise.edu/avanzando> or the One Stop (Building 1000) on the Douglas Campus.

CAREER SERVICES CENTER

The College's Career Services Center consists of three separate but closely related services — cooperative education, student placement and career placement — which are provided by a professional staff.

Cooperative Education

The cooperative education (co-op) program provides opportunities to supplement coursework with practical work experience related to your educational and occupational objectives. You can earn credit for working part time in an area directly related to your educational program.

Co-op is an educational process that integrates college coursework with study-related work experience in business, industry and government and is coordinated by College staff. Using "learning objectives" established during each semester of registration, the co-op student earns college credit to apply toward program completion requirements.



This program is also adaptable for employed adults who are interested in gaining additional job skills for future advancement. Cooperative education is not a course of study but a laboratory component for various programs offered at Cochise College.

As a Cochise College student enrolled for credit in any College program, you may elect to participate.

Student Job Placement/Career Placement

Career Services Center student placement representatives regularly receive job orders (both part and full time) from employers throughout the state. The Center prepares job listings daily and posts them at convenient locations on campus.

In close cooperation with Arizona State Job Service representatives, the placement office also seeks out information on employment opportunities throughout Cochise County, the state, the region and the nation. It makes this information available to students and graduates.

Career planning services and a career library are available in the SDC. Workshops and video-assisted instruction in job-seeking skills for students and graduates are also available.

CTEPS/Career Technical Education Program

The CTEPS program offers a variety of support services to students enrolled in AAS degree or certificate programs. These programs are considered career/technical training or direct employment programs. Students pursuing the following transfer degrees are eligible as well: AA Administration of Justice, AS Allied Health, ABUS Business Administration, AA Communication, ABUS Computer Info Systems, AS Computer Science, AA Early Childhood Education, AA Family and Consumer Science, AA Journalism and Media Arts, AGS Manufacturing Engineering, AA Pre-Elementary/Secondary Education, AGS Professional Pilot. Services include academic advising, advocacy, book lending library, career counseling, limited fuel assistance, limited tuition assistance, referrals, scholarships, and workshops. To find out more, visit Career Services.



TECH PREP

Tech Prep is a program that offers students an opportunity to begin taking classes in college vocational programs while still in high school. Please contact the Tech Prep Office for more information on this program.

CAMPUS NURSE

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. The College post office, 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. Their weekly meetings are open to all students. Student Government is comprised of five appointed officers. The officers are: president, vice president, treasurer/secretary, publicity coordinator 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:

- Alpha Delta Omega (human services national honor society)
- Armed Forces Communications and Electronics Association (AFCEA)
- Aviation Maintenance Specialist Club (AMS)
- Campus Crusade for Christ
- Disability Awareness Network (DAWN)
- Future Teachers' Club (Sierra Vista campus)
- International Club
- Literary Guild
- Phi Beta Lambda (business)
- Phi Theta Kappa (academic excellence)
- Residence Hall Association (RHA)
- Spanish Club
- Social Concerns Club
- Vocational Industrial Clubs of America (VICA)
- Strong Oak Historical Society

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 Apache Stronghold Gymnasium is the center for intercollegiate sports and a variety of intramural activities.

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. State 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/studentupdate.

College Smoking Policy

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

Alcohol and Drug Abuse Policy

CC 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. CC 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 CC 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.

CC 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

CC 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

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.

Special Interest Classes

Non-credit classes cover a variety of subjects and offer opportunities to individuals seeking non-traditional educational experiences. The Extended Campus 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 courses that meet dual credit guidelines and for more information about this program.

Adult Education

English for Speakers of Other Languages (ESOL), General Education Development (GED), Adult Basic Education (ABE) and citizenship are offered as free non-credit classes throughout Cochise County. Classes are designed to enable adults wishing to obtain citizenship, a GED (high school equivalency) diploma, to improve English language skills or to improve academic skills in mathematics, reading and English in preparation for admission to College programs.

Workforce Training and Community Education

Workforce Training and Community Education offers a wide variety of non-traditional training services to individuals and organizations countywide. A published schedule of credit and non-credit courses is offered in the classroom and online. Topics include both professional development courses and personal enrichment classes and workshops.

Customized classes on nearly any topic can be contracted to support area businesses and organizations and can be held either on campus or at the job site.

Small Business Development Center (SBDC)

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.



my. Specific economic studies and surveys can be designed and conducted on a contractual basis for businesses and individuals requesting assistance.

Cochise College Workforce Development (COMPACT) Program

This 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 a significantly reduced rate. Contact your high school counselor for more information or a registration packet.

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 col-

leges 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.

Cochise College Catalog 8-90



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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 Cochise College catalog in effect at the time of your initial enrollment at the public Arizona community college or university or according to the requirements of any single catalog in effect during subsequent terms of continuous enrollment.

You can maintain continuous enrollment whether attending a single public community college or university in Arizona or transferring among public institutions in Arizona while pursuing your degrees. A semester in which you earn course credit will be counted toward continuous enrollment. Non-credit courses, audited courses, failed courses, general enrichment courses or courses from which you withdraw do not count toward the determination of continuous enrollment for catalog purposes.

If you do not meet the above minimum enrollment standard for two consecutive semesters, you are no longer considered continuously enrolled and must meet the requirements of the catalog in effect at the time of your re-admittance.

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 academic 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

You may repeat a course an unlimited number of times. The listing of the original course with a notation of "R" remains as part of the permanent record, but only the last grade earned will be computed for graduation and cumulative grade point average. You do not have to repeat a course that you have failed unless it is a prerequisite for another course or is a course required for graduation or transfer. Certain specified programs are exempt from this procedure.

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 CREDIT

A maximum of 30 credits from non-traditional learning may be used toward a degree.

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 <http://www.college-board.org/ap/students/index.html>.

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:

SPANISH	FRENCH	GERMAN	CREDIT
40-49	39-48	39-45	4
50-54	49-53	46-50	8
55-61	54-62	51-59	12
62-80	63-80	60-80	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

Although outstanding independent scholarship is normally expected at upper-division and graduate levels, the College recognizes that some undergraduate students are prepared and have sufficient motivation to earn credit for self-directed study.

Independent study is defined as a project or series of assignments related to an area of study for which course offerings are not available. All divisions and departments make independent study available subject to advance agreement by the full-time instructor and appropriate dean.

Existing courses may not be taken as independent studies.

The College provides independent study opportunities if you:

1. Have mastered core coursework in a given program area;
2. Have achieved sophomore standing with a cumulative grade point average of 3.0 or better; and
3. Have demonstrated the need for investigation into areas of knowledge that may not be included in existing formal courses.

You and your instructor will meet to discuss the nature of the study. All requirements for successful completion of the study, including periodic meeting times, will be clearly established on an independent study contract (Form VPI-7). Course credit is determined by the instructor and appropriate dean and will be compatible with published academic standards and procedures.

Credits assigned to an independent study contract may not be increased or reduced after commencement of the study. Contracts must be completed within the semester in which study begins. Independent study may take place only during the academic year excluding summer sessions.

After signing the contract, you must complete a drop/add form and submit both documents to the Admissions and Records Offices. Contracts are subject to the same grading stipulations as regular classes.

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. Score 12.0 or higher on standardized reading test or
2. Complete a reading course with a grade of “C” or better in which competency for the course is a 12.0 grade level or higher.
3. Earn a cumulative GPA of 3.0 for courses at the 100 level and above at the time of degree check.

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 AGECE must be taken in residency at Cochise College to earn the Arizona General Education Curriculum (AGECE).

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 credits not used in the other 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 perspective 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 dishonesty is discovered or believed to have occurred, each incident will be handled on an individual basis as deemed appropriate. Care will be taken that students'

rights are not violated and that appropriate punitive measures are instituted only in cases where documentation of the offense(s) exist.

STUDENT COMPLAINTS AND GRIEVANCES

If you have complaints, grievances, or personal concerns about a CC 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.





...called
"Quakers" by the Indians. This
...in their hair and tenacity
in battle. That name is now used to
describe all four African American
regiments.



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Degrees and Programs

GENERAL EDUCATION OUTCOMES

Cochise College General Education Outcomes

Students who earn a transfer degree from Cochise College will:

- demonstrate successful communication that encompasses both receptive and productive thinking in a recurring process, in individual and collaborative settings;
- demonstrate the reasoning process to identify, examine, evaluate, and/or solve information or phenomena or discipline;
- demonstrate basic algebraic skills including factoring, use of exponents, solving equations, and solving inequalities;
- use function notation, interpret math models, and demonstrate graphing skills;



- analyze and solve application problems: Students will recognize insufficient/extraneous information;
- demonstrate a global vision: Students will explain their connection to the global community in contemporary society;
- recognize their connection to history: Students will explain the process, forces and events which create the past, present, and future;
- recognize the value of culture and its diversity including the interrelatedness of the humanities, sciences, and social sciences;
- demonstrate observational skills, including (a) data collection, (b) presentation of data, (c) interpretation of data (drawing inferences), and (d) error analysis;
- apply the techniques, vocabulary (deductive, inductive, reasoning, hypothesis) and ethics (honesty, replication of data) of the scientific method of inquiry;
- demonstrate critical reasoning: (a) precise terminology, (b) development of concepts from data, and (c) application of concepts/formulas through completion of lab reports or experimental research projects;
- demonstrate technology literacy through hands-on computer use: (a) navigate the operating system to perform specific tasks, (b) manage the file system to create, locate, copy and delete files, (c) word-process a document accurately and in a timely manner, (d) prepare and deliver a technology-assisted presentation, (e) send and receive email, including attachments, and (f) use basic hardware and software terminology accurately;
- demonstrate information literacy: locate, evaluate and properly cite sources to communicate information effectively and accomplish a specific purpose

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), Associate of Science (AS) and Associate of Business (ABUS). 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.

Associate of Arts (AA)

Liberal Arts
Social Science
Fine Arts

Associate of Business (ABUS)

Business Administration
Computer Information Systems

Associate of Science (AS)

Natural
Physical
Life Sciences

TRANSFER AGREEMENTS

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.

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

University of Arizona

<http://az.transfer.org/cas>

Northern Arizona University

<http://az.transfer.org/cas>

Arizona State University

<http://az.transfer.org/cas>

Capella University

<http://www.capella.edu>

Western Governors University

<http://www.wgu.edu>

University of Phoenix

<http://achieve.phoenix.edu>

New Mexico State University

<http://nmsu.edu/~survey/transfer>

Northcentral University

<http://ncu.edu>

COURSE APPLICABILITY SYSTEM (CAS)

The Course Applicability System (CAS) 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.

TRANSFERRING THE AGEC BLOCK

By completing an AGEC at Cochise College, a student is guaranteed 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-res-

idents are required to have a minimum cumulative grade point average of 2.5 for admission.

The following applies to all AGECE blocks:

- Courses included in the AGECE block must be completed with a grade of C or better.
- A course may have dual use. It may be used to fulfill both an AGECE requirement and a common course requirement 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 intensive writing/critical inquiry courses listed at: <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- A minimum of eight credits must be completed at Cochise College to meet residency requirements.
- A list of courses to fulfill general education requirements, including the general education elective, is listed at <http://xwing.cochise.edu/curriculum/gen-ed.html>.

AGECE-A

GENERAL EDUCATION REQUIREMENTS	CREDITS
Composition	ENG 101, 102..... 6
Mathematics	MAT 142 or higher... 3-5 (MAT 142, MAT 151 or MAT 187)
Laboratory science	8
Arts	3
Humanities	3
Social and behavioral sciences	6
Information literacy	CIS 116, 120*..... 3
General education elective(s)	1-3
* Students testing out of this requirement may choose general education elective credit.	
TOTAL GENERAL EDUCATION REQUIREMENTS	35

The AGECE-A meets the general education requirements for the Cochise College associate of arts degree and fulfills the lower division general education requirements for university arts/liberal studies majors such as English, social science, fine

arts and humanities. The block will transfer without loss of credit to any Arizona public community college or university.

AGECE-B

GENERAL EDUCATION REQUIREMENTS	CREDITS
Composition	ENG 101, 102..... 6
Mathematics	MAT 212..... 3
Laboratory science	8
Arts	3
Humanities	3
Social and behavioral sciences	6
Information literacy	CIS 116, 120*..... 3
General education elective(s)	3
* Students testing out of this requirement may choose general education elective credit.	
TOTAL GENERAL EDUCATION REQUIREMENTS	35

The AGECE-B meets the general education requirements for the Cochise College associate of business degree and fulfills the lower division general education requirements for university business/information systems majors. The block will transfer without loss of credit to any Arizona public community college or university.

AGECE-S

GENERAL EDUCATION REQUIREMENTS	CREDITS
Composition	ENG 101, 102..... 6
Mathematics	MAT 220+... 3-5
Laboratory science	BIO 181/182 OR PHY 230/231 OR CHM 151/152..... 8
Arts	3
Humanities	3
Social and behavioral sciences	6
Information literacy	CIS 116, 120*..... 3
General education elective(s)	1-3
* Students testing out of this requirement may choose general education elective credit.	

TOTAL GENERAL EDUCATION REQUIREMENTS 35

The AGECS meets the general education requirements for the Cochise College associate of science degree and fulfills the lower division general education requirements for university mathematics and science majors. The block will transfer to any Arizona public community college or university.

COCHISE COLLEGE GENERAL EDUCATION COURSES

AA, ABUS, AS, and AGS Degrees

For the most current information, check the general education course website at <http://xwing.cochise.edu/curriculum/#gened>.

Composition	ENG101, ENG102 (or ENG 109/206 for IO degrees only), ENG102H
Mathematics	MAT122 (AGS only), MAT142
(AA, ABUS, and AGS)	MAT151, MAT172, MAT182,
(select degrees only,	MAT187, MAT212, MAT220,
see advisor)	MAT227, MAT231, MAT241, MAT252, MAT262
AS only.....	MAT220, MAT227, MAT231, MAT231, MAT241, MAT252, MAT261
Laboratory science	AST180, BIO101, BIO105, BIO160, BIO181, BIO182, BIO183, BIO201, BIO202, BIO205, BIO226
AA, ABUS, and AGS only.....	CHM100, CHM130, CHM140, CHM151, CHM152, CHM235, CHM236, GEO101, GLG101, GLG102, GLG110, PHY111, PHY112, PHY230, PHY231
AS only	BIO181, BIO182, CHM151, CHM152, PHY230, PHY231

Foreign language OR	Any non-English language course at the 100 level or higher OR
a communications	communications course at the 101 level or higher.
(AGS degree only)	
Social and behavioral.....	ASL200, ASL210, ANT101, ANT102, ANT110, ANT111, ANT138, ANT235, ANT285, ANT286, ANT288, ECN201, ECN202, GEO102, GEO104, GEO105, GEO121, HIS110, HIS111, HIS140, HIS141, HIS142, HIS229, HIS230, POS100, POS110, POS220, POS230, POS240, PSY101, PSY103, PSY210, PSY230, PSY240, PSY250, PSY290, SOC101, SOC160, SOC202, SOC210, SOC212, SOC230, SSV273
sciences	

Arts:.....	ART103, ART106, ART107, ART108, ART120, ART216, ART230, ART231, ART245, ART265, ART270, ART275, ART280, ART281, ART285, ART286, ART290, ART295, ART296, ENG119, ENG219, HUM205, HUM206, MED265, MED285, MED286, MUS100, MUS101, MUS102, MUS109, MUS110, MUS111, MUS132, MUS133, MUS201, MUS260, THE201, THE 203, THE213, THE220
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Humanities:	ART107, ART108, ART265, ART285, ART286, COM102, ENG119, ENG209, ENG210, ENG 212, ENG219, ENG220, ENG221, ENG222, ENG224, ENG225, ENG226, ENG227, ENG228, ENG230, ENG231, ENG255, ENG260, ENG265, ENG273, HUM101, HUM110, HUM115, HUM205, HUM206, HUM207, HUM210, JRN/MED101, MED265, MED285, MED286, MUS101, MUS102, MUS132, PHI111, PHI113, PHI130, PHI201, SPA221, SPA224, SPA225, THE103
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Information literacy	CIS116, CIS120
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Intensive writing/. ANT235, ANT285, ANT286,
critical inquiry ECN201, ECN202, ENG119, ENG209,
ENG 212, ENG219, ENG220, ENG221,
ENG222, ENG224, ENG225, ENG226,
ENG227, ENG228, ENG230, ENG231,
ENG255, ENG265, ENG273, HIS140,
HIS141, HIS142, HIS229, HIS230,
HUM205, HUM206, HUM207, PHI111,
PHI130, POS220, PSY230, PSY240,
PSY250, PSY290, SOC160, SOC210,
SOC212

COCHISE COLLEGE GENERAL EDUCATION COURSES

AAS Degrees

For the most current information, check the general education course website at <http://xwing.cochise.edu/curriculum/#gened>.

Communications ENG101, ENG102 (or ENG 109/206
(6 credits) for IO degrees only), ENG111,
ENG/BUS/OAD 167, CIS/BUS/ENG 179,
CIS/ENG 279, JRN/MED 201

Mathematics/lab science* . . BUS104, MAT122, MAT142,
(3-4 credits) MAT151, MAT172, MAT182, MAT187,
MAT212, MAT220, MAT227, MAT231,
MAT241, MAT252, MAT262

Liberal arts ANT101, ANT102, ANT110,
(6 credits) ANT138, ANT222, ANT235, ANT285,
ANT286, ANT288, ART103, ART106,
ART107, ART108, ART120, ART216,
ART230, ART231, ART245, ART265,
ART270, ART275, ART280, ART281,
ART285, ART286, ART290, ART295,
ART296, COM102, ECN201, ECN202,
ENG119, ENG209, ENG210, ENG 212,
ENG219, ENG220, ENG221, ENG222,
ENG224, ENG225, ENG226, ENG227,
ENG228, ENG230, ENG255, ENG260,
ENG265, ENG273, GEO102, GEO104,
GEO105, GEO121, HIS110, HIS111,

HIS140, HIS141, HIS142, HUM101,
HUM115, HUM205, HUM206,
HUM207, JRN/MED101, JRN/MED 201,
MED265, MED285, MED286, MUS100,
MUS101, MUS102, MUS109, MUS110,
MUS111, MUS132, MUS133, MUS201,
MUS260, PHI111, PHI113, PHI130,
PHI201, POS100, POS110, POS220,
POS230, POS240, PSY101, PSY103,
PSY210, PSY230, PSY240, PSY250,
PSY290, SOC101, SOC160, SOC202,
SOC210, SOC212, SOC230, SPA221,
SPA224, SPA225, SSV273, THE103,
THE201, THE203, THE213, THE220

Information literacy** CIS116, CIS120
(3 credits)

* CHM 130 and CHM 151 will satisfy the mathematics/laboratory sciences for nursing and health technology programs only.

** Students testing out of information literacy requirement may choose general education elective credit from the general education course list.



Degree Programs

In each of the five degrees outlined in this section (the AA, AS, ABUS, AGS, and AAS), you will see references to areas such as “arts” or “laboratory science.” Only approved general education courses (<http://xwing.cochise.edu/curriculum/#gened>) may be used to satisfy these area requirements within degrees.

ASSOCIATE OF ARTS DEGREES

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
- Anthropology
- Art (Fine Art)
- Communications
- Early Childhood Care and Education
- Economics
- Elementary Education
- English
- Exercise Science, Health and Physical Education, Recreation and Wellness
- Family Studies and Human Development
- General Requirements
- Geography
- History
- Humanities
- Journalism and Media Arts
- Language
- Mathematics
- Music
- Philosophy
- Political Science
- Psychology

Secondary Education

- Art Education, English Teaching, History Teaching, Mathematics Teaching, Music Education Teaching, Physical Education Teaching, Spanish Teaching

Social Work

- Sociology
- Theater Arts

The AA degree is recommended for liberal arts, social science or fine arts students who plan to transfer to a university.

- The associate of arts degree transfers as a block of 64 credits to Arizona State University, Northern Arizona University, the University of Arizona, and the University of Phoenix.
- This degree is designed for transfer to all Arizona public universities; however, not all three state universities offer majors in all areas. 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.
- You will transfer with junior standing without loss of credit and complete 56 credits for a total of 120 credits for most degrees.
- Since university requirements vary considerably, it is strongly recommended that you work closely with an academic advisor to plan your coursework.

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			ART 108	Survey of World Art: Renaissance Through the 20th Century
• 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.			Economics	ECN 201	Principles of Macroeconomics	
• If you are testing out of the information literacy requirement, you may choose an alternate course from the general education course list.				ECN 202	Principles of Microeconomics	
• General education electives must be chosen from the general education course list or HPE 179.			English	ENG 220	British Literature I	
				ENG 221	British Literature II	
LANGUAGE REQUIREMENT		0-16	Geography	GEO 101	Physical Geography	
• Check university language requirements for your major.				GEO 102	Cultural Geography	
				GEO 121	World Regional Geography	
COMMON CORE OR ELECTIVE COURSES		13	History	HIS 110	History of the United States 1607-1877	
• Elective courses must be transferable to all Arizona public universities.				HIS 111	History of the United States Since 1877	
TOTAL DEGREE REQUIREMENTS		64		POS 110	American National Government	
• All courses must be completed with a grade of C or better.				POS 230	World Politics	
• 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.			Humanities		Any humanities elective course/no common core classes	
• You must demonstrate a 12.0 grade reading level proficiency.						
• A minimum of 16 credits must be completed at Cochise College.			Journalism & Media Arts	COM 110	Public Speaking	
• 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.				JRN 101	Introduction to Mass Communications	
				JRN 102	Writing for Publications	
			Philosophy	PHI 111	Introduction to Philosophy	
				PHI 113	Introduction to Logic and Language	
EXPLORATORY AREAS						
We suggest the following exploratory areas for students interested in liberal arts who are seeking an associate of arts-general requirement but are uncertain in their major:						
Anthropology	ANT 101	The Origin and Antiquity of Man				
	ANT 102	Society and Culture				
Art	ART 107	Survey of World Art: Prehistoric-Gothic				
			Psychology	PSY 101	Introduction to Psychology	
				PSY 103	Personality and Adjustment	
				PSY 230	Personality Theories and Research	

	PSY 250	Introduction to Psychological Research, Measurements and Statistics
	PSY 290	Experimental Psychology
Sociology	SOC 101	Introduction to Sociology
	SOC 160	Ethnic Groups and Minorities
	SOC 210	Marriage and the Family
	SOC 202	Social Problems
	SOC 212	Women and Men in a Changing Society

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; 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.

BUSINESS ADMINISTRATION

Computer Information Systems

GENERAL EDUCATION REQUIREMENTS, AGEC-B	35 CREDITS
Composition	ENG 101, 102. . . . 6
Mathematics	MAT 212. . . . 3
Laboratory Science	. . . . . 8
Arts	. . . . . 3
Humanities	. . . . . 3
Social and behavioral sciences	. . . . . 6
Information literacy	CIS 116 or 120. . . . 3
General education elective(s)	. . . . . 3
<ul style="list-style-type: none">• 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.• Students testing out of the information literacy requirement may choose an alternate course from the general education course list.	

- General education elective must be chosen from the general education course list or HPE 179.

COMMON COURSES. 29

TOTAL DEGREE REQUIREMENTS 64

- 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
- Biology
- Chemistry
- Computer Science
- General Requirements
- Physics, Atmospheric Sciences, and Astronomy
- Secondary Education
- Biology Teaching, Chemistry Teaching

GENERAL EDUCATION REQUIREMENTS, AGEC-S	35 CREDITS
Composition	ENG 101, 102. . . . 6
Mathematics	MAT 220 or higher. . . 3-5

Laboratory science	PHY 230/231 or CHM 151/152 or BIO 181/182.....	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.		
• If you test out of the information literacy requirement, you may choose an alternate course from the general education course list.		
• General education elective must be chosen from the general education course list or HPE 179.		
Common Courses and Electives		29
TOTAL DEGREE REQUIREMENTS		64
• 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 Studies
Intelligence Operations
Professional Pilot Technology
Manufacturing Engineering

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... 3-5
Laboratory science	4
Arts.....	3
Humanities	3
Social and behavioral sciences	6
Information literacy	CIS 116 or 120..... 3
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.	
• Students testing out of the information literacy requirement may choose an alternate course from the general education course list.	
• General education electives must be chosen from the general education course list or HPE 179.	
ELECTIVES	29
• Elective courses may be selected from any Cochise College course above the 100 level.	

TOTAL DEGREE REQUIREMENTS 64

- 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 academic advisor for information about the bachelor of applied science degrees (BAS) at Arizona public universities.

Cochise College has the following associate of applied science degrees. See the “Areas of Study” section of this catalog for complete degree programs.

- Administration of Justice
- Agriculture
- Aviation Maintenance Technology
- Avionics Technology
- Business Management
- Computer Applications
- Computer Information Systems
- Computer Programming
- Culinary Arts
- Drafting and Design

- Early Childhood Care and Education
- Electronics Technology
- Fire Science Technology
- Hospitality Administration
- Intelligence Operations
- Interpreter Training
- Manufacturing Engineering
- Media Communications
- Network Technology
- Nursing
- Paramedicine
- Professional Administrative Assistant
- Professional Pilot Technology
- Welding Technology

GENERAL EDUCATION REQUIREMENTS 18-19 CREDITS

- Communications..... 6
- Mathematics/lab science* 3-4
- Liberal arts..... 6
- Information literacy 3

- Core Curriculum (See “Areas of Study”) 26-43
- Electives (as needed to complete 64 credits)

TOTAL DEGREE REQUIREMENTS 64

- * CHM 130 and CHM 151 will satisfy the mathematics/laboratory sciences for nursing and health technology programs only.
- 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

Aerospace Thermal Fusion
 Aerospace Welding Technology
 Air Conditioning and Refrigeration
 Airframe Mechanic
 Avionics Technology
 Basic Certificate in Early Childhood Care and Education
 Certified Public Manager
 Chef de Cuisine-Food Preparation
 Chef Garde-Manger
 Chef Pâtissier-Bakers
 Cisco Networking
 Community Health Advisor
 Computer Generated Imagery and Video Animation
 Computer Imagery and Graphics
 Computer Programmer
 Computerized Office Applications
 Computer-Aided Drafting
 Entrepreneurship/Small Business Management
 Equine Science and Management
 Fire Science Technology
 General Business
 General Computer-Aided Drafting
 General Welding Technology
 Hospitality Administration
 International Communications
 International Management
 Management
 Manufacturing Technology
 Medical Assistant - Back Office
 Medical Transcription
 Microcomputer Practitioner
 Microcomputer Skills Proficiency
 Motor Transport Technology
 Network Administrator

Network Support
 Office Assistant
 Online International Business
 Paramedicine
 PC Maintenance and Repair
 Practical Nurse
 Print Media Arts
 Professional Pilot Advanced
 Professional Pilot Basic
 Receptionist
 Retail Management
 Social Work
 Sous Chef
 Supervisory Management
 Teacher Aid I
 Teacher Aid II
 Teleservices
 UNIX System Administrator
 Web Developer
 Welding Technology
 Workplace English
 Workplace Spanish

Arizona Department of Corrections Certificates**

Advanced Business
 Advanced Custodial Services
 Advanced Electronics
 Advanced Facility Maintenance Technician
 Air Conditioning Maintenance Technician
 Basic Custodial Services
 Basic Facility Maintenance Technician
 Consumer Electronics Repair
 Fire Leadership
 General Electronics Technician
 Lead Firefighter
 Masonry
 Transition

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



proud
to
be...
COCHISE COLLEGE

COCHISE COLLEGE

Student Plan
2003-2004

MISCELLANEOUS FEES FOR NON-STUDENTS

Fee	Amount
Academic Testing	\$100
Student Fee	\$100

Douglas Campus

C. Arlene

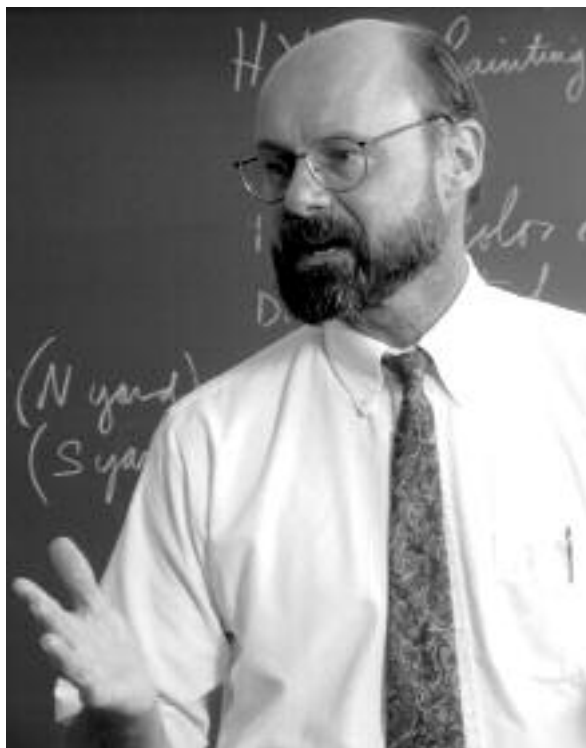
DELL

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

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 http://xwing.cochise.edu/curriculum/gen-ed.html .	

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

COMMON COURSES.....	18
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	64
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* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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

GENERAL EDUCATION REQUIREMENTS 20 CREDITS

Composition ENG 101 3

English Composition ENG 102... OR

Written Communications & Reports ENG 109..... 3

Mathematics MAT 122..... 3

Social sciences SOC 101..... 3

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

General education elective..... POS 110 or 220..... 3

Physical education 2

CORE CURRICULUM 44 CREDITS

Introduction to Administration of Justice AJS 101..... 3

Substantive Criminal Law..... AJS 109..... 3

The Police Patrol Function AJS 122... OR

The Police Function AJS 230..... 3

Juvenile Justice Procedures..... AJS 212..... 3

The Correction Function..... AJS 240..... 3

Psychology in Law Enforcement AJS 254..... 3

Procedural Criminal Law..... AJS 260..... 3

Criminal Investigations AJS 275..... 3

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

AJS ELECTIVES* 17

TOTAL DEGREE REQUIREMENTS 64

* For a list of approved AJS electives, see the Administration of Justice Department.

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

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..... 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

BUSINESS ELECTIVES (FROM ANY OF THE FOLLOWING)..... 6

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

EQUINE SCIENCE AND MANAGEMENT

Certificate

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

Air Conditioning and Refrigeration

The Air Conditioning and Refrigeration Certificate prepares students for direct employment in the refrigeration industry. Students demonstrate a working knowledge of trouble shooting and repair on air conditioning, refrigeration and heating systems.

AIR CONDITIONING AND REFRIGERATION

Certificate

CORE CURRICULUM	16 CREDITS
Refrigeration I	GTC 122..... 3
Refrigeration II.....	GTC 222..... 3
Heating and Air Conditioning	GTC 223..... 4
Oxyacetylene Welding	WLD 105..... 3
Electrical Repair and Maintenance.....	GTC 123..... 3

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

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.	

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.

TOTAL DEGREE REQUIREMENTS	64
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* Students testing out of this requirement may choose elective credits from the general education list.

** 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

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	
LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES.....	6
Origin and Antiquity of Humankind.....	ANT 101..... 3
Society and Culture.....	ANT 102..... 3

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

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	
LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES.	15
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
* Students testing out of this requirement must choose general education elective credits.	
** General education electives must be chosen from the general education list, see http://xwing.cochise.edu/curriculum/gen-ed.html .	
*** 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 Art Department recommends a painting or ceramics course, select courses for a two-dimensional department emphasis: ART 216, ART 230, ART 245, ART 265, ART 280, ART 281, ART 286, ART 295, ART 296, OR a three-dimensional department emphasis: ART 250, ART 255, ART 270, ART 290.	

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 (AMT) 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

Associate of Applied Science

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
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.	

* Students testing out of this requirement must choose general education elective credits from the general education list.



AIRFRAME MECHANIC

Certificate

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

POWERPLANT MECHANIC

Certificate

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

AVIONICS TECHNOLOGY

The Avionics Technology program (AVT) at Cochise College prepares the student for 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 deals with basic electronic and avionics fundamentals. Phase 2 deals extensively with electronic devices and pulse/digital circuitry. Phases 3 and 4 deal with communications and communication devices, FCC and FAA regulations, navigation, flight management, and radar systems. 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.

AVIONICS TECHNOLOGY

Associate of Applied Science

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 66 CREDITS

Math for Basic Electronics	AVT 101.....	3
Introduction to Electronics	AVT 104.....	7
Avionics Fundamentals.....	AVT 107.....	6
Electronic Devices and Circuits I	AVT 112.....	6
Digital & Microprocessor Fundamentals	AVT 115.....	6
Pulse and Digital Circuits	AVT 118.....	6
Electronic Communications	AVT 202.....	6
Electronic Devices and Circuits II	AVT 205.....	6
FCC/FAA Regulations.....	AVT 208.....	4
Navigation Systems	AVT 220.....	6
Flight Management/Control Systems	AVT 224.....	4
Aircraft Radar and Pulse Systems	AVT 228.....	6

TOTAL DEGREE REQUIREMENTS 84

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.

* Students testing out of this requirement must choose general education elective credits from the general education list.

AVIONICS TECHNOLOGY

Certificate

OCTOBER AND APRIL..... 16 CREDITS

Math for Basic Electronics	AVT 101.....	3
Introduction to Electronics	AVT 104.....	7
Avionics Fundamentals.....	AVT 107.....	6

JANUARY AND JULY 18 CREDITS

Electronic Devices and Circuits I	AVT 112.....	6
Digital and Microprocessor Fundamentals	AVT 115.....	6
Pulse and Digital Circuits	AVT 118.....	6

APRIL AND OCTOBER..... 16 CREDITS

Electronic Communications	AVT 202.....	6
Electronic Devices and Circuits II	AVT 205.....	6
FCC/FAA Regulations.....	AVT 208.....	4

JULY AND JANUARY..... 18 CREDITS

Navigation Systems	AVT 220.....	6
Flight Management/Control Systems	AVT 224.....	4
Aircraft Radar and Pulse Systems	AVT 228.....	6

TOTAL CERTIFICATE REQUIREMENTS 66

PROFESSIONAL PILOT TECHNOLOGY

The Professional Pilot Technology (PFT) 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

GENERAL EDUCATION REQUIREMENTS	35 CREDITS
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.	

CORE CURRICULUM	28 CREDITS
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
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.	

* Students testing out of this requirement must choose general education elective credits from the general education list.

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

PROFESSIONAL PILOT TECHNOLOGY

Associate of Applied Science

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
* Students testing out of this requirement must choose general education elective credits from the general education list.	

PROFESSIONAL PILOT TECHNOLOGY

Basic Certificate

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

PROFESSIONAL PILOT TECHNOLOGY

Advanced Certificate

Prerequisite: ENG 101 or higher or BUS 104 or higher..... 3

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 GroundSchoolPFT 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

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

Emphasis in Biology

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	

LANGUAGE REQUIREMENT*** 0-16
Non-English language

Second- or fourth-semester proficiency

COMMON COURSES..... 16

General Biology I (Majors)	BIO 181.....	4
General Biology II (Majors).....	BIO 182.....	4
General Chemistry I.....	CHM 151.....	4
General Chemistry II	CHM 152.....	4

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

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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.

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 Certified Public Manager (CPM) program is a nationally recognized program for achieving certification in public management. As part of a national consortium, CPM is designed to provide the public sector professional with analytical approaches and managerial skills that inspire ideas, empower people, and maximize use of resources.

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 emphasizes supervisory skills. This program provides the necessary skills to effectively meet the challenges and opportunities that public, private and non-profit sector supervisors/managers face in a rapidly changing workplace environment. Courses must be taken in the order presented.

BUSINESS ADMINISTRATION

Associate of Business

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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
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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.

* Students testing out of this requirement must choose general education elective credits.

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

BUSINESS MANAGEMENT

Associate of Applied Science

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

TOTAL DEGREE REQUIREMENTS 64

* 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

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

ENTREPRENEURSHIP/SMALL BUSINESS MANAGEMENT

Certificate

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

INTERNATIONAL MANAGEMENT

Certificate

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

CORE CURRICULUM 12 CREDITS

International Marketing..... BUS 134..... 3

Financial Accounting BUS 201..... 3

Principles of Macroeconomics..... ECN 201..... 3

International Trade ECN 221..... 3

TOTAL CERTIFICATE REQUIREMENTS 30



INTERNATIONAL BUSINESS

Certificate

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

RETAIL MANAGEMENT

Certificate

CORE CURRICULUM	30 CREDITS
Business Communications	BUS 167.....3
Business Mathematics	BUS 104.....3
Learning to Use the Personal Computer	CIS 116...OR
Introduction to Information Systems	CIS 120.....3
Business Speech Communications.....	OAD 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
Leadership and Supervision.....	BUS 127.....3
Human Resource Management	BUS 123.....3

CERTIFIED PUBLIC MANAGER

Certificate

Offered in partnership with Arizona State University.

Program prerequisites:

1. Successful completion of PAD 101-103 or an ASU-approved supervisory program within the last five years.
OR Advanced entry requirements:
1. Two-year degree from an accredited institution that includes nine credit hours (135 clock hours) in management development or training.
2. Specific training in performance appraisal, grievance, and EEO/affirmative action.
3. Supervisory experience and education totaling eight years.

CORE CURRICULUM	9 CREDITS
Management in the Public Organization	PAD 201.....4
Systems Approach to Public Management.....	PAD 202.....3
Case Studies in Decision Management	PAD 203.....2

TOTAL CERTIFICATE REQUIREMENTS9
Ethics and Management Simulation provided through Arizona State University (32 contact hours). Certified Public Manager Certificate awarded in annual graduation ceremony at Arizona State University. For more information, contact the Workforce Training and Community Education department on Sierra Vista Campus.

SUPERVISORY MANAGEMENT

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.

SUPERVISORY MANAGEMENT

Certificate

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 Relationships	PAD 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.	

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



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

MANAGEMENT

The Management Certificate program is designed to provide private and non-profit sector 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 in the private and non-profit sectors who are not currently eligible for enrollment in the College's Certified Public Manager program. The focus of MGT 101-103 is managing resources. MGT 201-203 focuses on managing programs. Upon successful completion of the Management Certificate program, students will receive a joint Cochise College - American Management Association certificate in management.

MANAGEMENT PROGRAM

Certificate

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

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

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

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

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.	
CORE CURRICULUM	29 CREDITS
General Organic Chemistry I.....	CHM 235 4
General Organic Chemistry II	CHM 236 4
Laboratory sciences	PHY 230/231 ... OR CHM 151/152..... 8
Calculus II	MAT 231..... 4
Electives	9
TOTAL DEGREE REQUIREMENTS	64

PHY 230/231 and CHM 151/152 are required; may count as AGECE or common courses.

NOTE: Calculus III is recommended for university transfer, not required.

* Students testing out of this requirement must choose general education elective credit.

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

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

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	
LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency	

COMMON COURSES..... 6

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

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

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

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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: applications programmer, systems programmer, and database administrator.

To satisfy degree and certificate requirements for all CIS/CS programs, all courses require a grade of C or better.

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.

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.

COMPUTER INFORMATION SYSTEMS

Associate of Business

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 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.

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

JAVA Programming CIS 208..... 4

Visual Basic Programming CIS 218..... 4

Principles of Macroeconomics..... ECN 201..... 3

Principles of Microeconomics ECN 202..... 3

Quantitative Methods in Business BUS 172..... 3

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** Elective courses must be transferable to all Arizona public universities.



COMPUTER APPLICATIONS

Associate of Applied Science

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

MAJOR COURSES 46 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
Advanced Operating Systems (select one):		4
UNIX Operating System	CIS 128	
MS Bus Desktop Computer Op Sys	CIS 236	
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
Professional Image & Business Etiquette	OAD 150	3
Computerized Office Management	OAD 216	3
Adv Computerized Office Management	OAD 217	3
Technical Presentations	CIS/OAD 268	3

TOTAL DEGREE REQUIREMENTS 64

COMPUTER INFORMATION SYSTEMS

Associate of Applied Science

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 47 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
Database Management	CIS 250	4
Systems Analysis	CIS 270	3
Advanced Computer Applications	CIS 281	3
WWW Development	CIS 287	3
Field Experience in CIS	CIS 294	3
Programming (Select One):		4
*JAVA Programming	CIS 208	
Visual Basic Programming	CIS 218	
Advanced Programming (Select One):		4
*Advanced JAVA Programming	CIS 209	
Advanced Visual Basic Programming	CIS 223	
Advanced Operating Systems (Select One):		4
UNIX Operating System	CIS 128	
Ms Bus Desktop Computer Op Sys	CIS 236	

* NOT OFFERED ON DOUGLAS CAMPUS

TOTAL DEGREE REQUIREMENTS 65

COMPUTER GENERATED IMAGERY AND VIDEO ANIMATION

Certificate

CORE CURRICULUM 16 CREDITS

3D Computer Generated Imagery I CIS H193..... 1

3D Computer Generated Imagery II..... CIS I193..... 1

3D Computer Generated Imagery III..... CIS J193..... 1

3D Computer Generated Imagery IV CIS K193..... 1

3D Computer Generated Animation I CIS L193..... 1

3D Computer Generated Animation II..... CIS M193..... 1

3D Computer Generated Animation III..... CIS N193..... 1

3D Computer Generated Animation IV..... CIS O193..... 1

Advanced 3D Computer Generated Imagery I ... CIS P193..... 1

Advanced 3D Computer Generated Imagery II .. CIS Q193..... 1

Advanced 3D Computer Generated Imagery III .. CIS R193..... 1

Advanced 3D Computer Generated Imagery IV .. CIS S193..... 1

Computer Generated Video Production I CIS T193..... 1

Computer Generated Video Production II CIS U193..... 1

Computer Generated Video Production III..... CIS V193..... 1

Computer Generated Video Production IV..... CIS W193..... 1

TOTAL CERTIFICATE REQUIREMENTS 16

COMPUTER IMAGERY AND GRAPHICS

Certificate

CORE CURRICULUM 16 CREDITS

2D Computerized Digital Imaging I CIS 193A..... 1

2D Computerized Digital Imaging II..... CIS 193B..... 1

2D Computerized Digital Imaging III CIS 193C..... 1

2D Advanced Digital Imagery I CIS 193D..... 1

2D Advanced Digital Imagery II CIS 193E..... 1

2D Advanced Digital Imagery III..... CIS 193F..... 1

2D Computer Animation I CIS B193..... 1

2D Computer Animation II..... CIS C193..... 1

2D Computer Animation III..... CIS D193..... 1

2D Computer Animation w/Action Scripting I .. CIS E193..... 1

2D Computer Animation w/Action Scripting II.. CIS F193..... 1

2D Computer Animation w/Action Scripting III. CIS G193..... 1

Division-approved electives* 4

* Recommend CIS X193, CIS Y193, and CIS Z193, and other imagery, graphics, animation, art or web production courses for electives.

TOTAL CERTIFICATE REQUIREMENTS 16

COMPUTER PROGRAMMER

Certificate

CORE CURRICULUM 29 CREDITS

Customer Relations in the Workplace..... BUS 168..... 1

Information Literacy CIS 120..... 3

Programming Logic..... CIS 130..... 3

Programming (select three):..... 12

COBOL Programming..... CIS 202

FORTRAN Programming CIS 203

C Programming CIS 204

Assembler w/Architecture CIS 206

Java Programming..... CIS 208

Visual Basic Programming CIS 218

C++ Programming..... CIS 227

Digital Logic..... CIS 221..... 3

Advanced Programming (Select One): 4

Data Structures (in language selected above) .. CIS 220

Advanced Visual Basic Programming..... CIS 223

Advanced Java Programming CIS 209

Systems Analysis CIS 270..... 3



COMPUTER PROGRAMMING

Associate of Applied Science

GENERAL EDUCATION REQUIREMENTS	18 CREDITS
Applied Technical Writing	ENG/BUS/CIS 179..... 3
Intermediate Algebra	MAT 122 or higher..... 3
Information Literacy	CIS 116 or CIS 120..... 3
Adv Applied Technical Writing	ENG/CIS 279..... 3
Humanities/social sciences/behavioral sciences	6
MAJOR	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
Introduction to the Internet	CIS 185..... 3
Digital Logic	CIS 221..... 3
Systems Analysis	CIS 270..... 3
Field Experience in CIS	CIS 294..... 3
Programming (select three):	12
COBOL Programming	CIS 202
FORTRAN Programming	CIS 203
C Programming	CIS 204
Assembler with Architecture	CIS 206
JAVA Programming	CIS 208
Visual Basic Programming	CIS 218
C++ Programming	CIS 227
Advanced Programming (Select One):	4
Data Structures (in a language selected above)	CIS 220
Advanced Visual Basic Programming	CIS 223
Advanced JAVA Programming	CIS 209
Advanced Operating Systems (select one):	4
UNIX Operating System	CIS 128
MS Bus Desktop Computer Op Sys	CIS 236
College Algebra	MAT 151 or higher..... 4
TOTAL DEGREE REQUIREMENTS	64

COMPUTER SCIENCE

Associate of Science

Emphasis in Computer Science

To satisfy graduation requirements for this degree, all courses require a grade of C or better. Prerequisites: Proficiency in math, reading and writing (as demonstrated by placement exam).

GENERAL EDUCATION REQUIREMENTS (AGEC-S)	35 CREDITS
Composition	ENG 101..... 3
English Composition	ENG 102..... 3
Mathematics	MAT 220 or higher... 3-5
Physics w/Calculus I	PHY 230..... 4
Physics w/Calculus II	PHY 231..... 4
Arts	3
Humanities	3
Social and behavioral sciences	6
Information literacy*	CIS 116 or CIS 120..... 3
General education electives**	1-3
* Students testing out of this requirement must choose general education elective credit.	
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses.	
MAJOR	29-30 CREDITS
Assembler with Architecture	CIS 206..... 4
Java Programming***	CIS 208..... 4
Data Structures with Java	CIS 220J..... 4
Digital Logic	CIS 221..... 3
General Chemistry I	CHM 151..... 4
Discrete Math	MAT 227..... 3
Calculus II	MAT 231..... 4
Calculus III	MAT 241 or higher..... 4
TOTAL DEGREE REQUIREMENTS	64

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

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

MICROCOMPUTER SKILLS PROFICIENCY

Certificate

CORE CURRICULUM	27 CREDITS
Word Processing	OAD 213... OR OAD 193V, OAD 193W, OAD 193X. 3
Advanced Word Processing	OAD 214... OR OAD 293A, OAD 293B, OAD 293C. 3
PowerPoint	OAD 268... OR OAD 193M, OAD 193N, OAD 193O. 3
Excel and Access	OAD 210... OR OAD A193, OAD B193, OAD D193, OAD E193... 3-4
Advanced Excel and Access	OAD 216... OR OAD C193, OAD F193, OAD 293O. 3
Outlook	OAD 193U, OAD 193Z, OAD 293D. 3
Advanced Office Professional	OAD 293L, OAD 293M, OAD 293N. 3
Advanced Computerized Office Management	OAD 217 or OAD 293P, OAD 293Q, OAD 293R. 3
Electives*	2-3

* OAD 192, OAD 193, OAD 293 or CIS 193 courses. Alternate courses listed in the certificate requirements but not used.

MICROCOMPUTER PRACTITIONER

Certificate

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

CORE CURRICULUM	12-15 CREDITS
Learning to Use the Personal Computer*	CIS 116 or waiver... 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/OAD 268. 3
Department approved electives*	0-3

Complete one of the following options:

WEB OPTION

WWW Development	CIS 287. 3
WWW Programming	CIS 242. 3
TOTAL WEB OPTION	6

APPLICATIONS OPTION

Computer Applications	CIS 181. 3
Advanced Computer Applications	CIS 281. 3
TOTAL APPLICATIONS OPTION	6

OFFICE OPTION

Computerized Office Management	OAD 216. 3
Advanced Computerized Office Management	OAD 217. 3
TOTAL OFFICE OPTION	6

TOTAL CERTIFICATE REQUIREMENTS

18-21

NETWORK ADMINISTRATOR

Certificate

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 (*PREREQUISITES APPLY)	19 CREDITS
Intermediate Algebra	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

TRACK 1 (*PREREQUISITES APPLY)

MS Bus Desktop Computer Op Sys	CIS 236*.....	4
TCP/IP	CIS 238*.....	3
Introduction to Microsoft Server	CIS 240*.....	4
Introduction to Active Directory.....	CIS 241*.....	4

TRACK 2 (*PREREQUISITES APPLY)

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 (*PREREQUISITES APPLY)

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

NETWORK TECHNOLOGY

Associate of Applied Science

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 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/OAD 268.....	3
Field Experience in CIS	CIS 294.....	3
Department approved electives (from attached list).....		6

CHOOSE ONE EMPHASIS FROM THE FOLLOWING 16 CREDITS

MICROSOFT EMPHASIS (*PREREQUISITES APPLY)

Introduction to Programming Logic.....	CIS 129.....	1
MS Business Desktop Computer Op Sys	CIS 236.....	4
TCP/IP	CIS 238*.....	3
Introduction to MS Server.....	CIS 240*.....	4
Introduction to Active Directory.....	CIS 241*.....	4

CISCO EMPHASIS (*PREREQUISITES APPLY)

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 (*PREREQUISITES APPLY)

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

DEPARTMENT APPROVED ELECTIVES (PREREQUISITES APPLY)

Introduction to Programming Logic.....	CIS 129.....	1
Programming Logic	CIS 130.....	3
Introduction to Information Security	CIS 160.....	3
Computer Applications	CIS 181.....	3
Introduction to the Internet.....	CIS 185.....	3
C Programming	CIS 204.....	4
Java Programming.....	CIS 208.....	4
Visual Basic Programming	CIS 218.....	4
Advanced Visual Basic Programming.....	CIS 223.....	4
C++ Programming.....	CIS 227.....	4
World Wide Web Programming	CIS 242.....	3
Database Management	CIS 250.....	4
UNIX Shell Programming	CIS 257.....	4
Systems Analysis and Design.....	CIS 270.....	3
Advanced Computer Applications.....	CIS 281.....	3
World Wide Web Development	CIS 287.....	3
Developing Online Courses	CIS 288.....	3

NETWORK SUPPORT

Certificate

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*..... 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 (*PREREQUISITES APPLY)	
MS Business Desktop Computer Op Sys	CIS 236*..... 4
TCP/IP	CIS 238*..... 3
Introduction to Microsoft Server	CIS 240*..... 4
Introduction to Active Directory	CIS 241*..... 4
TRACK 2 (*PREREQUISITES APPLY)	
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 (*PREREQUISITES APPLY)	
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

PC MAINTENANCE AND REPAIR

Certificate

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

UNIX SYSTEM ADMINISTRATOR

Certificate

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.

Deficiency; Introduction to Programming Logic (or completion of waiver exam)	CIS 129..... 1
CORE CURRICULUM	15 CREDITS
UNIX Operating System	CIS 128..... 4
UNIX System Administration	CIS 229..... 4
Perl Scripting	CIS 248..... 3
UNIX Shell Programming	CIS 257..... 4



WEB DEVELOPER

Certificate

OPERATING SYSTEM FOUNDATION 27 CREDITS

Choose one path

WINDOWS PATH

Microsoft Business Desktop Computer
Operating Systems CIS 236. 4
Advanced Microsoft Network
Management CIS 237. 4
OR

UNIX PATH

Unix Operating System CIS 128. 4
Unix Shell Programming CIS 257. 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
Perl Scripting CIS 248. 3
World Wide Web Development CIS 287. 3

CISCO NETWORKING

Certificate

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

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 Patisserie 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

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	35 CREDITS
Introduction to Hospitality Industry.....	HAD 100..... 3
Nutrition in Food Service	CUL/HAD 105..... 3
Restaurant Sanitation	CUL/HAD 107..... 3
Food Service Math Principles	CUL/HAD 110..... 3
Food Purchasing and Control.....	CUL/HAD 204..... 3
Guest Service Management.....	CUL 210..... 3
Food Service Specialty:	
Culinary Preparation.....	CUL/HAD 215..... 3
Food Service Specialty:	
Culinary Preparation II.....	CUL/HAD 216..... 4
Food Service Specialty: Baking.....	CUL/HAD 220..... 3
Food Service Specialty: Baking II.....	CUL/HAD 221..... 3
Food Service Specialty: Garde-Manger	CUL/HAD 225..... 3
Food Service Specialty: Garde-Manger II ..	CUL/HAD 226..... 3
Commercial Food Preparation	CUL/HAD 240..... 3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)

Human Resources Management	BUS 123..... 3
Exploration of Modern Cooking.....	CUL/HAD 181..... 3
Financial Accounting	BUS 201..... 3
Field Experience in Culinary Arts.....	CUL/HAD 224... 1-6

TOTAL DEGREE REQUIREMENTS	64
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CHEF PATISSIER

Baker's Certificate

CORE CURRICULUM	16 CREDITS
Food Service Math Principles	CUL/HAD 110..... 3
Restaurant Sanitation	CUL/HAD 107..... 3
Food Purchasing and Control.....	CUL/HAD 204..... 3
Baking Specialty	
Food Service Specialty: Baking.....	CUL/HAD 220..... 3
Food Service Specialty: Baking II.....	CUL/HAD 221..... 2
Electives (Any course with CUL prefix)	1+

CHEF GARDE-MANGER

Certificate

CORE CURRICULUM	16 CREDITS
COLD FOODS AND SALAD	
Restaurant Sanitation	CUL/HAD 107..... 3
Food Service Math Principles	CUL/HAD 110..... 3
Food Purchasing & Control	CUL/HAD 204..... 3
GARDE-MANGER SPECIALTY	
Food Service Specialty: Garde-Manger	CUL/HAD 225..... 3
Food Service Specialty: Garde-Manger II ..	CUL/HAD 226..... 3
Electives (Any course with CUL prefix)	1+

CHEF DE CUISINE - FOOD PREPARATION

Certificate

CORE CURRICULUM	16 CREDITS
Restaurant Sanitation	CUL/HAD 107..... 3
Food Service Math Principles	CUL/HAD 110..... 3
Food Purchasing & Control	CUL/HAD 204..... 3
Food Preparation Specialty	
Food Service Specialty: Culinary Prep	CUL/HAD 215..... 3
Food Service Specialty: Culinary Prep II.	CUL/HAD 216..... 4

SOUS CHEF

Certificate

CORE CURRICULUM	37 CREDITS
Restaurant Sanitation	CUL/HAD 107..... 3
Food Service Math Principles	CUL/HAD 110..... 3
Food Purchasing and Control	CUL/HAD 204..... 3
Food Service Specialty: Culinary Prep	CUL/HAD 215..... 3
Food Service Specialty: Culinary Prep II.....	CUL/HAD 216..... 4
Food Service Specialty: Baking	CUL/HAD 220..... 3
Food Service Specialty: Baking II	CUL/HAD 221..... 3
Food Service Specialty: Garde-Manger	CUL/HAD 225..... 3
Food Service Specialty: Garde-Manger II ..	CUL/HAD 226..... 3
Commercial Food Preparation Theory.....	CUL/HAD 240..... 3
Dining Service Management	CUL/HAD 242..... 3
Advanced Techniques in Gourmet Food Preparation.....	CUL/HAD 280..... 3

Drafting and Design

The Associate of Applied Science degree in Drafting and Design is intended to prepare students for entry- and mid-level employment in drafting-related careers. Career opportunities include: computer-aided drafter, designer, and engineering assistant. Special emphasis is placed on the employment skills necessary in high-tech industries, such as manufacturing and aerospace. This program is also popular with professionals wishing to update their skills in computer-aided drafting and product 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.

DRAFTING AND DESIGN

Associate of Applied Science

GENERAL EDUCATION REQUIREMENTS	22 CREDITS
English.....	BUS/CIS/ENG 179 and CIS/ENG 279..... 6
Mathematics.....	MAT 122 and MAT 151..... 7
Arts and humanities or social and behavioral sciences	3
General education electives	6
Reading competency	

CORE CURRICULUM	43 CREDITS
Technical Graphics I.....	DFT 112..... 3
Technical Graphics II	DFT 113..... 3
Spatial Relationships.....	DFT 210..... 3
Computer-Aided Drafting.....	DFT 150..... 3
Illustration.....	DFT 170..... 3
Topics in Drafting.....	DFT 201..... 4
Product Design	DFT 231..... 3
Design and Fabrication	DFT 232..... 3
Engineering Design.....	DFT 241..... 4
Computer-Aided Drafting II	DFT 250..... 3
Manufacturing Materials and Processes	GTC 105..... 3
Engineering Materials and Processes	GTC 206..... 4
Welding Survey	WLD 202..... 4

TOTAL DEGREE REQUIREMENTS	65
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COMPUTER-AIDED DRAFTING

Certificate

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

GENERAL COMPUTER-AIDED DRAFTING

Certificate

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

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

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Second- and fourth-semester proficiency

COMMON COURSES..... 12

Calculus for Business	MAT 212.....	3
Business Statistics.....	BUS 219... OR	
Elements of Statistics	MAT 167.....	3
Principles of Macroeconomics.....	ECN 201.....	3
Principles of Microeconomics	ECN 202.....	3

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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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>.

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 degree in Elementary Education 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

Emphasis in Elementary Education

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 elective	1-3

Six credits of arts/humanities/social and behavioral sciences/ general education electives must be intensive writing/ critical inquiry courses, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

The department recommends POS 220 as three of the six credits.

If a student tests out of the information literacy requirement, the student may choose an alternate course from the general education course list.

Elective courses must be chosen from the general education course list or HPE 179.

LANGUAGE REQUIREMENT*

CORE COURSES	25 CREDITS
Math for Elementary Education	MAT 125 & 126..... 6
Introduction to Education	EDU 201..... 3
Introduction to Special Education	EDU 222..... 3
Cultural Diversity in Education	EDU 226..... 3
Education elective	3
Electives in content areas relevant to K-12	7

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)

TOTAL DEGREE REQUIREMENTS

- *Notes: 1. Laboratory sciences—8 credits must be taken from two different prefixes. Recommended courses: BIO 101, BIO 105, BIO 201, GEO 101, PHY 111, CHM 130, AST 180, and GLG 101.
2. Laboratory sciences—UA requires four courses for the education degree.

- 3. Arts—ART 120 or MUS 260 is recommended for UA.
- 4. Humanities—COM 102 is highly recommended; ART 107/108 or MUS 101/102 recommended for UA.
- 5. Social and behavioral sciences—recommended courses: POS 220 (highly recommended), HIS 110/111 (highly recommended), PSY 101, GEO 102, ECN 201/202, and 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.

TEACHER AIDE

CORE CURRICULUM	12 CREDITS
Intermediate Writing	ENG 100.....3
Mathematics	MAT 082.....3
Reading	RDG 110 or 122 or placement.....3
General education elective*	3
* Social/behavioral science class recommended	

TEACHER AIDE CERTIFICATE PROGRAM

The Teacher Aide Certificate Program consists of three sequential levels, each of which provides the student with increasing levels of academic skills and content knowledge, both essential to enhancing the teacher aide’s contribution to the elementary, middle, or secondary school instructional process. Each of the three levels is designed to move the participant toward an associate of arts degree with an emphasis in pre-elementary education, a degree which fulfills the lower division course requirements at all three Arizona state universities.

TEACHER AIDE LEVEL I

CORE CURRICULUM	15-16 CREDITS
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



TEACHER AIDE LEVEL II

CORE CURRICULUM	16-21 CREDITS
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

TEACHER AIDE LEVEL III

CORE CURRICULUM	16 CREDITS
Social/behavioral sciences***	6
Laboratory sciences	4
Mathematics	MAT 125.....3
Education	EDU 222 or 226.....3

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.

- ** 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.
- *** Recommended social/behavioral science courses: POS 220, HIS 110/111
- † 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.

EARLY CHILDHOOD CARE AND EDUCATION

Associate of Arts

Emphasis in Early Childhood Care and Education

GENERAL EDUCATION REQUIREMENTS (AGEC-A).....	35 CREDITS
Composition	ENG 101.....3
English Composition	ENG 102.....3
Mathematics ¹	MAT 142 or higher... 3-5
Laboratory sciences ²	8
Arts	ART 120 or MUS 260.... 3
Humanities ³	3
Social and behavioral sciences ⁴	6
Information literacy*	CIS 116 or CIS 120.... 3
General education electives**	0-3

1 MAT 142 preferred

2 BIO 101 recommended; BIO 105 or GLG 111 also recommended

3 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 PSY 101 required; SOC 160 recommended (also fulfills intensive writing/critical inquiry requirement) or HIS 110 or HIS 111 (common EDU transfer courses)

Consultation with a counselor or faculty advisor in the Student Development Center is highly recommended when choosing the options for fulfilling AGECE 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 AGECE categories for additional possibilities.

Six credits of art/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses, see <http://xwing.cochise.edu/curriculum/gen-ed.htm>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Second- or fourth-semester proficiency

CORE CURRICULUM 28

PRE-EDUCATION

Introduction to Education	EDU 201..... 3
Mathematics for Elementary Education Majors I... MAT 125	3
Mathematics for Elementary Education Majors II .. 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 124... 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 3, one-credit ECE courses in infant/toddler emphasis 3
taken concurrently with Practicum ECE 124... 0.5

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

TOTAL DEGREE REQUIREMENTS 64
(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.)

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.cc.az.us/curriculum/gen-ed.htm>.

*** 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/>.

EARLY CHILDHOOD CARE AND EDUCATION

Associate of Applied Science

GENERAL EDUCATION REQUIREMENTS 18 CREDITS

Communications	ENG 101 and ENG 102 or ENG 111 and ENG 167 or ENG 179.....	6
Mathematics*	BUS 104 or MAT 122 or MAT 125 or MAT 126 or MAT 142.....	3
Liberal arts	ART 103 or ART 120 or (choose two) COM 102 or MUS 101 or MUS 102 or PHI 130 or PSY 101 or SOC 101 or SOC 160 or THE 103.....	6
Information literacy**	CIS 116 or CIS 120.....	3

CORE CURRICULUM 31-33

Intro to Early Childhood Care & Education	ECE 150.....	3
Observation, Behavior and Guidance	ECE 152.....	3
Children's Language Development	ECE 155.....	3
Health, Safety, & Nutrition for Young Children ...	ECE 158.....	3
Childhood Growth and Development.....	ECE 160.....	3
Understanding Families, Community and Diversity.....	ECE 161.....	3
Curriculum Development for Early Childhood Education.....	ECE 170.....	3
Teaching Strategies for Early Childhood Education.....	ECE 172.....	3
Administration of Early Childhood Care and Education Programs	ECE 173.....	3
Relationships in the Classroom.....	EDU 230.....	3
CPR and First Aid.....	HLT 111.....	1
OR First Aid and Safety.....	HPE 189.....	3

ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS) must be selected in consultation with advisor:

Behavior Management for Early Childhood	ECE 174.....	3
Creativity in ECE Programs	ECE 175.....	3
Math and Science for Early Childhood Care and Education	ECE 176.....	3
Ethnic Groups and Minorities	SOC 160.....	3

Elements of Intercultural Communication	COM 204.....	3
Cultural Values in Borderlands Workplace.....	HUM 167.....	3
Developmental Psychology	PSY 240.....	3
Introduction to Special Education.....	EDU 222.....	3
Cultural Diversity in Education	EDU 226.....	3
Children's Literature	ENG 212.....	3

* Students should consult an advisor for selection of course.

** Students testing out of this requirement must choose general education elective credits from the general education list.

BASIC CERTIFICATE IN EARLY CHILDHOOD CARE AND EDUCATION

CORE CURRICULUM 19 CREDITS

Safety in Early Childhood Education	ECE 101.....	1
Health in Early Childhood Education.....	ECE 102.....	1
Nutrition in Early Childhood Education	ECE 103.....	1
Physical Activities in Early Childhood Education.....	ECE 104.....	1
Cognitive Activities in Early Childhood Education.....	ECE 105.....	1
Creative Activities in Early Childhood Education	ECE 106.....	1
Self Concept	ECE 107.....	1
Social Concept.....	ECE 108.....	1
Guidance	ECE 109.....	1
Child Development	ECE 160.....	3
Understanding Families, Community, and Diversity.....	ECE 161.....	3
Administration of Early Childhood Education Programs.....	ECE 173.....	3
First Aid and Safety	HPE 189.....	3
or CPR and First Aid	HLT 111.....	1

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

Emphasis in Secondary Art Education

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 elective**	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses, see http://xwing.cochise.edu/curriculum/gen-ed.html .	

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

COMMON COURSES.....	21
Design 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
Introduction to Education	EDU 201..... 3
Cultural Diversity in Education	EDU 226..... 3

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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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 Art Department recommends the following electives: Two-dimensional department emphasis: ART 216, ART 230, ART 245, ART 265, ART 280, ART 281, ART 286, ART 295, ART 296. Three-dimensional department emphasis: ART 250, ART 255, ART 270, ART 275, ART 290.

SECONDARY BIOLOGY TEACHING

Associate of Science

Emphasis in Secondary Biology Teaching

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.....	BIO 181/182... OR 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 elective**	1-3
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses, see http://xwing.cochise.edu/curriculum/gen-ed.html .	

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

COMMON COURSES.....	22
General Biology I.....	BIO 181..... 4
General Biology II	BIO 182..... 4
General Chemistry I.....	CHM 151..... 4
General Chemistry II	CHM 152..... 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

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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/>.

SECONDARY CHEMISTRY TEACHING

Associate of Science**Emphasis in Secondary Chemistry Teaching**

GENERAL EDUCATION REQUIREMENTS (AGEC-S) 35 CREDITS

Composition ENG 101..... 3

English Composition ENG 102..... 3

Mathematics MAT 220 or higher... 3-5

Laboratory science PSY 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 elective** 1-3

Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Second- or fourth-semester proficiency

COMMON COURSES..... 34

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 AGECE and/or common course area. The Chemistry Department recommends students should choose one of the above to fulfill the AGECE science requirement.

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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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/>.



SECONDARY ENGLISH TEACHING

Associate of Arts

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency (elective)	

COMMON COURSES.....	12
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 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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 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

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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

COMMON COURSES.....	18
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

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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 History Department recommends the following elective: HIS 143.

SECONDARY MATHEMATICS TEACHING

Associate of Arts

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT	0-16
Non-English language	
Second- or fourth-semester proficiency (elective)	

COMMON COURSES.....	19
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

* Students testing out of this requirement must choose general education elective credits.
** Elective courses must be transferable to all Arizona public universities.

*** 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 AGECEC and/or common course area.

SECONDARY MUSIC EDUCATION

Associate of Arts

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENTS***	0-16
Non-English language	
Second- or fourth-semester proficiency	

COMMON COURSES.....	18
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

* Students testing out of this requirement must choose general education elective credits.

- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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 Music Department recommends the following electives: instrument and voice courses.

SECONDARY PHYSICAL EDUCATION TEACHING

Associate of Arts

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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

COMMON COURSES.....	18
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 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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/>.

SECONDARY SPANISH TEACHING

Associate of Arts

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency (Spanish)	

COMMON COURSES.....	22
Elementary Spanish	SPA 101..... 4
Elementary Spanish	SPA 102..... 4
Intermediate Spanish	SPA 201..... 4
Intermediate Spanish	SPA 202..... 4
Introduction to Education	EDU 201..... 3
Introduction to Special Education.....	EDU 222... OR
Cultural Diversity in Education	EDU 226..... 3

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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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 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, microprocessors and microcomputers. Courses include designing and experimenting with electromechanical systems and team problem solving.

ELECTRONICS TECHNOLOGY

Associate of Applied Science

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

CORE CURRICULUM 45-46 CREDITS

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

TOTAL DEGREE REQUIREMENTS 64

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
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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Fourth-semester proficiency

COMMON COURSES.....	6
British Literature I	ENG 220.....3
British Literature II.....	ENG 221.....3

Select two elective options below:

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

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

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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 English Department recommends the following electives: ENG 224, ENG 225, or any 200-level course that transfers to all Arizona public universities.

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, Douglas 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.

The Workplace English Certificate program provides students with opportunities to increase communicative competence in English through practical application of frequently used technical workplace language, preparing them for employment or advancement in a work environment in which English is essential.

WORKPLACE ENGLISH

Certificate

CORE CURRICULUM	22 CREDITS
Workplace English I	ESL 001.....3
taken concurrently with	COM/ESL 091.....1
Workplace English II.....	ESL 002.....3
taken concurrently with	ENG/GTC 092.....1
Workplace English III	ESL 003.....3
taken concurrently with.....	HUM/BUS 093.....1
Workplace English IV	ESL 004.....3
taken concurrently with.....	ENG/SPA 094.....1
Cultural Values in The Borderlands Workplace .	HUM 167*.....3
Field experience	CED 224*...1-6

- * Taught bilingually in a cross-cultural setting

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

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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

COMMON COURSES.....	12
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
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- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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.

Associate of Arts

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.....	PHI 130.....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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	
LANGUAGE REQUIREMENT	0-8
Non-English language	
Second-semester proficiency	
COMMON COURSES.....	12
Child Development	FCS 184..... 3
Nutrition	FON 101..... 3
Intro to Psychological Research, Measurement & Statistics.....	PSY 250..... 3
Experimental Psychology.....	PSY 290..... 3
RECOMMENDED ELECTIVES	
Developmental Psychology	PSY 240..... 3
Marriage and Family	SOC 210..... 3
ELECTIVES (AS NEEDED TO COMPLETE 64 CREDITS)	
TOTAL DEGREE REQUIREMENTS	64
* Students testing out of this requirement must choose general education elective credits.	
** Elective courses must be transferable to all Arizona public universities.	

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

GENERAL EDUCATION REQUIREMENTS	18 CREDITS
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

CORE CURRICULUM	27 CREDITS
Firefighter Safety and Entry Level Operations ...	FST 101..... 4
Fire Rescue Operation	FST 102..... 4
Firefighter Ground Ladders and Hose Procedures.....	FST 103..... 4
Fire Support Services	FST 104..... 4
Emergency Medical Technology	EMT 174..... 8
Field Experience in Fire Science Technology.....	FST 224..... 3

ELECTIVES* (AS NEEDED TO COMPLETE 64 CREDITS)

TOTAL DEGREE REQUIREMENTS	64
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*Electives must be approved through Fire Science Program coordinator or associate dean of technology.

FIRE SCIENCE TECHNOLOGY

Certificate

CORE CURRICULUM	16 CREDITS
Firefighter Safety and Entry Level Operations ...	FST 101..... 4
Fire Rescue Operation	FST 102..... 4
Firefighter Ground Ladders and Hose Procedures.....	FST 103..... 4
Fire Support Services	FST 104..... 4

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

Emphasis in Geography

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 http://xwing.cochise.edu/curriculum/gen-ed.html .	
LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES.....	10
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

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Second- or fourth-semester proficiency

COMMON COURSES 12

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

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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>.

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

GENERAL EDUCATION REQUIREMENTS 33-34 CREDITS

Composition ENG 101 3

English Composition ENG 102 3

Mathematics MAT 151 and higher... 3-4

Laboratory sciences 8

Arts and humanities or social and behavioral sciences 6

Foreign language (Second-semester proficiency) 8

Physical education 2

Reading competency

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

CORE CURRICULUM 33 CREDITS

Introduction to the Hospitality Industry HAD 100 3

Introduction to Property Management HAD 120 3

Guest Services Management CUL/HAD 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

TOTAL DEGREE REQUIREMENTS 66-67

RECOMMENDED ELECTIVES:

Field Experience in Hospitality Administration . HAD 224... 1-6

Commercial Food Preparation Theory CUL/HAD 240 3

Advanced Commercial Food

Preparation and Lab CUL/HAD 241 4

HOSPITALITY ADMINISTRATION

Certificate

CORE CURRICULUM	28-33 CREDITS
Introduction to the Hospitality Industry	HAD 100..... 3
Introduction to Property Management	HAD 120..... 3
Guest Services Management	CUL/HAD 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/HAD 240..... 3
Advanced Commercial Food Preparation and Lab	CUL/HAD 241..... 4

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
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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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

COMMON COURSES	6
Major Ancient Cultures	HUM 205..... 3
European Culture	HUM 206..... 3

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

TOTAL DEGREE REQUIREMENTS	64
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- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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 Humanities Department recommends the following electives: ART 107, ART 108, ENG 220, ENG 221, HUM 101, HUM 104, HUM 110, HUM 115, HUM 167.

International
Communications

The International Communications Certificate is a program of study to prepare students in the use of Spanish and English for business purposes. This certificate develops culturally appropriate problem-solving and planning skills in both languages and utilizes accurate and effective communication in the cultures of both the United States and Mexico. Course content is geared toward the development of practical, employment-related language and cultural proficiencies.

INTERNATIONAL COMMUNICATIONS

Certificate

GENERAL EDUCATION REQUIREMENTS: Completion of the following courses with a grade of C or better or equivalent proficiency demonstrated by placement tests: ENG 101/107, SPA 202, BUS 104 or MAT 072, OAD 103, and RDG 021.

CORE CURRICULUM	21 CREDITS
Humanities in Contemporary Life	HUM 101 ... OR
The Modern World	HUM 207..... 3
Heritage from Mexico.....	HUM 104..... 3
Cultural Values in the Borderlands Workplace ..	HUM 167..... 3
Spanish Business Communications	SPA 267..... 3
Business Communications.....	ENG/BUS/OAD 167..... 3
Effective Messages	LIN 180 ... OR
Fundamentals of Translation & Interpretation ...	SPA 290..... 3
Word Processing	OAD 213 (or more advanced)..... 3

Interpreter Training

INTERPRETER TRAINING

Associate of Applied Science

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
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Intelligence Operations

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.

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

The Associate of Arts, Intelligence Operations (AA, IO) is designed for transfer to universities outside the state of Arizona with majors in the areas of strategic intelligence and intelligence operations. Students seeking to transfer to Arizona public universities should contact a university counselor regarding course transferability.

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 Arts

GENERAL EDUCATION REQUIREMENTS	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.	
AREA OF EMPHASIS*	18
* Contact IO Advisor/Fort Huachuca Center regarding current Area of Emphasis/Core Curriculum course list.	
ELECTIVES	11
TOTAL DEGREE REQUIREMENTS	64

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

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	1-3
Six credits of arts/humanities/social and behavioral sciences/General education electives must be intensive writing/critical inquiry course.	
AREA OF EMPHASIS*	18
*Contact IO Advisor/Fort Huachuca Center regarding current Area of Emphasis/Core Curriculum course list.	
ELECTIVES	11
TOTAL DEGREE REQUIREMENTS	64

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

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
Arts/humanities/social behavioral sciences	3

General education electives. 6

CORE CURRICULUM 44-46 CREDITS

 Must include Area of Emphasis* 34

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

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

TOTAL DEGREE REQUIREMENTS 64

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.

AREA OF EMPHASIS:*

- * Contact IO Advisor/Fort Huachuca Center regarding current Area of Emphasis/Core Curriculum course list.
- General Intelligence Operations
- Counterintelligence
- Interrogator
- Linguist
- Intelligence Analyst
- Imagery Analyst
- Ground Surveillance Systems Operator
- Signals Intelligence Analyst
- Non-Morse Code
- Morse Interceptor/Communications Interceptor
- Noncommunication Interceptor/Analyst
- Unmanned Aerial Vehicle (UAV) Maintenance
- Unmanned Aerial Vehicle (UAV) Operator

CORE CURRICULUM COURSES:*

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

Course No.	Course Title	Credits
MIO 101	Counterintelligence Investigations.	3
MIO 102	Security Programs.	1

MIO 103. Military Justice & Intelligence Law. 1

MIO 104 Analytical Process & Products. 1

MIO 105 Interrogation Operations. 2

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 201. Collection Operations. 3

MIO 202. Force Protection Operations & Support. 2

MIO 203 Combatting Terrorism. 1

MIO 204 Interrogation & Interviewing Techniques. 3

MIO 211. Decision Making Process. 2

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

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 Introduction to the Personal Computer. 3

CIS 120 Introduction to Information Systems. 3

CIS 128 Unix Operating System. 3

CIS 150. Essentials of Networking. 3

CIS 160 Introduction to Information Security. 3

CIS 181 Computer Applications. 3

CIS 229. Unix System Administration. 3

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
HUM 205	Major Ancient Cultures.....	3
HUM 206	European Culture.....	3
HUM 207	The Modern World.....	3
LIN 101	Introduction to Linguistics.....	3
MAT 151+	College Algebra or higher	3-5
OAD 102	Document Formatting.....	3
OAD 206.....	Records Management.....	3
OAD 207	Office Administration.....	3
POS 110.....	American National Government.....	3
PSY 101.....	Introduction to Psychology.....	3
PSY 210.....	Social Psychology.....	3
POS 220.....	Federal & Arizona Government.....	3
POS 230.....	World Politics.....	3
POS 240.....	Comparative Politics.....	3
SOC 101.....	Introduction to Sociology.....	3
SOC 160.....	Ethnic Groups & Minorities.....	3
SOC 202	Social Problems.....	3
AMT 170/210.....	UAV Maintenance Technician	14
AMT 172/212	UAV Mechanical Technician	13
AVT 171/211	UAV Avionics Technician.....	9
Any ELT Prefix Course		1-11
Any PFT Prefix Course.....		1-32
Any Foreign Language Course.....		1-16

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



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.

The Associate of Applied Science degree in Media Communications is designed to provide students a foundation in the field of media arts. The field includes jobs as designers, reporters, and copy editors for electronic and small-scale print publications. Additional opportunities are available in public relations and advertising. Students gain practical experience by participating in cooperative education projects and other activities.

JOURNALISM AND MEDIA ARTS

Associate of Arts

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	

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

COMMON COURSES.....	9
Introduction to Mass Communications	JRN 101..... 3
Essentials of News Writing.....	JRN 102..... 3
Public Speaking.....	COM 110..... 3

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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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

MEDIA COMMUNICATIONS

Associate of Applied Science

Prerequisite: Permission of program advisor and the following proficiencies: OAD 101 and 213 or equivalent proficiency in word processing, ENG 100 with grade of C or better or equivalent proficiency, COM 100 with grade of C or better or equivalent proficiency.

GENERAL EDUCATION REQUIREMENTS	34 CREDITS
Composition	ENG 101 3
Written Communications and Reports	ENG 109..... 3
Mathematics	MAT 122/BUS 104 or higher..... 3
Arts and humanities or social and behavioral sciences	3
General education electives.....	22
Reading competency	
Must include: COM 102, COM 110, ECN 201, GEO 101, HIS 142 or HUM 207, HUM 101, and PHI 130 or BUS 150.	

CORE CURRICULUM	30 CREDITS
Intro to Mass Communication.....	MED/JRN 101 3
Essentials of News Writing	MED/JRN 102..... 3
Essentials of Newspaper Publishing	MED/JRN 201..... 3
Introduction to Desktop	
Publishing	MED/JRN 207 or CIS 285..... 3
Advanced Desktop Publishing	CIS 286..... 3
Field Experience	JRN 224..... 3
Literary Magazine Productions	JRN 257..... 3
Electives*	9

TOTAL DEGREE REQUIREMENTS 64

* Electives in ART, CIS, COM, ELT, MED, as agreed upon with program advisor, to complete a minimum of 64 credits for the AAS degree. Higher-level classes will be substituted for students who have demonstrated proficiency in specific areas. Tech Prep students should consult with the program advisor about their placement.

PRINT MEDIA ARTS

Certificate

Prerequisite: Permission of program advisor. Students must demonstrate essential proficiencies in English (both writing and speaking), computer keyboarding and mathematics fulfilling the following requirements: ENG 101, BUS 104, OAD 101, OAD 213, and COM 102 (placement/testing available to demonstrate proficiency).

CORE CURRICULUM 33 CREDITS

Students will complete the program by completing the following courses with a grade of C or better.

Introduction to Mass Communications MED/JRN 101..... 3

Introduction to Desktop

Publishing MED/JRN 207 or CIS 285..... 3

Computer Illustration and Design MED 209..... 3

Essentials of News Writing..... JRN 102..... 3

Elective 3

Field Experience JRN 224..... 3

Advanced News Writing: Features and In-depth Reporting, JRN 103, recommended. Those interested in graphic design are encouraged to take ART 103 and ART 265.



Language

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. See Spanish Immersion program (summer) and Workplace Spanish for language certificate offerings.

LANGUAGE

Associate of Arts

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Second- or fourth-semester proficiency

COMMON COURSES..... 12

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

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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 SPANISH

The Workplace Spanish certificate program provides students with communicative competence in Spanish through practical application of frequently used technical workplace language in the workplace, preparing them for employment or advancement in a work environment in which proficiency in Spanish is essential.

WORKPLACE SPANISH

Certificate

Prerequisite: Permission of program adviser and demonstrated proficiency in word processing. Students will earn the certificate by completing the following courses with a grade of C or better.

CORE CURRICULUM	26-27 CREDITS
Elementary Spanish	SPA 101..... 4
taken concurrently with	SPA 189 and/or 190... 1-2
Elementary Spanish	SPA 102..... 4
taken concurrently with	SPA 191..... 1
Intermediate Spanish	SPA 201..... 4
taken concurrently with	SPA 283..... 1
Intermediate Spanish	SPA 202..... 4
taken concurrently with	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	CED 224..... 3

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

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
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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement may choose general education elective credit.

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

MANUFACTURING ENGINEERING

Associate of Applied Science

GENERAL EDUCATION REQUIREMENTS	18 CREDITS
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

CORE CURRICULUM	46 CREDITS
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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement may choose general education elective credit.

MANUFACTURING TECHNOLOGY

Certificate

CORE CURRICULUM	18 CREDITS
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

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

Emphasis in Mathematics

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 http://xwing.cochise.edu/curriculum/gen-ed.html .	

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

COMMON COURSES	16
Calculus I.....	MAT 220..... 5
Calculus II	MAT 231..... 4
Calculus III	MAT 241..... 4
Differential Equations	MAT 262..... 3

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

TOTAL DEGREE REQUIREMENTS 64

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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 Math Department recommends the following electives: Programming, MAT 188, and/or Non-English language. Chemistry and physics are recommended for the AGECE and/or common course areas.

Motor Transport Technology

The Motor Transport Technology Certificate prepares students for direct employment in the trucking industry. Students earn a commercial driver's license (CDL) and complete coursework in handling hazardous materials, loading freight, and preparing required documents. They also acquire extensive driving experience under a variety of conditions. Professional truckers are in high demand, with many rewarding career opportunities.

MOTOR TRANSPORT TECHNOLOGY

Certificate

CORE CURRICULUM	22 CREDITS
Motor Transport Basic	MTT 101..... 4
Over-the-Road Operations.....	MTT 102..... 5
Vehicle Maintenance & Inspection	MTT 103... 1.5
Freight & Truck Operations	MTT 104... 5.5
Over-the-Road Practicum.....	MTT 106..... 6

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

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, see http://xwing.cochise.edu/curriculum/gen-ed.html .	

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

COMMON COURSES.....	12
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
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* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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>.

Nursing

Associate Degree Nurse

Associate of Applied Science

GENERAL EDUCATION REQUIREMENTS: See AAS degree general education minimum requirements in the "Degrees and Programs" section.

MINIMUM GENERAL EDUCATION CREDIT HOURS	18
Also offered as part of a ladder program:	
Practical Nurse – certificate of completion	

Cochise College offers an Associate Degree Nursing program that is accredited by the National League for Nursing Accrediting Commission (NLNAC) and approved by the Arizona State Board of Nursing. The program prepares individuals to take the National Council Licensing Exam for Registered Nurse.

Entry into the nursing program requires prior admission. Advanced placement for licensed practical nurses or for those with prior nursing education is available (certain requirements must be met). For admission procedures to the nursing program, contact the Nursing Department.

Since nursing is both an art and a science, a student learns therapeutic communication and critical thinking skills, as well as technical nursing skills. Collaborative teaching/learning takes place in classroom, learning laboratory, and clinical settings such as hospitals, long-term care, assistive living and rehabilitation facilities, clinics, and community settings and agencies.

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).

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.....	16 CREDITS
Microbiology.....	BIO 205..... 4
Elective*	3
Nursing III.....	NUR 232..... 9
FOURTH SEMESTER	16 CREDITS
Fundamental Chemistry	CHM 130..... 4
English Composition	ENG 102..... 3
Nursing IV.....	NUR 233..... 9

TOTAL DEGREE REQUIREMENTS	68
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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.

* Elective: As required by the nursing department. Please contact the nursing department for a list of the accepted electives.

COMMUNITY HEALTH ADVISOR

The Community Health Advisor Certificate course of study is designed to prepare the student for direct employment as a community health advisor. CHAs serve as links between rural, medically underserved communities and the health care system. They provide outreach health prevention, advocacy, education and referral services within prescribed neighborhoods. Students must be available to complete 320 clock hours for the field work course. Placements are generally made within the student's home community. Admission is open to any interested high school or GED graduate or students 18 years of age or older. Students must complete health screening and provide proof of immunization. Students are encouraged to meet with a program advisor before enrolling in the CHA course.

COMMUNITY HEALTH ADVISOR

Certificate

CORE CURRICULUM	16 CREDITS
Introduction to Community Health Advisor*	HLT 120..... 3
First Aid and CPR*	HPE 188..... 1
Community Health Advisor Practicum	HLT 121..... 6
Introduction to Social Work	SOC 207..... 3
Communication elective	3
(to be approved by an advisor)	
Reading, writing, speech, computer skills, English as a second language, conversational Spanish or Border Health Issues (HLT 219)	

* HLT 120 and HPE 188 are prerequisites to HLT 121.

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 health care 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 health care 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.

MEDICAL ASSISTANT PROGRAM

Certificate

CORE CURRICULUM	30 CREDITS
Intro to Human Anatomy and Physiology	BIO 160..... 4
taken concurrent with Medical Asst I	HLT 139..... 8
Learning to Use the Personal Computer	CIS 116..... 3
taken concurrent with Medical Asst II.....	HLT 140..... 8
CPR and First Aid*.....	HLT 111..... 1
Medical Assistant III	HLT 141..... 6
* HLT 111 needs to be completed prior to HLT 141	

PARAMEDICINE

The Associate of Applied Science degree in Paramedicine prepares students to practice pre-hospital emergency medicine for fire departments, ambulance services, and hospital emergency units. This program offers coursework to help prepare students for nursing programs.

The program, certified by the Arizona Department of Health Services, Division of Emergency Medical Services, prepares individuals for a vocational career as a nationally registered paramedic. Graduates are eligible to work in fire and rescue operations, ambulance services, and hospital settings.

The Cochise College Paramedicine Certificate is awarded only to those students who have successfully completed the required Cochise College coursework and who have been certified as Paramedics through the Arizona Department of Health Services.

Students wishing certification also must complete the state-mandated hours of clinical experience in the following clinical areas: hospital emergency room, intensive care, pediatrics,

labor and delivery and newborn nursery. Travel to the approved clinical sites is required of the student. In addition, the student must complete 150 hours of ambulance “ride time” under the supervision of a qualified preceptor.

PREREQUISITE:

- Minimum of one year working with ambulance/fire or rescue organizations as an EMT.
- Ability to read at the 10th grade level or higher.
- Good physical condition.
- Negative TB test or chest x-ray within six months of class start date.
- Immunity against rubella and rubeola as proven by immunization record or titer.

Applicant Screening Process: Prior to enrollment in the Paramedicine Certificate 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 admission to the program. The testing and interview process will normally take place the month before class start date.

PARAMEDICINE

Associate of Applied Science

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

NOTE: Current Arizona Department of Health Services require that an individual must practice as an EMT for one year prior to entry into the upper-level EMT-Paramedicine courses.

Paramedicine I	EMT 201 ...	12
Paramedicine II	EMT 202 ...	14
Paramedicine III	EMT 203	2

TOTAL DEGREE REQUIREMENTS 67

PARAMEDICINE

Certificate

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

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

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 16
Non-English language

Fourth-semester proficiency

COMMON COURSES.....	13
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

* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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>.

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

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.

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

* Students testing out of this requirement must choose general education elective credit.

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

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

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, see
<http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Fourth-semester proficiency

COMMON COURSES..... 9

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

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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 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

AREAS OF SPECIALIZATION: Consult with a division advisor before starting this program or selecting a specialization.

Executive secretarial, microcomputer specialist, accounting assistant, management support, general administration, or medical transcriptionist.

Program prerequisites: Computer keyboarding or demonstrated keyboarding skill, basic reading, math and writing proficiency.

Challenge note: Up to 30 credits of coursework are available for challenge for students with work experience and/or prior non-transferable training. See a division advisor for further information.

Graduation requirement: To satisfy graduation requirements for this degree, all courses require a grade of C or better.

GENERAL EDUCATION REQUIREMENTS 18 CREDITS

- Communications..... BUS 167, BUS/CIS/ENG 179,
CIS/ENG 279, ENG 101, or ENG 102..... 6
- Mathematics BUS 104/MAT 122 or higher..... 3
- Information literacy CIS 116 or CIS 120..... 3
- AAS humanities/social science/behavioral sciences 6

CORE CURRICULUM 39 CREDITS

- Professional Image & Business Etiquette OAD 150... OR
- Essential Workplace Success Skills BUS 160..... 3
- Financial Accounting BUS 201... OR
- Managerial Accounting BUS 202..... 3
- Advanced Document Preparation OAD 201..... 3
- Advanced Word Processing..... OAD 214..... 3
- Records Management..... OAD 206..... 3
- Business Speech Communications..... OAD 209..... 3
- Office Administration OAD 207..... 3
- Automated Office Procedures OAD 210..... 3
- Automated Office Practice..... OAD 211..... 3
- Transcription/Terminology OAD 212..... 3
- Computerized Office Management OAD 216..... 3
- Advanced Computerized Office Management. . OAD 217..... 3
- Technical Presentations CIS/OAD 268..... 3
- Electives* 10

TOTAL DEGREE REQUIREMENTS 67

- * OAD Department approved electives (select one pathway below):
 Executive Emphasis (10 units approved by OAD department advisor) OR
 Medical Emphasis requires: OAD 215, OAD 226, OAD 293T-Z (10 units) OR
 Legal Emphasis requires: OAD 221, OAD 222, OAD 223, OAD 227 (10 units)
 Any OAD, CIS or BUS course not used in the certificate except OAD 101, CIS 101, or CIS 114. Elective course content cannot duplicate required course content for the certificate. Field experience course is recommended. Legal and medical majors must take required electives.

COMPUTERIZED OFFICE APPLICATIONS**Certificate**

Prerequisites: Basic math, reading and writing proficiency (determined by placement tests).

Challenge note: Up to 30 credits of coursework are available for challenge by students with work experience and/or prior non-transferable training. See a division advisor for further information.

CORE CURRICULUM	30 CREDITS
Computer Keyboarding	OAD 101 ... OR
Document Formatting	OAD 102 ... OR
Advanced Document Formatting	OAD 201..... 3
Learning to Use the Personal Computer	CIS 116 ... OR
Introduction to Information Systems	CIS 120..... 3
Introduction to the Internet.....	CIS 185 ... OR
World Wide Web Development.....	CIS 287..... 3
Word Processing	OAD 213 ... OR
Advanced Word Processing.....	OAD 214..... 3
Automated Office Procedures	OAD 210..... 3
Automated Office Practice.....	OAD 211..... 3
Computerized Office Management	OAD 216..... 3
Advanced Computerized Office Management..	OAD 217..... 3
Technical Presentations	CIS/OAD 268..... 3
Electives*	3

- * Any OAD, CIS or BUS course not listed in the certificate that uses technology, except CIS 101 and CIS 114. Elective course content cannot duplicate required course content for the certificate. Field experience hours are recommended.

MEDICAL TRANSCRIPTION**Certificate**

CORE CURRICULUM	24 CREDITS
Business English	OAD 111..... 3
Speedbuilding.....	OAD M-0193... 1-3
Advanced Document Preparation	OAD 201 ... OR
Advanced Word Processing.....	OAD 214..... 3
Transcription and Terminology	OAD 212..... 3

PROFESSIONAL COURSES:

Advanced Medica Transcription/Terminology ..	OAD 215..... 3
Medical Specialty Terminology/Transcription	OAD 293S-Y... 3-6
Field Experience in Medical Transcription	OAD 226... 3-6
Electives*	0-6

- * BIO 160, OAD 211, OAD 293 and other 200-level OAD advisor-approved courses.

CERTIFICATE COMPETENCY STATEMENTS:

The student outcome competencies (college outcomes and program outcomes) are shown in matrix form for all OAD courses in this certificate and are filed in the division office. Course student outcomes are included in each course outline. Performance measures are included in each course procedure sheet.

OFFICE ASSISTANT**Certificate**

Certificate prerequisites: Computer keyboarding, OAD 101, or demonstrated keyboarding skill, basic math, reading, and writing proficiency.

Challenge note: Up to 30 credits of coursework are available for challenge for students with work experience and/or prior non-transferable training. See a division advisor for further information.

CORE CURRICULUM	30 CREDITS
Business Communications	BUS/ENG 167..... 3
Business Math	BUS 104... OR
Introduction to Accounting	BUS 146..... 3

Essential Workplace Success Skills	BUS 160 ... OR
Professional Image and Business Etiquette	OAD 150 3
Technical Presentations	CIS/OAD 268 3
Document Formatting	OAD 102 ... OR
Advanced Document Formatting	OAD 201 3
Word Processing	OAD 213 ... OR
Advanced Word Processing	OAD 214 3
Records Management	OAD 206 3
Automated Office Procedures	OAD 210 3
Computerized Office Management	OAD 216 3
Electives*	3

* Any OAD, CIS or BUS course not used in the certificate, except OAD 101, CIS 101, or CIS 114. Elective course content cannot duplicate required course content for the certificate. Field experience course is recommended.

RECEPTIONIST

Certificate

CORE CURRICULUM	18 CREDITS
Learning to Use the Personal Computer	CIS 116 3
Document Formatting	OAD 102 ... OR
Advanced Document Formatting	OAD 201 3
Business English	OAD 111 ... OR
Business Communications	BUS/ENG 167 3
Business Math	BUS 104 ... OR
Introduction to Accounting	BUS 146 3
Professional Image and Business Etiquette	OAD 150 ... OR
Essential Workplace Success Skills	BUS 160 3
Electives*	3

* Any OAD, CIS or BUS course not used in the certificate, except CIS 101 and CIS 114. Elective course content cannot duplicate required course content for the certificate. Field experience course is recommended.

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 psy-

chometry. 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

Emphasis in Psychology

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 http://xwing.cochise.edu/curriculum/gen-ed.html .	

LANGUAGE REQUIREMENT***

Non-English language

Second- or fourth-semester proficiency

COMMON COURSES	13
Introduction to Psychology	PSY 101 3
Introduction to Psychological Research, Measurements and Statistics	PSY 250 3
Experimental Psychology	PSY 290 4

Select one of the following:

Social Psychology	PSY 210 3
Personality Theories and Research	PSY 230 3
Developmental Psychology	PSY 240 3

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

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education List, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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

Emphasis in Social Work

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

LANGUAGE REQUIREMENT*** 0-16

Non-English language

Second- or fourth-semester proficiency

COMMON COURSES 28-29

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)****

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

SOCIAL WORK

Certificate

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

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

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, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

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

COMMON COURSES	13
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Select 13 credits:

Introduction to Sociology	SOC 101..... 3
Ethnic Groups and Minorities	SOC 160..... 3
Social Problems	SOC 202..... 3
Marriage and the Family	SOC 210..... 3
Women and Men in a Changing Society	SOC 212..... 3

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

TOTAL DEGREE REQUIREMENTS	64
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* Students testing out of this requirement must choose general education elective credits.

** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.

*** 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>.

Teleservices Program

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 PROGRAM

Certificate

CORE CURRICULUM	15 CREDITS
Introduction to Teleservices	TLS 101..... 6
Teleservices Practicum	TLS 102... 1.5
Customer Service in the Teleservice Industry	TLS 103..... 6
Teleservices Practicum II	TLS 104... 1.5

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

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 (as needed to complete 35 credits)**	
Six credits of arts/humanities/social and behavioral sciences/general education electives must be intensive writing/critical inquiry courses, see http://xwing.cochise.edu/curriculum/gen-ed.html .	
LANGUAGE REQUIREMENT***	0-16
Non-English language	
Second- or fourth-semester proficiency	
COMMON COURSES	15
Acting I	THE 101 3
Acting II	THE 201 3
Theatre Makeup	THE 203 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
Essentials of Communication	COM 102 3

TOTAL DEGREE REQUIREMENTS 64

- * Students testing out of this requirement must choose general education elective credits.
- ** General education electives must be chosen from the general education list, see <http://xwing.cochise.edu/curriculum/gen-ed.html>.
- *** 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>.

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

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
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GENERAL WELDING TECHNOLOGY

Certificate

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

WELDING TECHNOLOGY

Certificate

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

AEROSPACE THERMAL FUSION

Certificate

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

AEROSPACE WELDING TECHNOLOGY

Certificate

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

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

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

ADVANCED FACILITY MAINTENANCE TECHNICIAN

Certificate

CORE CURRICULUM	18 CREDITS
Masonry I.....	GTC 110.....3
Concrete Construction and Finish	GTC 120.....3
Estimating Construction	GTC 130.....3
Facility Maintenance Management.....	GTC 126.....3
Starting a Business.....	BUS 183.....3
Learning to Use the Personal Computer	CIS 116.....3

AIR CONDITIONING MAINTENANCE TECHNICIAN

Certificate

CORE CURRICULUM	19 CREDITS
Technical Mathematics I	GTC 100.....3
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

MASONRY

Certificate

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

Business Skills

A student who completes the Advanced Business Certificate program will be qualified for an entry-level position in the business world. The student will learn word processing, spreadsheet, and database computer skills; how to find and compete for a job in the field of business; how to write and speak like business people; and a number of other skills to enhance success in business.

ADVANCED BUSINESS PROGRAM

Certificate

(Prerequisite: General Business Certificate)

CORE CURRICULUM	24 CREDITS
Principles of Management	BUS 143.....3
Principles of Marketing	BUS 145.....3
Essential Workplace Success Skills	BUS 160.....3
Computer Applications	CIS 181.....3
Business English	OAD 111.....3
Word Processing	OAD 213.....3
Electives (choose two)	
Business Ethics	BUS 150.....3
Principles of Finance	BUS 156.....3
Financial Planning	BUS 228.....3
Advanced Word Processing.....	OAD 214.....3

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

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

ADVANCED CUSTODIAL SERVICES

Certificate

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

Electronics Repair

A student who completes the Consumer Electronics Repair Certificate program will be qualified for a position in electronics repair after completing the basic General Electronics Technician Certificate program and the upper-level Consumer Electronics Repair Certificate program. The student will learn

specific repair techniques for a variety of small appliances. The Advanced Electronics Certificate provides students with additional marketable skills in today's workforce. The Advanced Electronics Certificate contributes toward seamless transfer to the College's Associate of Applied Science degree in Electronics.

GENERAL ELECTRONICS TECHNICIAN

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.

GENERAL ELECTRONICS TECHNICIAN

Certificate

CORE CURRICULUM	21 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
Semiconductors and Transistors	ELT 122..... 4
Modern Electronic Devices	ELT 243..... 4

CONSUMER ELECTRONICS REPAIR

Prerequisite: General Electronics Technician Certificate

Certificate

CORE CURRICULUM	19 CREDITS
Advanced Mathematics for Electronics	ELT 120..... 3
Radio Theory and Repair	CER 100..... 3
Audio Tape Recorder/Player Repair	CER 102..... 3
Television Theory and Repair	CER 104..... 4
Compact Disc Player Repair	CER 202..... 3
Power Amplifier Repair	CER 205..... 3

ADVANCED ELECTRONICS

Prerequisite: Consumer Electronics Repair Certificate

Certificate

CORE CURRICULUM	20 CREDITS
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

Fire Science

A student who completes the Fire Leadership Certificate program will be qualified for an entry-level position as a fire fighter. 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

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

LEAD FIREFIGHTER

Certificate

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

FIRE LEADERSHIP PROGRAM

Certificate

Prerequisite: Lead Firefighter Certificate

CORE CURRICULUM	18 CREDITS
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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

Transition Certificate

A student who completes all of the courses in the Transition Program will be qualified to seek, obtain, and keep an entry-level position in the business world. The student will receive a general introduction to the business world, will learn how to find and compete for a job, will learn how to write and speak like business people, will learn how to cope with a job, will acquire minimal computer literacy, and will learn a number of other skills to enhance success in business.

TRANSITION

Certificate

CORE CURRICULUM	18 CREDITS
Men in Transition.....	CPD 111..... 2
Building Self-Esteem.....	CPD 010..... 1
Career Planning	CPD 119..... 2
Job Search Techniques	CPD 120..... 1
Gender Differences in Communication.....	COM 193C..... 1
Customer Relations in the Workplace.....	BUS 168..... 1
Introduction to Computer Information Systems ...	CIS 193R..... 1
Elementary Keyboarding.....	OAD 193A..... 1
Word Processing I	CIS 193V..... 1
Introduction to Email.....	CIS 193U..... 1
Stress Management	CPD 107..... 2
Dealing with Difficult People	COM 193D..... 1
Technical Report Writing.....	BUS 105..... 1
Time and Money Management	CPD 122..... 1
Family Communications	CPD 123..... 1

TOTAL CERTIFICATE REQUIREMENTS	18
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Course Descriptions

Course descriptions can be found on INFOline at <http://ocs.cochise.edu>.

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 personal protective equipment, ask your instructor or a member of the specific academic department.

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: 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): ENG 101

Recommended: Reading level 12.0 or higher.

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 109U SUBSTANTIVE CRIMINAL LAW (3)

Prerequisite(s): Reading level 12.0 or higher.

Recommended: ENG 101 or AJS 101

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): Passing pre-admission physical test. Student must be enrolled in a certified police academy or be 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 112 EMERGENCY VEHICLE OPERATIONS (1)

Prerequisite(s): Valid drivers 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. It emphasizes 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 students will practice, then demonstrate their individual proficiency in operating the type of vehicle appropriate for their 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. This course is identical to FST 112.

1 hour 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.

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 123* TRAFFIC ENFORCEMENT (3)

Prerequisite(s): Student must be enrolled as part of the AJS-AAS program.

This course provides students with the knowledge to analyze traffic control problems and the fundamentals of traffic accident investigations. The course will include motor vehicle laws in the state of Arizona.

2 hours lecture; 3 hours laboratory.

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 ARIZONA DETENTION OFFICERS
BASIC TRAINING (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 150 UNITED STATES PENOLOGY (3)

Prerequisite(s): None.

This course is an examination of punishment from primitive times to the modern correctional era, emphasizing the influence of historical events on the philosophy of punishment and the methods of prison discipline.

3 hours lecture.

**AJS 187 CRIMINAL JUSTICE MANAGEMENT
PROBLEMS (1)**

Prerequisite(s): Student must be part of a criminal justice department or an AJS major.

This course is a review of the common management problems in criminal justice agencies, including conflict management, employee relations, fiscal affairs and time management. It includes a discussion of the process of organizational change and development.

1 hour lecture.

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
COMMUNICATION (3)**

Prerequisite(s): ENG 101 with a grade of C or better.

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 205 COMMUNITY CORRECTIONS (3)

Prerequisite(s): AJS 101, AJS 112, ENG 101, reading grade level 11.5 or higher.

This course is a practical study of the origins and development of probation and parole, including the primary roles of lawyers, judges, probation and parole officers in the administration of each, and an examination of various sentencing alternatives.

3 hours lecture.

AJS 208 DEFENSIVE TACTICS INSTRUCTOR (3)

Prerequisite(s): Student must be employed or sponsored by a law enforcement agency.

This course is designed to give the students the necessary information to give instruction on use-of-force alternatives within the force continuum. It emphasizes speed cuffing, pressure points, escorts, take downs, defensive counter-measures, vascular restraints, officer safety, use of baton, gun retention, and disarming techniques. Upon successful completion of the course, students will receive instructor's certification from Pressure Points and Control Tactics Management Systems, Inc. (PPCT).

3 hours lecture.

AJS 212 JUVENILE JUSTICE PROCEDURES (3)

Prerequisite(s): None.

Recommended: AJS 101 or ENG 101 with a grade of C or better.

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.

Recommended: Sophomore standing.

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 with a grade of C or better, or reading level 12.0 or higher.

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): None.

Recommended: AJS 101 or ENG 101

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): None.

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): PSY 101 and ENG 101 with a grade of C or better.

Recommended: AJS 101, and reading level 12.0 or higher.

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): Reading level 12.0 or higher.

Recommended: AJS 109, ENG 101

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 CRIMINAL JUSTICE (.5-1)**

Prerequisite(s): None.

A rotating forum emphasizing current issues in the field of criminal justice. Topics vary in accordance with needs of the local criminal justice community.

30 minutes to 1 hour lecture.

**AJS 266 HAZARDOUS MATERIAL INCIDENT
"FIRST RESPONDER" (3)**

Prerequisite(s): Student must be a certified first responder or employed as a law enforcement officer or fire fighter.

This course is designed to teach the fundamentals of chemistry used in fire service; types of chemicals and processes; laws at the federal, state, and local levels pertaining to use, storage and transportation of chemicals; and the fundamentals of chemistry used in fire science, including hazards of radioactives, precautions to observe in fighting fires involving hazardous materials, and laboratory demonstration of incompatibles.

3 hours lecture.

**AJS 267 HAZARDOUS WASTE SITE WORKERS
HEALTH AND SAFETY (3)**

Prerequisite(s): None.

A course designed to teach potential hazardous waste site workers the health and safety implications of working with HAZMATs.

3 hours lecture.

AJS 270 COMMUNITY POLICING (3)

Prerequisite(s): ENG 101 with a grade of C or better or permission of instructor.

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 or ENG 101 or permission of instructor.

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): Student must be a certified law enforcement or corrections officer, currently employed by a law enforcement agency or a sophomore in the administration of justice program.

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 lab/demonstration/practical application.

**AJS 296 FEDERAL LAW ENFORCEMENT
ADVANCED PRACTICUM, II (4)**

Prerequisite(s): AJS 295 and 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 lab/demonstration/practical application.

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 (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 horses' legs and hooves, horse shoeing, diagnosis of minor hoof and leg problems and proper methods for correcting stride and alignment.

1 hour 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 207 RANGE PLANTS (3)

Prerequisite(s): Botany

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: 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: 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 AGRICULTURE 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 SOILS & FERTILIZERS (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 & NATURAL RESOURCES (1-6)

Prerequisite(s): A declared major in agriculture and natural resources. Permission and approval of cooperative education program coordinator.

Recommended: 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: 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: 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.

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 & 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: 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 210 INTRODUCTION TO INTERPRETING (3)

Prerequisite(s): ASL 102

Introduction to the field of sign language interpreting. Examines the interpreter's role, responsibilities, code of ethics, and professional support to the interpreter.

3 hours lecture.

ASL 215 CLASSIFIERS, MIMETIC DESCRIPTION, AND ASL LITERATURE (3)

Prerequisite(s): ASL 202

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.

3 hours lecture.

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 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 hour, 30 minutes lecture; 4 hours, 30 minutes 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 (.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.

30 minutes to 1 hour lecture.

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): None

Recommended: 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): RDG 122 or exemption; ENG 101 or concurrent enrollment.

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 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

Note: All studio courses may be repeated once for credit. (The second semester is usually allowed as an art elective.) These courses may be repeated indefinitely beyond the second semester for non-transfer credit.

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 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 THROUGH 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 THE 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 140 DIGITAL PHOTOGRAPHY (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, 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 in design: line, shape, value, texture, and color.

1 hour lecture; 3 hours laboratory.

ART 192* SPECIAL TOPICS IN ART (.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.

30 minutes to 4 hours lecture/studio.

ART 216* DRAWING II (3)

Prerequisite(s): ART 106 or permission of instructor. (Art majors must have prerequisite.)

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 230* COLOR AND DESIGN (3)

Prerequisite(s): ART 103 or permission of instructor. (Art majors must have prerequisite.)

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/SCULPTURE (3)

Prerequisite(s): ART 103 or permission of instructor. (Art majors must have prerequisite.)

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): ART 106 or permission of instructor. (Art majors must have prerequisite.)

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 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 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 265* BEGINNING COMMERCIAL DESIGN (3)

Prerequisite(s): ART 103 or permission of instructor. (Art majors must have prerequisite(s).)

An introduction to the basic elements and principles of commercial design and the techniques of advertising layout.

This includes their practical applications with the tools and materials used in the field of advertising. Identical to MED 265.

2 hours lecture; 4 hours studio.

ART 270* CERAMICS I (3)

Prerequisite(s): ART 103 and ART 231 or permission of instructor. (Art majors must have prerequisite(s).)

An introduction to clay, glaze and kiln processes and wheelthrown 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.

40 minutes lecture; 1 hour, 20 minutes studio.

ART 275* CERAMICS II (3)

Prerequisite(s): ART 103, ART 231, and ART 270 or permission of instructor. (Art majors must have prerequisites.)

A more advanced course than ART 270, Ceramics I. Students will need to have a basic knowledge of hand-built and wheelthrowing 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): ART 103 or ART 106 or permission of instructor. (Art majors must have prerequisite.)

Recommended: For non-art majors.

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): ART 103 or ART 106, and ART 280, or permission of instructor. (Art majors must have prerequisites.)

Recommended: For non-art majors.

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. The course is identical to MED 285.

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): ART/MED 285 or permission of instructor. (Art majors must have prerequisite.)

Recommended: For non-art majors.

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. Identical to MED 286.

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): ART 103, ART 231, or permission of instructor. (Art majors must have prerequisites.)

Recommended: For non-art majors.

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 (.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.

30 minutes to 4 hours lecture/studio.

ART 295* WATERCOLOR PAINTING I (3)

Prerequisite(s): ART 103 or 106 or permission of instructor.

An introductory course in watercolor painting, exploring basic materials and techniques, with an emphasis on color theory and color mixing.

For students interested in art for career opportunities as well as personal growth and self-expression.

2 hours lecture; 4 hours studio.

ART 296* WATERCOLOR PAINTING II (3)

Prerequisite(s): 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.

Astronomy

AST 092 SPECIAL TOPICS AND APPLICATIONS IN ASTRONOMY – NON-TRANSFER (.25 – 3)

Prerequisite(s): None

Recommended: 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.

Variable lecture and/or laboratory.

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 (.25 – 4)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

Aviation Maintenance Technology

A specialized 1,936-contact-hour program that meets the requirements of Federal Aviation Regulations, Part 147.

AMT 120* SEMINAR: 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 1 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.

.5 lecture; .5 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.

.5 lecture; .5 laboratory.

AMT 210 UNMANNED AERIAL VEHICLE (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 hours, 30 minutes laboratory.

AMT 212 UNMANNED AERIAL VEHICLE (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 hours, 20 minutes 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.

.5 lecture; .5 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.

.5 lecture; .5 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.

.5 lecture; .5 laboratory.

AMT 280* HELICOPTER MAINTENANCE AND INSPECTION FUNDAMENTALS (4)

Prerequisite(s): Completion of AMT 150, 160, 260 or have a 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.

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 (4)

Prerequisite(s): Completion of AMT 260 or permission of instructor.

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. 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 AVIATION MAINTENANCE TECHNOLOGY UPGRADING (6)

Prerequisite(s): None.

Three categories of students will be eligible to take this course:

- students who have completed AVN 290;
- students who have passed the written FAA airframe and/or powerplant mechanic's examination; and
- students who hold a 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.

Avionics Technology

AVT 101 MATH FOR BASIC ELECTRONICS (3)

Prerequisite(s): One year high school algebra or equivalent.

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.

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; six hours laboratory.

AVT 107* AVIONICS FUNDAMENTALS (6)

Prerequisite(s): AVT 104 or concurrent enrollment or successful completion of a department assessment test.

An introduction to avionics fundamentals with emphasis on the navigation and communication systems required to support flight operations.

4 hours lecture; 4 hours laboratory.

AVT 112* ELECTRONIC DEVICES AND CIRCUITS I (6)

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 and field effect transistor amplifiers, stressing the importance of DC biasing, AC signal analysis, load lines, hybrid parameters, and troubleshooting multistage systems.

4 hours lecture; 4 hours laboratory.

AVT 115* DIGITAL AND MICROPROCESSOR FUNDAMENTALS (6)

Prerequisite(s): AVT 104

A study of digital concepts, logic elements and logic with emphasis on combinational logic, sequential logic, memory circuits, and support circuits of various components that together form the microprocessor.

6 hours lecture; 4 hours laboratory.

AVT 118* PULSE AND DIGITAL CIRCUITS (6)

Prerequisite(s): AVT 104

A study of the components and circuitry most often encountered for pulse shaping and time delay in microcomputer systems. Major emphasis will be placed on RC networks, diodes and transistor switching circuits, and their applications.

6 hours lecture; 4 hours laboratory.

AVT 202* ELECTRONIC COMMUNICATIONS (6)

Prerequisite(s): AVT 112

The study of basic communication concepts and circuits, including modulation techniques as well as radio transmitters, receivers, antennas, radar, microwave techniques, data communication techniques, fiber optics, high-tech communication components, circuits, and equipment.

5 hours lecture (72 clock hours); 3 hours laboratory (48 clock hours).

AVT 205* ELECTRONIC DEVICES AND CIRCUITS II (6)

Prerequisite(s): AVT 112

A continuation of Electronic Devices and Circuits I, including a study of MOSFETs, operational amplifiers, applications, and analysis of practical amplifier circuits, negative feedback, oscillators, solid-state switching circuits, thyristors, optoelectronic devices, and selected material covering other electronic devices.

6 hours lecture; 4 hours laboratory.

AVT 208 FCC/FAA REGULATIONS (4)

Prerequisite(s): AVT 112 and 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 (UAV) AVIONICS (9)

Prerequisite(s): AMT 170; 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 220* NAVIGATION SYSTEMS (6)

Prerequisite(s): AVT 202 or concurrent enrollment in AVT 228 or successful completion of a departmental assessment test.

An introduction to aircraft navigation systems with emphasis on the navigation and communication systems required to support flight operations.

4 hours lecture (60 clock hours); 4 hours laboratory (60 clock hours).

AVT 224 FLIGHT MANAGEMENT/CONTROL SYSTEMS (4)

Prerequisite(s): AVT 107

An introduction to the principles, system analysis, and operation of flight director and automatic flight control systems.

4 hours lecture (60 clock hours).

AVT 228* AIRCRAFT RADAR SYSTEMS (6)

Prerequisite(s): AVT 118 or concurrent enrollment in AVT 220 or successful completion of a department assessment test.

An introduction to avionics fundamentals with emphasis on the navigation and communication systems required to support flight operations.

4 hours lecture (60 clock hours); 4 hours laboratory (60 clock hours).

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.

Biological Sciences

BIO 092 SPECIAL TOPICS AND APPLICATIONS IN BIOLOGY – NON-TRANSFER (.25 – 3)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

BIO 101* GENERAL BIOLOGY (NON-MAJORS): SELECTED TOPICS (4)

Prerequisite(s): None.

Recommended: 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: 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 SPECIAL TOPICS IN BIOLOGY (.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.

.25-.5 lecture; .25-.5 field experience/activities.

BIO 114A ECOLOGY OF THE SONORAN DESERT OF ARIZONA

A field study of the rich varied ecology of the Sonoran Desert in Arizona.

BIO 114C WILDLIFE OF SOUTHERN AFRICA

A study of the ecology of southern Africa, including current wildlife management systems, predator-prey relationships and bird life. Also includes a brief introduction to the relationship between the ecology and native cultures.

BIO 114D TAXONOMY OF BIRDS

A practical introduction of species identification, using size, silhouette, behavior and natural setting. Arizona's 15 hummingbird species will illustrate the basics of bird taxonomy.

BIO 114F WILDLIFE ECOLOGY AND ENVIRONMENTAL HAZARDS OF THE HUACHUCA MOUNTAINS

An introductory study of the plants and wildlife of Southeastern Arizona, emphasizing their relationship to one another and to the environment. Includes information on poisonous reptiles and arachnids.

BIO 114G FLORA AND FAUNA OF COCHISE COUNTY

An overview of the varied Southeastern Arizona ecosystem in relationship to physical features such as altitude and surface water.

BIO 114H CACTUS AND SUCCULENTS OF ARIZONA

An introductory study of plant habitats emphasizing barrel, beehive, hedgehog, pincushion, pineapple, prickly pear and button cacti, as well as century, ocotillo and desert spoon succulents.

BIO 114I BIRDS OF SOUTHEASTERN ARIZONA

A study of Southeastern Arizona bird life, including the elegant trogon, painted redstart and numerous hummingbird species, emphasizing relationships to the natural environment.

BIO 114JU DANGEROUS ANIMALS OF ARIZONA

An introduction to the dangerous animals of Arizona. Includes identification of species, their role in the ecosystem, preventing their invasion of our space, first aid and medical intervention needs.

BIO 114K FRESHWATER ENVIRONMENTS OF COCHISE COUNTY

An introduction to the biology of freshwater environments of Cochise County, including marshes, ponds, lakes, streams and rivers. Both permanent and transient water sources are considered.

BIO 114L BIOLOGY AND DESERT SURVIVAL

An introduction to survival in the Sonoran Desert of Arizona by using native plants, animals, and water sources. Includes evaluating and treating common survival injuries, poisons, and venoms.

BIO 114M BIOLOGY AND CULTIVATION OF DESERT PLANTS

An introduction to native plants and non-native drought adapted plants found in Southern Arizona and their cultivation. Includes water conservation techniques, wildlife habitats involving plants, and landscape design and maintenance of these plants.

.5 lecture, .5 laboratory.

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: MAT 082 and ENG 101.

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: 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 or permission of instructor.

Recommended: 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 183* MARINE BIOLOGY (4)

Prerequisite(s): BIO 101 or BIO 105 or BIO 181.

Basic concepts of physical oceanography, marine habitats, plant and animal evolution, habitat and adaptation, interrelationships, taxonomy, and marine ecology. Emphasis on parameters of evolution, reproduction, and inter/intraspecific competition, food chains, adaptations and ecological balance.

3 hours lecture; 3 hours laboratory.

BIO 192 SPECIAL TOPICS AND APPLICATIONS IN BIOLOGY (.25 – 4)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

BIO 201* HUMAN ANATOMY AND PHYSIOLOGY I (4)

Prerequisite(s): High school biology with a grade of C or better or BIO 101 or BIO 105 or BIO 160 or BIO 181 or BIO 183 or BIO 184 or BIO 190.

Recommended: ENG 101

An integrated study of the physical, structural, and functional features of the cells, tissues, skeletal system, muscular system, and nervous system.

3 hours lecture; 3 hours laboratory. Discussion one hour (optional).

BIO 202* HUMAN ANATOMY AND PHYSIOLOGY II (4)

Prerequisite(s): BIO 201

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. Discussion one hour (optional).

BIO 205* MICROBIOLOGY (4)

Prerequisite(s): BIO 101 or BIO 105 or BIO 160 or BIO 181 or BIO 183 or BIO 201.

Recommended: ENG 101 and MAT 082.

A survey of microbic 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 one of the following: BIO 101 or BIO 105 or BIO 160 or BIO 181 or BIO 183 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; 1 Saturday field trip.

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.

Half lecture, half laboratory.

BUS 104 BUSINESS MATHEMATICS (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. Identical to OAD 104. 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.

BUS 109 SURVEY OF 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* SURVEY OF INTERNATIONAL BUSINESS (3)

Prerequisite(s): None.

A study of international business in a socio-political and multicultural context. This course focuses on the cultural, economic and political aspects of foreign environments and their effect on the operation of an international firm.

3 hours lecture.

BUS 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 intergroup 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 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♦ 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♦ 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 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. Identical to OAD 146. 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): None.

A study of the world of finance dealing with the relationship of money to our economy and an in-depth study of the role and techniques of financial management within a company.

3 hours lecture.

BUS 160 ESSENTIAL WORKPLACE SUCCESS SKILLS (3)

Prerequisite(s): None.

A study of problem areas workers may encounter in obtaining and maintaining their employment, including job seeking skills, professional dress, decision making strategies, self-esteem, job stress, communication skills and coping with stress.

3 hours lecture.

BUS 167 BUSINESS COMMUNICATIONS (3)

Prerequisite(s): CIS 116 or equivalent proficiency and ENG 101 or ENG/OAD 111 with a grade of C or better, 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 using technology appropriately to conduct research and to create documents. This course also will stress listening and speaking skills. Identical to ENG 167 and OAD 167.

3 hours lecture.

BUS 168 CUSTOMER RELATIONS IN THE WORK PLACE (1)

Prerequisite: 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: 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 (C or better) 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/formats 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: 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 (.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.

30-minute lecture.

- 192A Business Communications and Writing Skills
- 192B Making Presentations with Confidence and Power
- 192C Communicating Across Cultures
- 192D Fundamentals of Supervision
- 192E Personnel Aspects of Supervision
- 192F Leadership Techniques for Technical Managers
- 192G Conflict Resolution
- 192H Thinking Beyond the Boundaries
- 192I Harmony in the Workplace
- 192J Self-Directed Work Teams
- 192K Management Skills for Support Staff
- 192L Leading Organizational Change
- 192M Positive Approaches to Change
- 192N Proofreading, Editing and Grammar Skills
- 192O Customer Service - A Positive Approach
- 192P Introduction to Grant Writing
- 192Q Intermediate Grant Writing
- 192R Positive Approaches to Difficult People
- 192S Mastering Negativity

- 192T Coping with Stress
- 192U Project Management
- 192V Starting a Small Business
- 192W Writing a Winning Business Plan
- 192X Marketing Small Business on the Internet
- 192Y Developing a Safety Program for Business
- 192Z Coaching and Counseling for Supervisors
- A192 Writing an Effective Contract Proposal
- B192 Introduction to QuickBooks for Windows, Part I
(identical to CIS U192)
- C192 Intermediate QuickBooks for Windows, Part II
(prerequisite(s): BUS B192/CIS U192 or equivalent
experience) (identical to CIS V192)
- D192 Ethics in Government

BUS 201* FINANCIAL ACCOUNTING (3)

Prerequisite(s): BUS 104 or MAT 122.

Recommended: 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

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 219 BUSINESS STATISTICS (3)

Prerequisite(s): MAT 142 or MAT 151, with grade of C or better.

Recommended: 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: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in business administration. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, with no more than six credits in a given semester.

BUS 228 FINANCIAL PLANNING (3)

Prerequisite(s): BUS 104 or OAD 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 OAD 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 THE LEGAL ENVIRONMENT OF BUSINESS (3)

Prerequisite(s): None.

An examination of the legal framework governing rules of conduct among businesses and its impact on establishing business policy.

3 hours lecture.

BUS 240 PRINCIPLES OF REAL ESTATE I (3)

Prerequisite(s): None.

A course in basic real estate principles, including introduction to the profession and license law, definition of real property, legal descriptions, rights and interest in property, ownership, contracts, real estate economics, financing and foreclosures, use and valuation of property. This course is one of two courses required for the Arizona Real Estate salespersons' examination.

3 hours lecture.

BUS 241 PRINCIPLES OF REAL ESTATE II (3)

Prerequisite(s): Concurrent enrollment in 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: 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: 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-A SEMINAR APPROACH (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.

Chemistry

CHM 092 SPECIAL TOPICS AND APPLICATIONS IN CHEMISTRY – NON-TRANSFER (.25 – 3)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

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 or equivalent and one year of 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 (.25 – 4)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

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, stereochemistry, 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.

Cisco Network Technology

CNT 140 CISCO NETWORK ACADEMY SEMESTER I (4)

Prerequisite(s): None.

Safety, networking, network terminology and protocols, network standards, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Particular emphasis is given to the use of decision-making and problem-solving techniques in applying science, mathematics, communication, and social studies concepts to solve networking problems. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state, and federal safety, building, and environmental codes and regulations.

3 hours lecture; 3 hours laboratory.

CNT 150 CISCO NETWORK ACADEMY SEMESTER II (4)

Prerequisite(s): CNT 140.

Instruction includes, but is not limited to, the Open System Interconnection (OSI) Reference Model, local-area networks

(LANs), wide-area networks (WANs), transmission control protocol/Internet protocol (TCP/IP) addressing, routers, router configuration, routing and routing protocols, Internet network open system (IOS) images and network troubleshooting. Particular emphasis is given to understanding the nature of and components of networks that make up LANs, WANs, and the Internet. Students will become familiar with the use of command protocols that are used when configuring networks and will learn how to troubleshoot a five-router topology.

3 hours lecture; 3 hours laboratory.

CNT 240 CISCO NETWORK ACADEMY SEMESTER III (4)

Prerequisite(s): CNT 150.

Instruction includes, but is not limited to, the Open System Interconnection (OSI) Reference Model, a study of the OSI layer functions, local area network (LAN) switching, Ethernet and virtual LANs (VLANs), LAN design, interior gateway routing protocol (IGRP), access control lists (ACLs), Novell Internet Packet Exchange (IPX), and network management. Particular emphasis is given to students being able to demonstrate the ability to apply learnings from semesters one and two to a network and to be able to explain how and why particular strategy is employed. In addition, the student will learn appropriate methodologies for managing networks, with emphasis placed on clear and adequate documentation from the network. The student will be expected to demonstrate understanding of network design issues and will begin to work with advanced network security concepts including extended Access Control Lists, Source and Destination Address Filtering, log management and monitoring, and advanced network topology design. Topics covered in semester three: advanced router configurations, LAN switching theory and VLANs, advanced LAN and LAN switching design, Novell IPX, and threaded case studies.

3 hours lecture; 3 hours laboratory.

CNT 250 CISCO NETWORK ACADEMY SEMESTER IV (4)

Prerequisite(s): CNT 240.

Instruction includes, but is not limited to, a review of local area network (LAN) switching, virtual LANs, LAN design, routing protocols, access lists, wide area networks (WANs), the open system interconnection (OSI) reference model, networking, point-to-point protocols (PPPs), integrated services digital network (ISDN), dial-on-demand routing (DDR), frame relays and network management. Particular emphasis is given to students being able to demonstrate the ability to apply knowledge from semesters one, two, and three to a network and to be able to explain how and why particular strategy is employed. The student will demonstrate a thorough knowledge of security issues, risk mitigation and countermeasures relative to a robust network environment, and create a robust network design from developing the network topology and schematics to implementing this design in the lab environment to include workstation, switch, and multiple WAN connected routers configurations. This will prepare the student for the CCNA exam and have the option to prepare for the Network+ Certification exam.

3 hours lecture; 3 hours laboratory.

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.

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 COMMUNICATION (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/discussion.

COM 102 ESSENTIALS OF COMMUNICATION (3)

Prerequisite(s): Placement in ENG 101 or 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 permission of instructor.

A study of public speaking, beginning with a review of the fundamentals of speech as they relate to communicating with an audience, continuing with a study of theories and techniques of persuasion. Includes practical application and critical analysis of various oral presentations with emphasis on researching, constructing and delivering speeches.

3 hours lecture.

COM 115 ARGUMENTATION AND DEBATE (3)

Prerequisite(s): COM 102 or permission of instructor.

A course in practical reasoning, appraisal and use of evidence, recognition of fallacies and application of debate forms and oral style of argumentation. Intercollegiate debate optional for class members.

3 hours lecture.

COM 193 SPECIAL TOPICS IN COMMUNICATIONS (1)

Prerequisite(s): None.

A rotating forum/seminar emphasizing a variety of communication skills ranging from telephone use to interpersonal and small-group skills to formal public speaking. Topics will vary according to changes in student need and interest.

The title of this course may differ each term, depending on the topic being covered when the course is offered.

1 hour lecture.

- COM 193A Coping with "Stage Fright"
- COM 193B Diversity Issues
- COM 193C Gender Differences in Communication
- 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.

Computer Information Systems

CIS 100 COMPUTER INFORMATION SYSTEMS CAREER ACADEMY PROGRAM (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 and the 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 114 INTRODUCTION TO THE PERSONAL COMPUTER (3)

Prerequisite(s): None.

An introduction to the uses of the personal computer. Emphasis will be placed on how the state-of-the-art personal computer works, using the operating system and word processing software, and an introduction to the Internet. This course is not transferable and does not fulfill the information literacy requirement.

3 hours lecture.

CIS 116 LEARNING TO USE THE PERSONAL COMPUTER (3)

Prerequisite(s): None.

An introduction to the uses of the personal computer. Emphasis will be placed on how the state-of-the-art personal computer works, using the operating system and using word processing software. Also included are introductions to the Internet, spreadsheets and presentation software. This course is taught in a hands-on environment.

3 hours lecture.

CIS 120U INTRODUCTION TO INFORMATION SYSTEMS (3)

Prerequisite(s): None.

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 128U UNIX OPERATING SYSTEM (4)

Prerequisite(s): None. This course is for students with little or no knowledge or experience with the Unix operating system. It is also suitable for students wanting college credit for existing Unix knowledge and skills.

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 subprograms.

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: 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.

Provides a concentrated examination of information security as it applies to computer information systems and networks. Examines security models, auditing, intrusion detection, damage control, and network issues. Emphasis is on the impact of information security on an organization and its management.

3 hours lecture.

CIS 162 SYSTEMS ADMINISTRATOR/ NETWORK MANAGER SECURITY (3)

Prerequisite(s): Course restricted to department of defense authorized personnel. CIS 160 or permission of instructor and completion of the Local Area Networks, Concepts and Configuration course.

Recommended: Knowledge related to local area networks, configuration, and network operating systems.

A study of systems administration security, vulnerability and threats to computer systems, security-based software, and distributed operating systems. Topics include: Internet systems and security, distributed operating systems, operating environments; administration and security principles; system administration tasks and functions needed for proper security maintenance.

3 hours lecture.

CIS 179* APPLIED TECHNICAL WRITING (3)

Prerequisite(s): ENG 100 with a grade of C or better or placement into ENG 101. College-level reading.

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/formats and technical style. Identical to ENG 179.

3 hours lecture.

CIS 181 COMPUTER APPLICATIONS (3)

Prerequisite(s): CIS 116 with a grade of C or better.

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; and the development of charts and graphs; creating and manipulating lists; 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 182 COMPUTER APPLICATIONS FOR MATH (3)

Prerequisite(s): MAT 122 with a grade of C or better.

A course in the use of current software packages to help students perform mathematical and technical word processing, computations, and graphing for mathematical application areas. Applications include spreadsheets, word processing, graphics, scanners and the operating system. No programming experience is necessary.

3 hours lecture.

CIS 185 INTRODUCTION TO THE INTERNET (3)

Prerequisite(s): CIS 116 with a grade of C or better.

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 (.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.

8 clock hours.

CIS 192J UNIX FOR USERS (.5)

Prerequisite(s): None.

An introduction to the UNIX operating system. Emphasis is on the basic user commands and facilities of the UNIX operating system. Topics include: directory and file systems; electronic mail; shell scripts; password facility; commands; shell variables and editors.

8 clock hours.

CIS 192Q MICROCOMPUTER ORIENTATION (.5)

Prerequisite(s): None.

A condensed version of CIS 116. Includes basic hardware and software information; use of the keyboard and the mouse; introduction to the Windows operating system, and word-processing, spreadsheet, graphics software.

8 clock hours.

CIS 192S FRONT PAGE 2000 (.5)

Prerequisite(s): None.

A practical introduction to website creation using Microsoft Front Page 2000. Topics include the creation, editing, and publication of a website; and adding tables, hyperlinks, graphics, hit counters, lists, and search forms to created websites.

8 clock hours.

CIS 192Z BEGINNING MICROSOFT WINDOWS (.5)

Prerequisite(s): None.

An introduction to the current Windows operating environment. Topics include: program and desktop management; pull-down and main menus; changing windows arrangements; using Help; use of Explorer to manipulate files; use of Windows applications and settings; copying and moving information; deleting information; and use of the taskbar.

8 clock hours.

CIS A192 INTERMEDIATE MICROSOFT WINDOWS (.5)

Prerequisite(s): None.

A continuation of CIS 192Z. Topics include: object linking and embedding; data exchange; customizing startup and program menus; adding and deleting software and hardware from the system; troubleshooting; program list handling; advanced Explorer, accessories and an OLE exercise.

8 clock hours.

CIS B192 FRONTPAGE 2000 (.5)

Prerequisite(s): Beginning and Intermediate Internet or equivalent

A practical introduction to Web site creation using Microsoft Front Page 2000. Topics include the creation, editing, and publishing of a Web site; and adding tables, hyperlinks, graphics, hit counters, lists, and search forms to created Web sites.

8 clock hours.

CIS C192 USING ADOBE PHOTOSHOP 5.0 (.5)

Prerequisite(s): Windows and computer experience.

A practical introduction to digital imaging. Topics include the touching-up of distressed and improperly exposed photographs, colorizing grayscale images, adjusting image colors and contrast, using filters, image layering, and saving images for use on the World Wide Web.

8 clock hours.

CIS D192 BEGINNING EXCEL FOR WINDOWS (.5)

Prerequisite(s): None.

An introduction to spreadsheets using Excel for Windows software. Topics include: creating the worksheet; editing the spreadsheet; using ranges and formulas; formatting the worksheet; and using functions.

8 clock hours.

CIS E192 INTERMEDIATE EXCEL FOR WINDOWS (.5)

Prerequisite(s): None.

A continuation of CIS D192. Topics include: creating and editing charts and graphs; printing the spreadsheets (all or part of); and linking spreadsheets.

8 clock hours.

CIS F192 BEGINNING ACCESS FOR WINDOWS (.5)

Prerequisite(s): None.

An introduction to databases using Access for Windows. Topics include: creating, modifying table design; finding, inserting, and deleting; copying records and values; selecting fields; sorting records; and creating simple queries and forms.

8 clock hours.

CIS G192 INTERMEDIATE ACCESS FOR WINDOWS (.5)

Prerequisite(s): None.

A continuation of CIS F192. Topics include: creating simple reports; converting existing database files to Access; using calculations in queries; creating calculated fields; and various controls to enhance forms and reports.

8 clock hours.

CIS H192 ADVANCED TOPICS IN ACCESS FOR WINDOWS (1)

Prerequisite(s): None.

A continuation of CIS G192. Topics include: embedding objects in forms and reports; working with subforms and subreports; sharing data; designing an application; and creating advanced elements and objects.

16 clock hours.

CIS I192 ADVANCED TOPICS IN ACCESS FOR WINDOWS (2)

Prerequisite(s): None.

A continuation of CIS H192. Topics include: using macros and Access basic; creating switchboards; establishing security; running, testing and debugging applications; repairing and maintaining databases.

32 clock hours.

CIS J192 BEGINNING WORD FOR WINDOWS (.5)

Prerequisite(s): None.

An introduction to word-processing. Topics include: setting tabs/margins; bolding, underlining, centering; document converting; saving in other formats; using headers/footers; indenting; using special characters; proofreading tools; getting help; and printing documents.

8 clock hours.

CIS K192 INTERMEDIATE WORD FOR WINDOWS (.5)

Prerequisite(s): None.

A continuation of CIS J192. Topics include: tables; formulas; macros; mailmerge; sorting multilevel lists; envelopes/labels; tools and options; spreadsheet import/linking; graphics; styles and wizards.

8 clock hours.

CIS L192 BEGINNING GRAPHICS FOR WINDOWS (.5)

Prerequisite(s): None.

An introduction to graphics. Topics include: planning, developing and preparing graphic presentations; slides; slide master; fonts, text and text placement; graphics; transitions and templates; and importing text and graphics from other applications.

8 clock hours.

CIS M192 INTERMEDIATE GRAPHICS FOR WINDOWS (.5)

Prerequisite(s): None.

A continuation of CIS L192. Topics include: charting and graphing; advanced text and graphic import; linking to other Windows documents; using DDE and OLE; creating masters and templates; using graphics objects; and an introduction to multi-media presentations.

8 clock hours.

CIS O192 OUTLOOK FOR WINDOWS (.5)

Prerequisite(s): None.

This software provides desktop tools for the office. Topics include: Outlook bar; inbox tools; message recall; message flag; autopreview; contacts feature; task list calendar, and journal.

8 clock hours.

CIS Q192 USING THE INTERNET, PART 1 (.5)

Prerequisite(s): None.

An introduction to the Internet. Topics include: history of the Internet; how the Internet works; Internet ethics and netiquette; using Netscape; search engines; using a remote computer with the Internet; retrieving files using FTP, and using Eudora email.

8 clock hours.

CIS R192 USING THE INTERNET, PART 2 (.5)

Prerequisite(s): None.

A continuation of CIS Q192. Topics include: Netscape browser; maximizing new search engines; using FTP to acquire files, graphics, and information; using JPEG, motion pictures and sound files.

8 clock hours.

CIS S192 BUILDING A HOME PAGE ON THE INTERNET (.5)

Prerequisite(s): None.

Students will design home pages on the Internet using hyper text markup language (HTML); add, alter, and enhance home pages with color counters and graphics; add hyperlinks to other locations; effectively use color and graphics.

8 clock hours.

CIS T192 DOING BUSINESS ON THE INTERNET (.5)

Prerequisite(s): None.

A class designed for small-business owners. Topics include: how to use the Internet to expand customer contacts, market products and services, and enhance customer service; how the Internet can assist in business planning and decision making; how to send and receive email; learn new marketing strategies; and research government and financial information needed to start a business.

8 clock hours.

CIS U192 INTRODUCTION TO QUICKBOOKS FOR WINDOWS, PART 1 (.5)

Prerequisite(s): None.

An accounting software class designed for small-business owners. Topics include: installation of the software; setting up the business books; managing inventories and creating invoices; receiving payments (deposits); writing checks; and tracking customers, clients or jobs.

8 clock hours.

CIS V192 INTERMEDIATE QUICKBOOKS FOR WINDOWS, PART 2 (.5)

Prerequisite(s): None.

A continuation of CIS U192. Topics include: customizing software for individual businesses; customizing reports; time tracking and job costing; payroll reports; balance sheet reports; and year-end reports for tax purposes.

8 clock hours.

CIS W192 USING ADOBE PHOTOSHOP 5.0 (.5)

Prerequisite(s): Windows and computer experience.

A practical introduction to digital imaging. Topics include touching up distressed and improperly exposed photographs, colorizing grayscale images, adjusting image colors and contrast, using filters, image layering, and saving images for use on the World Wide Web.

8 clock hours.

CIS 193 CURRENT COMPUTER 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 193G	PC Operating Systems I
CIS 193H	PC Operating Systems II
CIS 193I	PC Operating Systems 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	Intro to Computer Information Systems I
CIS 193S	Intro to Computer Information Systems II
CIS 193T	Intro to Computer Information Systems III
CIS 193U	Introduction to Email
CIS 193V	Word Processing I
CIS 193W	Word Processing II

CIS 193X	Word Processing III
CIS 193Z	Introduction to Outlook
CIS A193	Slicing and Dicing Webpages
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 T 193	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 X193	Creating Multimedia Presentations and Projects I
CIS Y193	Creating Multimedia Presentations and Projects II
CIS Z193	Creating Multimedia Presentations and Projects III

CIS 201 PASCAL (4)

Prerequisite(s): MAT 082 with a grade of C or better and CIS 130 with a grade of C or better, or pass the placement exam.

A beginning course in the PASCAL programming language. Topics include syntax and semantics, data types, operators, looping structures, decision structures, subprograms, arrays, pointers and file handling.

3 hours lecture; 3 hours laboratory.

CIS 202 COBOL PROGRAMMING (4)

Prerequisite(s): CIS 130 with a grade of C or better or pass placement 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 with a grade of C or better or pass the placement exam and MAT 151 with a grade of C or better or pass the placement exam.

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 with a grade of C or better or pass the placement 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 205 ADA PROGRAMMING (4)

Prerequisite(s): CIS 130 with a grade of C or better or pass the placement exam. A beginning course in the ADA programming language. Topics include syntax and semantics, data types, operators, looping structures, decision structures, functions, procedures, packages, exception handlers and file handling.

3 hours lecture; 3 hours laboratory.

CIS 206 ASSEMBLER WITH ARCHITECTURE (4)

Prerequisite(s): CIS 130 with a grade of C or better or pass the placement exam and CIS 221 with a grade of C or better.

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 with a grade of C or better or pass the placement exam.

A beginning course in the JAVA programming language. Topics 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 with a grade of C or better.

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 218 VISUAL BASIC PROGRAMMING (4)

Prerequisite(s): CIS 130 with a grade of C or better or pass the placement exam and CIS 140 with a grade of C or better.

A study of the fundamentals of computer programming within the Windows environment. Emphasis is placed on visual basic, objects, projects and simple Windows programs.

3 hours lecture; 3 hours laboratory.

CIS 220A DATA STRUCTURES ADA (4)

Prerequisite(s): CIS 130 with a grade of C or better or the CIS 130 waiver exam, and CIS 205 with a grade of C or better.

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 ADA.

3 hours lecture; 3 hours laboratory.

CIS 220B DATA STRUCTURES-ASSEMBLER (4)

Prerequisite(s): CIS 130 with a grade of C or better or the CIS 130 waiver exam, and CIS 206 with a grade of C or better.

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 130 with a grade of C or better or the CIS 130 waiver exam, and CIS 204 with a grade of C or better.

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 130 with a grade of C or better or the CIS 130 waiver exam, and CIS 227 with a grade of C or better.

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 130 with a grade of C or better or the CIS 130 waiver exam, and CIS 202 with a grade of C or better.

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 130 with a grade of C or better or the CIS 130 waiver exam, and CIS 203 with a grade of C or better.

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 130 with a grade of C or better or the CIS waiver exam, and CIS 201 with a grade of C or better.

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 130 with a grade of C or better or the CIS waiver exam, and CIS 208 with a grade of C or better.

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): One semester of programming with a grade of C or better or one semester of networking with a grade of C or better.

Number systems, conversion methods, binary and complement arithmetic, Boolean and switching algebra, circuit minimizations, ROMs, PLAs, flipflops, synchronous sequential circuits, register transfer design.

3 hours lecture and/or laboratory.

CIS 222 COMPUTER ARCHITECTURE (3)

Prerequisite(s): CIS 130 and MAT 227.

An introduction to the organization and structuring of the major hardware components of a microcomputer to include primary memory, control unit, and arithmetic logic. The student will study machine data representation, the mechanics of information transfer and control within a digital computer system, and the fundamentals of logic design.

3 hours lecture.

CIS 223 ADVANCED VISUAL BASIC PROGRAMMING (4)

Prerequisite(s): CIS 218 with a grade of C or better.

An examination of advanced topics in Windows programming and Visual Basic. 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.

3 hours lecture; 3 hours laboratory.

CIS 227* C++ PROGRAMMING (4)

Prerequisite(s): CIS 130 with a grade of C or better or pass the placement 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 with a grade of C or better or CIS 257 with a grade of C or better.

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 AND NETWORK HARDWARE(4)

Prerequisite(s): CIS 150 with a grade of C or better and one of the following: CIS 128, CIS 234, CIS 236, with grades of C or better.

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 BUSINESS DESKTOP COMPUTER OPERATING SYSTEMS (4)

Prerequisite(s): CIS 150 with a grade of C or better.

Microsoft NT workstation is becoming the standard office platform. Students learn the features of workstation, the utilization of the workstation desktop, efficient file handling, creating a functional user environment, utilizing the workstation as a server and the administration of the workstation as a server. Students learn to use troubleshooting skills to overcome simple and complex problems in the workstation environment.

3 hours lecture; 3 hours laboratory.

CIS 238 INTRODUCTION TO TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL (3)

Prerequisite(s): CIS 240 with a grade of C or better.

This class gives the student a basic understanding of the TCP/IP protocol suite as instituted by Microsoft Windows NT, to include a working knowledge of routing, IP addressing, Domain Name Service, Windows Internet Name Service, and Dynamic Host Configuration Protocol.

2 hours lecture, 3 hours laboratory.

CIS 239 IMPLEMENTING EXCHANGE SERVER 5.5 (4)

Prerequisite(s): CIS 237 with a grade of C or better.

In this course, the students are expected to acquire an adequate knowledge of Microsoft exchange server and its technology. This course provides the student with skills to install, configure, and administer Microsoft exchange server and clients in a single exchange site environment and customize exchange using its form designer.

3 hours lecture; 3 hours laboratory.

CIS 240 ADVANCED MICROSOFT SERVER (4)

Prerequisite(s): CIS 236 with a grade of C or better.

In this course, students will be exposed to the latest Microsoft Server Operating System, Windows 2000 server. The class includes the installation of Windows 2000 Server; configuration of the Windows 2000 Server environment; connection of Windows 2000 clients and other network resources; creation, editing and deletion of user accounts, profiles and groups; implementation, configuration and security of the NTFS file system; understanding and configuring security settings; configuring network protocols for use in a multi-vendor environment; and identifying and resolving network conflicts and connectivity issues using Windows 2000 Server 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 the Microsoft's Directory Services. The class will include an introduction to the concepts involved with Directory Services; the installation of Directory Services on a Windows 2000 Server; configuration of Directory Services in the Windows 2000 Server environment; create, edit and delete domain user accounts and domain groups; implement and configure Group Policy; understand and manage trees and forests and administer network resources; identify and resolve Directory Services conflicts and troubleshooting issues using Windows 2000 Server troubleshooting tools.

3 hours lecture; 3 hours laboratory.

CIS 242 WORLD WIDE WEB PROGRAMMING (3)

Prerequisite(s): CIS 287 with a grade of C or better.

Provides learning opportunities in advanced Web programming. Emphasis is placed on server-side scripting, including using databases on Web sites. 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 with a grade of C or better.

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 246 WORLD WIDE WEB ADMINISTRATION (3)

Prerequisite(s): CIS 242 and CIS 244.

Capstone course for Webmaster Certificate. Addresses elements of administering a complete website to include security, web organization, and user accounts. Each student will administer a virtual server.

3 hours lecture.

CIS 248♦ PERL SCRIPTING (3)

Prerequisite(s): CIS 129 or CIS 130, with grades of C or better, or pass the CIS 130 waiver 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 with a grade of C or better.

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.

3 hours lecture; 3 hours laboratory.

CIS 257♦ UNIX SHELL PROGRAMMING (4)

Prerequisite(s): CIS 129 or CIS 130, with grades of C or better, or pass CIS 130 waiver exam, and CIS 128 with a grade of C or better.

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 with a grade of C or better.

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 262 NETWORK SUPPORT AND TROUBLESHOOTING (4)

Prerequisite(s): CIS 232 with a grade of C or better and CIS 260 with a grade of C or better and two of: CIS 128 with a grade of C or better, CIS 234 with a grade of C or better, CIS 236 with a grade of C or better.

A course designed for individuals who intend to support a network. Topics include installation of network operating software, LAN diagnostic utilities, client software installation and configuration, adapter card installation and configuration, common network physical and data-link layer troubleshooting, bridging and routing, and application configuration problems. This is the capstone class for the networking program and should be taken during the final semester of the degree or certificate networking program.

3 hours lecture; 3 hours laboratory.

CIS 268 TECHNICAL PRESENTATIONS (3)

Prerequisite(s): CIS 116 or CIS 120.

Recommended: Student should have 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 (3)

Prerequisite(s): CIS 120 with a grade of C or better.

A study of structured methods used to analyze existing and proposed information systems and the techniques employed using CASE tools.

3 hours lecture.

CIS 279 ADVANCED APPLIED TECHNICAL WRITING (3)

Prerequisite(s): CIS 179 with a grade of C or better.

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/formats and technical style are stressed. Identical to ENG 279.

3 hours lecture.

CIS 281 ADVANCED COMPUTER APPLICATIONS (3)

Prerequisite(s): CIS 181 with a grade of C or better.

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, 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. Identical to MED 207 and JRN 207.

3 hours lecture.

CIS 286 ADVANCED DESKTOP PUBLISHING (3)

Prerequisite(s): CIS 285 with a grade of C or better.

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 with a grade of C or better and CIS 129 or CIS 130 with a grade of C or better.

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 is covered. Also covered is use of Cascading Style Sheets and JavaScript to create dynamic, interactive Web pages.

3 hours lecture and/or laboratory.

CIS 288* DEVELOPING ONLINE COURSES (3)

Prerequisite(s): CIS 185 with a grade of C or better.

This course provides practical experience in converting existing courses and course materials from traditional modes to an online format. Students are expected to have an existing course to use as a project. A variety of online techniques will be addressed, including World Wide Web development, use of e-mail and lists, and applicability of chat facilities. Students will prepare all materials for a course as a project.

3 hours lecture.

CIS 294 FIELD EXPERIENCE IN COMPUTER INFORMATION SYSTEMS (1-6)

Prerequisite(s): A declared major in computer information systems, permission and approval of a cooperative education program coordinator.

Recommended: 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.

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 plus individualized laboratory instruction.

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 plus individualized laboratory instruction.

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 plus individualized laboratory instruction.

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 plus individualized laboratory instruction.

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 and individualized laboratory instruction.

CER 204 MICROWAVE OVEN REPAIR (4)

Prerequisite(s): General Electronics 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 plus individualized laboratory instruction.

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 and individualized laboratory instruction.

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 and individualized laboratory instruction.

CER 224 FIELD EXPERIENCE IN CONSUMER ELECTRONICS REPAIR (1-6)

Prerequisite(s): Sophomore standing in a declared major or 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 consumer electronics repair. 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.

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, resumés, and interviewing. Identical to CPD 120.

1 hour lecture.

CED 124 WORK EXPERIENCE IN COOPERATIVE EDUCATION (1-4)

Prerequisite(s): Prior approval of cooperative education program coordinator or faculty advisor.

Recommended: 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.

60 clock hours of work equals 1 credit.

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: 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.

75 clock hours of work equals 1 credit.

Corrections Training Academy

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 121 RANGEMASTER CERTIFICATION (3)

Prerequisite(s): None.

Designed to certify Arizona Department of Corrections security staff as rangemasters and to prepare the rangemaster to operate a shooting range and teach formal classes. Restricted to law enforcement personnel.

3 hours lecture.

COR 192 CRITICAL ISSUES IN PENOLOGY (.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.

30 minutes to 1 hour lecture.

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 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 format. Identical to GTC 104.

2 hours lecture.

CPD 105 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 118 EMPLOYMENT WORKSHOP (4)

Prerequisite(s): None.

A practical introduction to and analysis of the means to achieve self-sufficiency by obtaining employment. Emphasizes the identification of employment opportunities; the ability to identify and explore career opportunities; and the development of effective job search, communication, interviewing and stress-management techniques. Offered on a pass/fail basis.

4 hours lecture (This class meets for 10 days, 7 hours per day.)

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, resumés, 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.

Culinary Arts

CUL 105 NUTRITION IN FOOD SERVICE (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 FOOD SERVICE MATH PRINCIPLES (3)

Prerequisite(s): None.

This course includes the advanced use of culinary weights, and 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 FOOD SERVICE PURCHASING AND CONTROL (3)

Prerequisite(s): None.

Recommended: CUL/HAD 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 inter-organizational liaison.

3 hours lecture.

CUL 215 FOOD SERVICE SPECIALTY: CULINARY PREPARATION (3)

Prerequisite(s): CUL/HAD 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 FOOD SERVICE SPECIALTY: CULINARY PREPARATION II (4)

Prerequisite(s): CUL/HAD 215

Recommended: CUL/HAD 107

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 FOOD SERVICE SPECIALTY: BAKING (3)

Prerequisite(s): CUL/HAD 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/HAD 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, éclair paste, phyllo dough, pie production, cakes, cookies and their characteristics, and soufflés.

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, CUL/HAD 107.

Recommended: 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 FOOD SERVICE SPECIALTY:
GARDE-MANGER (3)**

Prerequisite(s): CUL/HAD 107

Recommended: CUL/HAD 215 and CUL/HAD 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 canapés and hors d'oeuvres.

2 hours lecture; 2 hours laboratory.

**CUL 226 FOOD SERVICE SPECIALTY:
GARDE-MANGER II (3)**

Prerequisite(s): CUL/HAD 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/HAD 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/HAD 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; 8 hours laboratory.

CUL 242 DINING SERVICE MANAGEMENT (3)

Prerequisite(s): CUL/HAD 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/HAD 226 or concurrent enrollment.

Recommended: CUL/HAD 110

This course encompasses the preparation of haute cuisine, including proper flavorings, spirits, garnishes and flambé in gourmet food preparation.

2 hours lecture; 3 hours laboratory.

Custodial Maintenance

CMS 101 INTRODUCTION TO CUSTODIAL SERVICES (3)

Prerequisite(s): None.

History and importance of custodial services; the basic mathematics necessary in the industry; trends in the industry; current custodial opportunities locally, regionally, and nationally; and job-seeking skills to enhance employability.

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.

Drafting

DFT 100 BLUEPRINT INTERPRETATION AND BASIC DRAFTING (3)

Prerequisite(s): None.

Introductory course in blueprint reading and interpretation; basic drafting skills, including lettering, sketching, orthographic projection, dimensioning, and pictorial drawing, related to mechanical and architectural requirements.

2 hours lecture; 4 hours laboratory.

DFT 112* TECHNICAL GRAPHICS I (3)

Prerequisite(s): None.

Introductory course in technical drafting including orthographic and axonometric projection, geometric construction, sketching, lettering, dimensioning, and section conventions, with emphasis on industrial drafting standards.

2 hours lecture; 4 hours laboratory.

DFT 113* TECHNICAL GRAPHICS II (3)

Prerequisite(s): DFT 112

Study of auxiliary and oblique surfaces, intersections, detailing standards, fasteners, materials, and dimensioning with emphasis on elements of descriptive geometry.

2 hours lecture; 4 hours laboratory.

DFT 150* COMPUTER-AIDED DRAFTING (3)

Prerequisite(s): None.

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): None.

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 112, 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: 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 112

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: 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 112, DFT 120, and 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.

Economics

ECN 201* PRINCIPLES OF MACROECONOMICS (3)

Prerequisite(s): ENG 101

Recommended: ECN 202.

A broad overview of 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.

Early Childhood Care and Education

ECE 101 SAFETY IN EARLY CHILDHOOD EDUCATION (1)

Prerequisite(s): Current employment with preschool 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 EDUCATION (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 practicum.

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 preschool 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

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, 102, 103, 104, 105, 106, 107, 108, 109, 160, 161, and 173

Apply to and complete final requirements to include writing six statements of competence, developing the 17-item resource file, and practicing for the Early Childhood Studies Review multiple choice exam and oral interview in preparation for the Child Development Associate (CDA) verification visit and resulting credential completion.

4 hours lecture.

ECE 125 PRACTICUM (.5-3)

Prerequisite(s): Concurrent enrollment in other early childhood education 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.

.5-3 hours lecture.

ECE 150 INTRODUCTION TO EARLY CHILDHOOD CARE AND EDUCATION (3)

Prerequisite(s): Current employment in early childhood care or education or enrollment in work-study (cooperative education) 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 OBSERVING AND LISTENING TO CHILDREN (3)

Prerequisite(s): None.

Recommended: Concurrent employment in an early childhood care or education facility, or placement in a practicum.

An introductory course in communication skills, concepts and techniques for observing and recording child characteristics and behaviors in the early childhood setting. Areas of focus are objective observation techniques, guidance, behavior modification techniques, and listening skills. Meaningful two-way communication will be emphasized.

3 hours lecture.

ECE 155 CHILDREN'S LANGUAGE DEVELOPMENT (3)

Prerequisite(s): Placement or ENG 100 with a grade of C or better.

Recommended: For ECE degree seekers: current employment and/or work-study placement in a childcare 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 CHILDREN'S LITERACY (3)

Prerequisite(s): Placement or ENG 100 with a grade of C or better.

Recommended: For ECE degree seekers: current employment and/or work-study placement in a childcare 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): Co-requisite: 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: Concurrent enrollment 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: Concurrent enrollment in an early childhood care or education facility, or placement in practicum.

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: Concurrent enrollment 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: Concurrent enrollment 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 with a grade of “C” or better; six credit hours in early childhood education 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: Concurrent employment 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 ECE PROGRAMS (3)

Prerequisite(s): Placement in English at the 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.

Education

EDU 020 FUNDAMENTAL ACADEMIC SKILLS TRAINING (3)

Prerequisite(s): Placement by Army Education Center counselor.

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 counselor.

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.

- 193A Effectively Dealing with Linguistic Diversity in the Classroom
- 193B Curriculum Development for a Culturally Diverse Student Population
- 193C Content-Specific Teaching Strategies for Bilingual and Limited English Proficiency Students
- 193D A Holistic Approach to Language and Literacy
- 193E Cooperative Learning
- 193F Effectively Managing the Educational Institution
- 193G Professional Development of Instructional Staff
- 193H Involving Parents and the Community in the Educational Process
- 193I Minimizing the Adverse Impact of Social Problems
- 193J Technology and Teaching

EDU 200U THE COMMUNITY COLLEGE (3)

Prerequisite(s): Arizona community college certification complete except for this course.

A study of the history, philosophy, role, objectives and educational functions of the community college with emphasis on organization, operation, curriculum and instruction at Cochise College in particular and Arizona community colleges in general.

3 hours lecture.

EDU 201 INTRODUCTION TO EDUCATION (3)

Prerequisite(s): RDG 122 or exemption and ENG 101 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 in a public school setting.

EDU 220 FOUNDATIONS OF ENGLISH AS A SECOND LANGUAGE (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 TEACHING METHODS FOR ESL LEARNERS (3)

Prerequisite(s): EDU 220.

This course will prepare pre-service teachers to assess the language proficiency of ELL/ESL students. Students will develop appropriate ESL instructional materials, learn to utilize effective teaching methods for the ESL classroom, and develop and plan an ESL instructional lesson for a multicultural classroom. Training in providing culturally sensitive learning cycle feedback will also be provided.

3 hours lecture.

EDU 222 INTRODUCTION TO SPECIAL EDUCATION (3)

Prerequisite(s): ENG 101 with a grade of C or better, reading level 12.0 or official Cochise College equivalent.

Recommended: EDU 201 and ENG 102 or concurrent enrollment.

The study of special education with emphasis on current educational practices and related educational theories; and on identification and characteristics of emotionally handicapped, learning disabled, mentally handicapped and gifted children. Includes a review of appropriate classroom and community-based approaches to accommodating the special education student.

3 hours lecture.

EDU 224 FIELD EXPERIENCE IN EDUCATIONAL INSTRUCTION (1-6)

Prerequisite(s): A declared major in education or closely related field; approval of a cooperative education program coordinator.

Recommended: 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 226 CULTURAL DIVERSITY IN EDUCATION (3)

Prerequisite(s): ENG 101, 12.0 or higher reading grade level or official Cochise College equivalent.

Recommended: EDU 201 and ENG 102 or concurrent enrollment.

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 RELATIONSHIPS IN THE CLASSROOM (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

Recommended: 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 290 INSTRUCTOR SKILL DEVELOPMENT (3)

Prerequisite(s): 12.0 reading level.

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: 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 com-

mercial 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 frac-

tions, decimals, fundamental concepts of algebra, scientific notation, graphing, linear equations and the solution of DC electric circuits.

3 hours lecture.

ELT 120 ADVANCED MATHEMATICS FOR ELECTRONICS (3)

Prerequisite(s): ELT 110 or equivalent.

Study of basic trigonometric relations to electronics with emphasis on network problems and analysis of alternating circuits.

3 hours lecture.

ELT 122* SEMICONDUCTORS AND TRANSISTORS (4)

Prerequisite(s): ELT 106, and ELT 110 or MAT 122.

A comprehensive study of semiconductor devices stressing the qualitative and quantitative analysis of semiconductor circuits with major emphasis on DC biasing, small signal analysis of diodes and transistors, load lines, approximate hybrid parameters, and multistage systems.

3 hours lecture; 3 hours laboratory.

ELT 125* ELECTRONIC CIRCUITS AND SYSTEMS (4)

Prerequisite(s): ELT 105, ELT 106 and concurrent enrollment in ELT 120 or equivalent.

A study of large signal diode and filter analysis, voltage and current regulations, with emphasis on the field effect transistor as an amplifier, the Miller effect, frequency response and feedback.

3 hours lecture; 3 hours laboratory.

ELT 224 FIELD EXPERIENCE IN ELECTRONICS (1-6)

Prerequisite(s): A declared major in electronics and approval of a cooperative education program coordinator.

Recommended: 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* COMMUNICATIONS ELECTRONICS I (4)

Prerequisite(s): ELT 120, 122, 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* COMMUNICATIONS 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 Technology

EMT 101 FIRST RESPONDER TRAINING (2)

Prerequisite(s): None.

A practical study of the role of the first responder as a provider of immediate emergency medical care, with emphasis upon evaluating accidents, patient assessment, CPR, emergency care for internal and external injuries, emergency childbirth, poisons and drugs, and the minimization of further injury and complications.

2 hours lecture; 1 hour laboratory.

EMT 174* EMERGENCY MEDICAL TECHNOLOGY (8)

Prerequisite(s): Student must 1) be at least 18 years of age at class start time; 2) possess a valid CPR card at the Health Care Provider Level from American Heart Association or American Red Cross; 3) read at least the ninth grade level; 4) have a negative TB test or chest x-ray within six months prior to class start date; 5) demonstrate immunity to rubella by immunization record or titer results; 6) demonstrate immunity to rubeola by immunization record or titer results.

Provides the student with preparation for vocational work as an ambulance attendant and is required by the Arizona Department of Health Services (ADHS) for certification. The course also prepares students for industrial, OSHA and virtually any other occupational safety standards certification. Students wishing certification must complete the state-mandated hours of clinical experience in a hospital emergency room. The course covers basic knowledge of the symptoms of illness and injury, the concomitant procedures considered the responsibility of the emergency medical technician (EMT), basic legal responsibilities, anatomy and physiology, triage, assessment, and life-support systems. Curriculum meets ADHS standards set in 1994. Program is certified by the state.

Seven 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): Tenth grade reading level.

Co-requisite(s): BIO 160 or BIO 201, ENG 100 or above.

Further requirements are: Certification as an Arizona emergency medical technician, immunity against rubella, rubeola, and hepatitis B as proven by immunization record or titer and negative TB test or chest x-ray.

Applicant selection process: Individuals who wish to enter the paramedicine core classes must undergo written and practical examinations as well as an interview process. Arizona Department of Health/Emergency Medical Services (ADHS/EMS) guidelines are followed in these processes. See program description for details regarding the selection process.

Paramedicine I is the first in a series of three courses that prepare the student to perform as a paramedic. This course provides the initial education required to achieve student readiness to sit for the State Certification Exam in Paramedicine as well as the National Registry Exam. 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.

10 hours lecture; 6 hours clinical/laboratory.

EMT 202* PARAMEDICINE II (14)

Prerequisite(s): EMT 201

This course provides the second sequential step in achievement of student readiness to sit for the State Certification Exam in Paramedicine as well as the National Registry 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 clinical/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 clinical and vehicular rotation.

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 004 SPELLING IMPROVEMENT (1)

Prerequisite(s): None.

A review of spelling fundamentals helps freshmen conceptualize words used in various content fields as well as basic function words for college writing. A review of basic phonetics, common roots, silent consonants and vowel blends introduces strategies for learning to visualize English spelling. The one-unit module can be included in the reading improvement block or taught individually by student contract through the Student Development Center.

1 hour lecture.

ENG 010A ENGLISH FUNDAMENTALS I (3)

Prerequisite(s): Placement or permission of instructor.

Recommended: Keyboarding skills.

A review of standard oral and written English with an emphasis on sentence construction, vocabulary development, and introductory 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 or 2 hours laboratory.

ENG 010B ENGLISH FUNDAMENTALS II (3)

Prerequisite(s): Placement or ENG 010A or permission of instructor.

Recommended: 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 or 2 hours 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 020 READING FUNDAMENTALS (5)

Prerequisite(s): None.

A review of basic skills for college reading emphasizing content, vocabulary growth, improved rate of comprehension in various materials, review of phonetic rules applied to English spelling, dictionary and library use complementing general study skills.

5 hours lecture.

ENG 078 SKILLS FOR SUCCESSFUL WRITING (3)

Prerequisite(s): Writing placement score and/or recommendation from previous instructor or academic advisor.

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 university transfer or in direct employment or in class work on the college level. Uses word processing and group editing as a means of composition.

3 hours lecture; 1 or 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: 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 or 2 hours laboratory.

ENG 101* COMPOSITION (3)

Prerequisite(s): Placement or ENG 100 or its equivalent.

Recommended: 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 101A COMPOSITION – FLEX A (3)

Prerequisite(s): Placement text score, ENG 100, or at the advice of student's previous English instructor.

Recommended: Keyboarding skills.

Study of and practice in the process of writing, methods of organization, expository patterns, and a documented paper based on library and other resources, with a review of usage and syntax.

3 hours lecture.

ENG 101B COMPOSITION (FLEX B) (3)

Prerequisite(s): Placement test score, ENG 101A, or instructor recommendation.

Recommended: 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* ENGLISH COMPOSITION (3)

Prerequisite(s): ENG 101

Recommended: Keyboarding skills.

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 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

A study of major literary genres: drama, poetry, fiction, and criticism. Emphasis on writing critically about literature.

3 hours lecture.

ENG 106 INTERMEDIATE WRITING FOR FOREIGN STUDENTS (3)

Prerequisite(s): Placement test score or ENG 010B.

Designed to improve the writing ability of foreign students. Includes a review of the mechanics of writing, punctuation, spelling and capitalization, vocabulary development exercises, reading, and intensive practice in writing at the sentence and paragraph levels.

3 hours lecture; 2 hours laboratory.

ENG 107 ENGLISH COMPOSITION FOR FOREIGN STUDENTS I (3)

Prerequisite(s): Placement test score or ENG 100 or ENG 106.

College composition course for non-native speakers of English, with emphasis on writing about prose readings, summary and analysis, documentation, library research methods, and writing a research paper.

3 hours lecture; 2 hours laboratory.

ENG 108 ENGLISH COMPOSITION FOR FOREIGN STUDENTS II (3)

Prerequisite(s): ENG 107 or ENG 101.

A continuation of ENG 107 with emphasis on argumentation and persuasion and an introduction to the research paper for students whose native language is not English.

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 115 THE GENEALOGY OF ENGLISH WORDS (3)

Prerequisite(s): None.

Designed to assist the student in increasing his command of modern English. Emphasis is primarily on words derived from Latin. Etymological meanings and modern meanings will be considered along with semantic and phonetic changes.

3 hours lecture.

ENG 116 GENEALOGY OF ENGLISH WORDS (3)

Prerequisite(s): None.

Designed to assist the student in increasing his command of modern English emphasizing words derived from Greek. Etymological meanings and modern meanings will be considered along with semantic and phonetic changes. ENG 115 is not a prerequisite(s) to 116.

3 hours lecture.

ENG 119* 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 and one of the following: ENG 101 or ENG 111 or OAD 111.

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 and OAD 167.

3 hours lecture.

ENG 179 APPLIED TECHNICAL WRITING (3)

Prerequisite(s): ENG 100 or placement into ENG 101.

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/formats and technical style. Identical to CIS 179 and BUS 179.

3 hours lecture.

ENG 192 SPECIAL TOPICS IN LANGUAGE AND LITERATURE (.5-1)

Prerequisite(s): None.

A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics 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.

30 minutes to 1 hour lecture.

ENG 192A	Word Foraging
ENG 192B	True Tales and Tall Tales of Southwestern Indians
ENG 192C	High Speed Reading
ENG 192D	Stories of the Old West
ENG 192E	Satire, Irony and Humor
ENG 192F	Linguistic History of the English Language
ENG 192G	Evolution of a Hero: Prince Hal to Hamlet
ENG 192H	Books and People
ENG 192I	Memoir Writing
ENG 192J	Writing Poetry

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 and 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): Completion of ENG 102 or permission of instructor.

A study of the nature and genres of classical and contemporary literature intended for children from infancy through adolescence. An emphasis on content encompassing relationships with nature, family, and diverse ethnic and cultural communities.

3 hours lecture.

ENG 219* ADVANCED CREATIVE WRITING (3)

Prerequisite(s): ENG 102, ENG 119 or permission of instructor.

This is the second semester of a one-year creative writing sequence beginning with ENG 119 and will address advanced student projects in prose or poetry. Students will continue to read and analyze the best professional models in creative writing from around the world.

3 hours lecture.

ENG 220* BRITISH LITERATURE I (3)

Prerequisite(s): ENG 102 or permission of instructor.

A survey of the major British authors from the beginnings to the early 18th century.

3 hours lecture.

ENG 221 BRITISH LITERATURE II (3)

Prerequisite(s): ENG 102 or permission of instructor.

A survey of the major British authors from the 18th century to the present.

3 hours lecture.

ENG 222 INTRODUCTION TO SHAKESPEARE (3)

Prerequisite(s): ENG 102 or permission of instructor.

An exploration of selected histories, tragedies, and problem plays/comedies by William Shakespeare.

3 hours lecture.

ENG 224* AMERICAN LITERATURE I (3)

Prerequisite(s): ENG 102 or permission of instructor.

A survey of major American authors from the colonial period to 1860. Works studied may include selections from Hawthorne, Poe, Melville, and Emerson.

3 hours lecture.

ENG 225 AMERICAN LITERATURE II (3)

Prerequisite(s): ENG 102 or permission of instructor.

A survey of selected works by major American authors from post-Civil War to the present.

3 hours lecture.

ENG 226 WORLD LITERATURE I (3)

Prerequisite(s): ENG 102 or permission of instructor.

A study of some of the master works of world literature through the Renaissance. Works studied may include selections from Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes and Shakespeare, as well as samplings from outside the western tradition.

3 hours lecture.

ENG 227 WORLD LITERATURE II (3)

Prerequisite(s): ENG 102 or permission of instructor.

A study of eight major literary works from the Renaissance to the present, including selections of Voltaire, Goethe, Stendahl, Dickens, Dostoevsky, Turgenev, Flaubert, and Mann. ENG 226 is not a prerequisite(s) to ENG 227.

3 hours lecture.

ENG 228 MYTHOLOGY AND FOLKLORE (3)

Prerequisite(s): ENG 102 or permission of instructor.

A survey of beliefs, customs and symbols from Neolithic times to the present. Emphasis on Sumerian, Babylonian, Hebrew, Egyptian, Anatolian, Cretan, Greek, Roman, Celtic myths and legends. Belief systems and symbols traced through the ages to the present times.

3 hours lecture.

ENG 230 LITERATURE OF THE SOUTHWEST (3)

Prerequisite(s): ENG 102 or permission of instructor.

Introduction to the literature of the American Southwest, spanning historical through contemporary times. Emphasis on the environmental, historical, and cultural influences on southwestern literary styles, genres, themes, and images.

3 hours lecture.

ENG 231 NATIVE AMERICAN LITERATURE (3)

Prerequisite(s): ENG 102 or permission of instructor.

Introduction to Native American literature, including oral traditions and stories, autobiographies, fiction, and poetry, with emphasis on the cultural and historical influences on indigenous themes and representations.

3 hours lecture.

ENG 255 INTRODUCTION TO THE ENGLISH LANGUAGE (3)

Prerequisite(s): Two of the following: ENG 101, ENG 102, 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: CIS 285/JRN207/MED 207.

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: 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 179/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/formats and technical style are stressed. Identical to CIS 279.

3 hours lecture.

English as a Second Language

ESL 001 WORKPLACE ENGLISH I (3)

Prerequisite(s): Recommendation from placement test.

Beginning-level practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

ESL 002 WORKPLACE ENGLISH II (3)

Prerequisite(s): Recommendation from placement test and/or completion of ESL 001 with a grade of C or better within the preceding six months.

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 003 WORKPLACE ENGLISH III (3)

Prerequisite(s): Recommendation from placement test and/or completion of ESL 002 with a grade of C or better within the preceding six months.

Low-intermediate to intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

ESL 004 WORKPLACE ENGLISH IV (3)

Prerequisite(s): Recommendation from placement test and/or completion of ESL 003 with a grade of C or better within the preceding six months.

High-intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

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 test.

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 test.

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 with a grade of C or better 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): Completion of ESL 012 with a grade of C or better 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): Completion of ESL 014 with a grade of C or better 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): Completion of ESL 016 with a grade of C or better 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): Completion of ESL 012 and ESL 014, or completion of ESL 017 or ESL 018, all with grades of C or better, 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 with a grade of C or better 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): Completion of ESL 022 with a grade of C or better 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): Completion of ESL 024 with a grade of C or better 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 top-

ic 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): Completion of ESL 026 with a grade of C or better or recommendation from placement test.

A review and continuation of oral communication skills in English for low-intermediate/intermediate students whose native language is not English, with emphasis on vocabulary, pronunciation, and development of listening and speaking skills.

3 hours lecture, 2 hours laboratory.

ESL 037 INTENSIVE READING AND WRITING LEVEL III (3)

Prerequisite(s): Completion of ESL 022 and ESL 024, or completion of ESL 027, all with grades of C or better, 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): Completion of ESL 020 and ESL 026, or completion of ESL 028, all with grades of C or better, 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 with a grade of C or better 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): Completion of ESL 032 with a grade of C or better 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): Completion of ESL 034 with a grade of C or better 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): Completion of ESL 036 with a grade of C or better 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): Completion of ESL 032 and ESL 034, or completion of ESL 037, all with grades of C or better, 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): Completion of ESL 030 and ESL 036, or completion of ESL 038, all with grades of C or better, or recommendation from placement test.

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): Completion of ESL 072 with a grade of C or better; 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): Completion of ESL 074 with a grade of C or better; 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 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 individualized instruction.

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 (.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.

.5 hour minutes lecture.

- 192A OSHA Hazmat and Emergency Response Refresher
- 192B Asbestos Awareness
- 192C Lead Awareness - In Paint, Soil, and Water
- 192D Confined Space Safety/Rescue
- 192E State Water/Wastewater Operator Certification
- 192F Respiratory Protection

EVS 193 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (1)

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.

The title of this course may differ each term, depending on the topic being covered when the course is offered.

1 hour lecture.

193A Environmental Law and Its Impact

193B Basic Wastewater Treatment

193C Safety Management for Health Care Professionals

Family & Consumer Sciences

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.

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 the 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, FST 111 or permission of the 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 pumpers.

3 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.

- 193A Incident Command System
- 193B Fire Science Supervision: Increasing Personal Effectiveness
- 193C Fire Science Supervision: Increasing Team Effectiveness
- 193D Volunteer Fire Service Management
- 193E Firefighter Health and Safety
- 193F Firefighter Safety and Survival: The Company Officer's Responsibility
- 193G Public Fire Education Planning
- 193H Instructional Techniques for Company Officers
- 193I Basic Fire Prevention Inspections
- 193J Ventilation
- 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 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: 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 the 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 the 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.

Food And Nutrition

FON 101 NUTRITION (3)

Prerequisite(s): None.

A study of the basic nutritional principles and their application to the normal diet, health and cultural patterns. Some emphasis will be placed upon diet modification in common health disorders, i.e., obesity, diabetes mellitus and cardiovascular disease.

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 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 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 will enrich the student's vocabulary.

4 hours lecture; 1 hour laboratory.

General Electronics Technician

The following classes, GET 103, 104, 108, 123, and 240 were designed specifically for the Arizona Department of Corrections in Douglas.

GET 103 BASIC ELECTRONIC CIRCUITS AND DIAGNOSTICS (3)

Prerequisite(s): None.

A course designed to develop student proficiency in diagnosing basic electronic circuits, defective components, and in performing repair procedures for basic series, parallel and series/parallel circuits using appropriate supplies and test equipment to facilitate repairs.

3 hours lecture plus individualized laboratory instruction.

GET 104 DIRECT CURRENT CIRCUIT DIAGNOSTICS (3)

Prerequisite(s): GET 103

A comprehensive course designed to make the student proficient in diagnosing complex direct current circuits and defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

3 hours lecture plus individualized laboratory instruction.

GET 108 ALTERNATING CURRENT CIRCUIT DIAGNOSTICS (4)

Prerequisite(s): GET 104

A comprehensive course designed to make the student proficient in diagnosing complex alternating current circuits, defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

4 hours lecture plus individualized laboratory instruction.

GET 123 SEMICONDUCTOR DEVICE DIAGNOSTICS AND REPAIR (4)

Prerequisite(s): GET 108

A comprehensive course designed to make the student proficient in diagnosing simple and complex semiconductor device circuits and defective components, and in performing repair procedures using appropriate test equipment and supplies. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

4 hours lecture plus individualized laboratory instruction.

GET 240 ELECTRONIC SYSTEMS DIAGNOSTICS AND REPAIR (6)

Prerequisite(s): GET 123

A comprehensive course designed to make the student proficient in diagnosing power supplies, amplifiers, oscillators, digital and microprocessor circuits, and in using schematic diagrams as diagnostic tools, and locating defective components, selecting proper replacement part, and in performing repair procedures using appropriate test equipment, tools and supplies, and in performing system checks to verify proper operation, and that repairs were successful.

4 hours lecture plus 4 hours of individualized laboratory instruction.

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 AUTOMOBILE 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): 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): One semester of high school algebra or permission of instructor. 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 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.

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 114* KNOW YOUR AUTOMOBILE (3)

Prerequisite(s): None.

Principles of basic automotive repair and maintenance. Essential concepts of buying an automobile to preventive maintenance will be covered.

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 FINISH (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 and/or individualized instruction.

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 and/or individualized instruction.

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 and/or individualized instruction.

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.

3 hours lecture.

GTC 224 FIELD EXPERIENCE IN MASONRY TECHNOLOGY (1-6)

Prerequisite(s): Sophomore standing in a declared major or 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 masonry 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.

GTC 225 FIELD EXPERIENCE IN BUSINESS & INDUSTRIAL CLEANING (1-6)

Prerequisite(s): Sophomore standing in a declared major or 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 business and industrial cleaning. 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.

GTC 226 FIELD EXPERIENCE IN BUILDING MAINTENANCE TECHNOLOGY (1-6)

Prerequisite(s): Sophomore standing in a declared major or 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 building maintenance 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.

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.

Geography

GEO 092 SPECIAL TOPICS AND APPLICATIONS IN GEOGRAPHY – NON-TRANSFER (.25 – 3)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

GEO 101 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* INTRODUCTION TO HUMAN GEOGRAPHY (3)

Prerequisite(s): None.

Recommended: 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 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 105 ECONOMIC GEOGRAPHY (3)

Prerequisite(s): ENG 100 or concurrent enrollment. RDG 122 or exemption.

A survey of the world's economics, including subsistence economic activities, commercial gathering of animals and plants, commercial bioculture, mining, manufacturing, transportation and trade, and tertiary economic activities centering on basic economics and their relationship to the natural

resources of the area involved and the relationship of the physical features: climate, soil, vegetation, and topography.

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 (.25 – 4)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

Geology

GLG 092 SPECIAL TOPICS AND APPLICATIONS IN GEOLOGY – NON-TRANSFER (.25 – 3)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

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: 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: 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 .25 – 4)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

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.

Health and Physical Education

HPE 104A SCULPT AND STRETCH (1)

Prerequisite(s): None.

An introduction to exercises and activities focusing on the development of muscular strength, muscular endurance, and overall flexibility. Also includes the discussion and practice of breathing and relaxation techniques that promote wellness.

1 hour lecture; 1 hour laboratory.

**HPE 104B SCULPT AND STRETCH--
EXTENDED DURATION (2)**

Prerequisite(s): None.

An introduction to exercises and activities focusing on the development of muscular strength, muscular endurance and overall flexibility. Also includes the discussion and practice of breathing and relaxation techniques that promote wellness. HPE 104B is an extended duration version of HPE 104A and as such is devoted to optimizing physical fitness and wellness.

1 hour lecture; 2 hours laboratory.

HPE 105A* STEP AEROBICS (1)

Prerequisite(s): None.

A practical introduction to step aerobic exercises and activities with emphasis upon the acquisition of basic skills and movement, as well as the improvement and maintenance of individual fitness. Recommended for the poorly conditioned, novice student.

1 hour lecture; 1 hour laboratory.

**HPE 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 (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 introduction to the principles and concepts of physical fitness through the use of various exercise equipment and activities.

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 I (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.

2 to 4 hours laboratory.

HPE 117A INDIVIDUALIZED FITNESS (1)

Prerequisite(s): None.

Recommended: 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; 1 hour laboratory.

HPE 117B INDIVIDUALIZED FITNESS (2)

Prerequisite(s): None.

Recommended: 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 123* INTERMEDIATE KARATE (1)

Prerequisite(s): HPE 122 or permission of instructor.

A theoretical and practical study of intermediate karate skills with emphasis upon sparring and self-defense techniques. Elements of advanced techniques will provide a basis for continued study by the individual student.

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 132* ADVANCED SWIMMING AND WATER SPORTS (1)

Prerequisite(s): HPE 131 or permission of instructor.

A study of advanced swimming techniques, emphasizing variations on the four fundamental strokes, water sports, synchronized swimming and other aquatic activities.

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 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 VARSITY BASEBALL (1)

Prerequisite(s): Must try out for the varsity team.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the inter-collegiate level.

1 hour lecture; 3 hours laboratory.

HPE 171 VARSITY MEN'S BASKETBALL (1)

Prerequisite(s): Must try out for the varsity 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 VARSITY WOMEN'S BASKETBALL (1)

Prerequisite(s): Must try out for the varsity team.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the inter-collegiate level.

1 hour lecture; 3 hours laboratory.

HPE 173 VARSITY VOLLEYBALL (1)

Prerequisite(s): Must try out for the varsity team.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the inter-collegiate level.

1 hour lecture; 3 hours laboratory.

HPE 174 VARSITY WOMEN'S SOCCER (1)

Prerequisite(s): Must try out for the varsity 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 181 ORIENTATION TO RECREATION (3)

Prerequisite(s): None.

A comprehensive introduction to the basic foundations of recreation. An examination of career opportunities in the field of recreation.

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 195 THEORY OF COACHING VOLLEYBALL (3)

Prerequisite(s): None.

An overview of coaching skills and theory with emphasis upon coaching volleyball at the youth and secondary levels. Introduces the student to the aspects of coaching volleyball at the collegiate level.

3 hours lecture.

HPE 197 CARE & 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 (Latin Dance) 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: 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.

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/laboratory.

HLT 109* NURSING ASSISTANT (5)

Prerequisite(s): Completion of MAT 005 or 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 clinical.

HLT 110 CPR (.5)

Prerequisite(s): None.

A course offering health care provider level of cardiopulmonary resuscitation. CPR card awarded upon successful course completion.

6 hours lecture; 2 hours laboratory (1-day course).

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.

12 hours lecture; 4 hours laboratory (2-day course).

HLT 114* HOME HEALTH ASSISTANT (3)

Prerequisite(s): Nursing assistant

A course to prepare the nursing assistant to function in a home setting either performing specifically assigned tasks or giving complete care within the legal and ethical limits of the role. Adaptation of existing certified nursing assistant skills and those new skills such as food preparation, asepsis in the house and good communications skills necessary for giving safe care in the home are included. A certificate of completion will be awarded following satisfactory completion of this course.

2 hours lecture; 3 hours laboratory.

HLT 120 INTRODUCTION TO COMMUNITY HEALTH ADVISOR (3)

Prerequisite(s): None.

Recommended: Students are encouraged to meet with a program advisor before enrolling in the CHA courses.

The first course of a 16-credit Community Health Advisor Certificate 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 ADVISOR PRACTICUM (6)

Prerequisite(s): HLT 120

The second course of a 16-credit Community Health Advisor Certificate program. Community health advisor skills are practiced and evaluated in community-based health and human service agencies/settings. Students complete 320 clock hours of direct service.

24 hours laboratory per week (4- to 6-hour days for 6 weeks).

HLT 138 MEDICAL ASSISTANT - FRONT OFFICE (2)

Prerequisite(s): None.

Recommended: Completion of HLT 130-137 or the equivalent, and concurrent enrollment in HLT 201 or employment in a medical office as a medical assistant. This course provides an overview of the administrative procedures required of the medical assistant who performs front office functions. An awareness of the following topics are included in this course: creating the facility environment, computer use, telephone techniques, patient scheduling, medical records management, written communications, financial practices, insurance and coding, billing and collections, accounting practices, and office management. The application of this knowledge will take place in HLT 201, Medical Assistant Clinical Practicum.

2 hours lecture.

HLT 139 MEDICAL ASSISTANT I (8)

Prerequisite(s): Completion of or concurrent enrollment in 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 student will gain an understanding of his/her role in the administration of the medical office, and a knowledge of the basic principles of human behavior and how

it affects client interactions. The skills laboratory classes are designed to give the student hands-on application of the procedures in a medical office.

7 hours lecture; 1 hour laboratory.

HLT 140 MEDICAL ASSISTANT II (8)

Prerequisite(s): HLT 139 and concurrent enrollment in CIS 116.

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, HLT 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/externship.

HLT 219 BORDER HEALTH ISSUES (3)

Prerequisite(s): Second year of nursing or social service programs; paramedicine student; or permission of instructor.

Recommended: SOC 101 and/or ANT 102; ENG 102.

Selected health issues pertaining to the U.S.-Mexico border region are surveyed including the epidemiology of certain communicable and chronic diseases; barriers to, and enabling factors for, the prevention and treatment of those diseases; environmental issues; utilization of health services across the border; historical, cultural, legal, and socio-economic factors; bilateral and binational cooperation. Guest speakers from various fields are invited to present their perspectives.

3 hours lecture.

HLT 225 MEDICAL ETHICS (3)

Prerequisite(s): ENG 101 or equivalent, college reading grade level.

An introduction to medical ethics with an emphasis on analysis and problem solving techniques within the medical/nursing arena. Medical ethical theories are explored. Ethical/legal case studies in a broad range of areas are considered.

3 hours lecture.

HLT 240 DENTAL PROPHYLAXIS TECHNICIAN (6)

Prerequisite(s): CPR certification and permission of the instructor.

This course offers the dental assistant an opportunity to pursue training in providing supragingival oral prophylaxis for patients without periodontitis and in promoting oral wellness through application of many aspects of preventive dentistry. This course is divided into didactic and clinical phases. The didactic phase, which is presented as a self-instructional module, includes an overview of oral anatomy, patient evaluation, the etiology of dental diseases, preventive dentistry measures, and instrumentation principles and concepts.

The clinical phase includes hands-on training under the guidance of a registered dental hygienist in providing supragingival oral prophylaxis and preventive dentistry procedures using various instruments and materials.

After students demonstrate competency in delivering patient care under direct supervision, they will work more independently as they progress through a two-week internship before achieving certification.

4 hours lecture; 4 hours laboratory.

History

HIS 110• HISTORY OF THE UNITED STATES 1607-1877 (3)

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

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): RDG 122 or exemption or concurrent enrollment in a collaborative course. RDG 110.

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): RDG 110 or exemption.

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): RDG 110 or exemption.

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. ENG 101.

Recommended: 12.0 reading level or official Cochise College equivalent.

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. ENG 101.

Recommended: 12.0 reading level or official Cochise College equivalent.

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. ENG 101.

Recommended: 12.0 reading level or official Cochise College equivalent.

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): RDG 122 or exemption. ENG 101.

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 (.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.

The title of this course may differ each term, depending on the topic being covered when the course is offered.

30 minutes to 1 hour lecture.

HIS 192A	The History of Rodeo
HIS 192B	Ghost Towns of Cochise County
HIS 192C	History of Transportation in Arizona
HIS 192D	Arizona Place Names
HIS 192E	Women and the West
HIS 192F	John H. (Doc) Holliday
HIS 192G	History of Tombstone During Arizona's Territorial Period
HIS 192H	History of Cochise County
HIS 192I	Coronado and the Spanish Legacy in the West
HIS 192J	History of the American West as seen through the Writings of John Myers
HIS 192K	The Real West (The Good, Bad and The Ugly)
HIS 192L	The History of Southwestern Ranching
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 193 SPECIAL TOPICS IN HISTORY (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.

1 hour lecture.

HIS193A	The History of Rodeo
HIS193B	Ghost Towns of Cochise County
HIS193C	History of Transportation in Arizona
HIS193D	Arizona Place Names
HIS193E	Women and the West
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HIS193N	Islamic Civilization in World History
HIS193O	Family History (Genealogy)
HIS193P	History and Art of Heraldry
HIS193Q	Conflict in the Middle East
HIS193R	The Border: From Heroic Past to Present-day Controversies
HIS193S	History of Bisbee

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.

Honors

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.

1-4 hours lecture/laboratory.

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: 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 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: Completion of one, one-credit honors contract.

Complete major service project at Cochise College and/or the community.

3 hours lecture.

HON 260 THE HUMAN QUEST FOR UTOPIA (3)

Prerequisite(s): Completion of 12 credits in an accredited degree program, with a GPA of 3.5 or higher (or petition to the honors committee).

Recommended: 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).

Recommended: Completion of one, one-credit Honors contract.

Adopt Phi Theta Kappa issue of the year and research from multiple perspectives.

3 hours lecture.

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, HRT 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, HRT 111 and HRT 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, HRT 140, HRT 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 and directed study.

HRT 232 NATIVE PLANTS OF THE DESERT SOUTHWEST (3)

Prerequisite(s): HRT 101 or permission of the 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.

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 HOSPITALITY ADMINISTRATION (1-6)

Prerequisite(s): A declared major in hospitality administration. Permission and approval of cooperative education program coordinator, HAD 107.

Recommended: 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/HAD 210

An exploration and application of computer technology to front desk operations, including reservations, guest accounting and manager's reports.

3 hours lecture.

Humanities

HUM 093 CULTURAL CONTEXT: CASE STUDIES (1)

Prerequisite(s): 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: 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 FOLKLÓRICO (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; three hours rehearsal/performance.

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 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: 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 THE HUMANITIES (.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.

30 minutes to 1 hour lecture.

HUM 205♦ MAJOR ANCIENT CULTURES (3)

Prerequisite(s): ENG 102 or permission of instructor.

Art, architecture, literature, music and ideas in the western world from ancient times to the Middle Ages, with emphasis on people's relationship to their gods or God.

3 hours lecture.

HUM 206 EUROPEAN CULTURE (3)

Prerequisite(s): ENG 102 or permission of instructor.

Art, architecture, literature, music and philosophy from the Middle Ages to the Industrial Revolution with emphasis on the development of humanism and science.

3 hours lecture.

HUM 207♦ THE MODERN WORLD (3)

Prerequisite(s): ENG 102 or permission of instructor.

A global view of art, literature, music, philosophy, and ideas from the 18th century to the present time.

3 hours lecture.

HUM 210 FOREIGN FILM CLASSICS (3)

Prerequisite(s): ENG 101 or permission of instructor.

A survey of major foreign films from 1893 through the present, emphasizing film criticism and theory.

3 hours lecture.

Intercultural Studies

ICS 193 SPECIAL TOPICS IN INTERCULTURAL STUDIES (1)

Prerequisite(s): High school level reading ability in English or Spanish, and some speaking knowledge of both English and Spanish preferred

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 INTERPRETING (3)

Prerequisite(s): ASL 102

Introduction to the field of sign language interpreting. Examines the interpreter's role, responsibilities, code of ethics, and professional support to the interpreter.

3 hours lecture.

ITP 215 CLASSIFIERS, MIMETIC DESCRIPTION, AND ASL LITERATURE (3)

Prerequisite(s): ASL 202

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.

3 hours lecture.

ITP 220 INTERPRETING I (4)

Prerequisite(s): ASL 202, ASL 210

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.

4 hours lecture.

ITP 250 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.

4 hours lecture.

ITP 268 ETYMOLOGY (2)

Prerequisite(s): ASL 202; 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.

2 hours lecture.

ITP 270 BEGINNING SIGN TO VOICE (4)

Prerequisite(s): ITP 210, ASL 202

Interpreting basic sign language structures into the spoken word. Includes receptive processing tools, voicing considerations, and vocabulary enhancement.

4 hours lecture.

ITP 280 ADVANCED SIGN 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.

4 hours lecture.

ITP 285 EDUCATIONAL INTERPRETING/TRANSLITERATING (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.

4 hours lecture.

ITP 289 SPECIAL TOPICS IN INTERPRETING (2)

Prerequisite(s): ITP 210

Recommended: 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.

2 hours lecture.

ITP 290 INTERPRETER TRAINING FIELD EXPERIENCE(2)

Prerequisite(s): ITP 280; ITP 250 or permission of instructor

Supervised interpreting opportunities in community settings. Includes practicum experience, observations, and classroom discussions focusing on job preparation and current issues.

1 hour lecture; 2 hours 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, syndication, books, movies, computer/digital and other media. Identical to MED 101.

3 hours lecture.

JRN 102 ESSENTIALS OF NEWS WRITING (3)

Prerequisite(s): Prior or concurrent enrollment in ENG 101; prior or concurrent enrollment in CIS 116.

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 medial professionals. Identical to MED 102.

3 hours lecture.

JRN 103 ADVANCED NEWS WRITING: FEATURES AND IN-DEPTH REPORTING (3)

Prerequisite(s): ENG 101, JRN/MED 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. Identical to MED 103.

3 hours lecture.

JRN 201* ESSENTIALS OF NEWSPAPER PUBLISHING (3)

Prerequisite(s): JRN/MED 102 and CIS 116 (student may test out).

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 once for credit. Identical to MED 201.

2 hours lecture; 3 hours laboratory.

JRN 207* INTRODUCTION TO DESKTOP PUBLISHING (3)

Prerequisite(s): None.

Recommended: Computer literacy.

Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to CIS 285 and MED 207.

3 hours lecture.

JRN 224 FIELD EXPERIENCE IN COMMUNICATION & MEDIA TECHNOLOGY (1-6)

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

Recommended: 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 PRODUCTIONS (3)

Prerequisite(s): ENG 101 or permission of instructor.

Recommended: CIS 285/JRN 207/MED 207

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 287* COMPUTERIZED PHOTOGRAPHY I (3)

Prerequisite(s): None.

An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to MED 287.

3 hours lecture/discussion/demonstration with practical experimentation.

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/recitation.

LAT 202 INTERMEDIATE LATIN II (4)

Prerequisite(s): LAT 201 or equivalent; 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/recitation.

Linguistics

LIN 101 INTRODUCTION TO LINGUISTICS (3)

Prerequisite(s): ENG 101

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.

LIN 180 EFFECTIVE MESSAGES (3)

Prerequisite(s): ENG 167 and SPA 267 or permission of instructor.

Theory and practice of encoding and decoding electronically transmitted messages: telegraph or Telex, telephone or radio, television. Consideration of teleconferencing included. Communications strategies to reduce interference and ambiguity in messages; techniques to increase comprehension. Taught in English and Spanish.

2 hours lecture; 3 hours laboratory.

Management

MGT 101 INTRODUCTION TO MANAGEMENT SKILLS (2)

Prerequisite(s): Sponsorship by a private or non-profit sector employer or approval of the coordinator of the Center for Professional Development.

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 THE MANAGER AND SYSTEMS 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 CPD 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.

Mathematics

MAT 005 DEVELOPMENTAL MATHEMATICS (3)

Prerequisite(s): Math placement test scores below requirements for successful completion of MAT 072.

MAT 005 is a course in basic mathematics. Math pre-test and student inventory responses are used to place students. Topics of instruction include addition, subtraction, multiplication, division of whole numbers, functions, decimals and percentage applications.

3 hours lecture.

MAT 011 CONQUERING MATH ANXIETY (1)

Prerequisite(s): None.

Recommended: Reading at 8.0 level.

A study in the causes and treatments of math anxiety, study skills, education, anxiety reduction techniques.

1 hour lecture.

MAT 072 FUNDAMENTAL MATHEMATICS (3)

Prerequisite(s): Indicated mathematics placement score.

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): Indicated mathematics placement score or MAT 072 with a grade of C or better.

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 – 3.0)

Prerequisite(s): For MAT 092 in conjunction with an existing course, concurrent enrollment in the existing course is required.

Recommended: 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 credit only unless otherwise designated in degree programs. The title and credit hours for this course will vary each term depending on the topic.

Variable lecture and/or laboratory.

MAT 122* INTERMEDIATE ALGEBRA (3)

Prerequisite(s): Indicated mathematics placement score or MAT 082 with a grade of C or better or one year of high school algebra with a grade of C or better.

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): MAT 122 or placement.

An overview of areas of modern mathematical applications to include: problem solving, mathematical modeling, logic, geometry, probability, statistics, and consumer mathematics.

3 hours lecture.

MAT 151* COLLEGE ALGEBRA (4)

Prerequisite(s): Indicated mathematics placement score or MAT 122 or two years of high school algebra with grades of C or better.

A logical development of the real number system, field axioms as applied to algebra, sets and set notation, inequalities and absolute value, polynomial functions and their graphs, determinants and matrices, inverse functions, logarithmic and exponential functions, complex numbers, sequences, binomial theorem, and mathematical induction.

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, condi-

tional 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 mathematics placement score or MAT 122 or two years of high school algebra with grades of C or better.

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 W/ APPLICATIONS (3)

Prerequisite(s): MAT 122

Recommended: 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 – 4.0)

Prerequisite(s): For MAT 192 in conjunction with an existing course, concurrent enrollment in the existing course is required.

Recommended: 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.

Variable lecture and/or laboratory.

MAT 212U 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 CALCULUS I (5)

Prerequisite(s): MAT 187, or 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, antiderivative and definite integral.

5 hours lecture

MAT 227 DISCRETE MATH (3)

Prerequisite(s): MAT 151 or MAT 187.

Recommended: 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 with a grade of C or better.

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.

Media

MED 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, syndication, books, movies, computer/digital, and other media. Identical to JRN 101.

3 hours lecture.

MED 102 ESSENTIALS OF NEWS WRITING (3)

Prerequisite(s): Prior or concurrent enrollment in ENG 101; prior or concurrent enrollment in CIS 116.

Entry-level course in media arts/communications or journalism. Students will be introduced to news values, interview-

ing techniques, basic newspaper writing formats, and legal and ethical concerns of medial professionals. Identical to JRN 102.

3 hours lecture.

MED 103 ADVANCED NEWS WRITING: FEATURES AND IN-DEPTH REPORTING (3)

Prerequisite(s): ENG 101, JRN/MED 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. Identical to JRN 103.

3 hours lecture.

MED 125* INTRODUCTION TO VIDEO PRODUCTION (3)

Prerequisite(s): Placement in ENG 101 or permission of instructor.

An introduction to the elements of video production. Includes operation of video, audio, lighting, and other resources. Emphasis is placed on theory and practical applications used in video production.

3 hours lecture.

MED 130* INTRODUCTION TO TV, RADIO, AND FILM PRODUCTION (3)

Prerequisite(s): None.

An introduction to the elements of television, radio, and film production. Includes operation of video, audio, lighting, sound, and other resources. Emphasis is placed on theory and practical applications used in all aspects of production.

3 hours lecture and studio.

MED 192* SPECIAL TOPICS IN MEDIA (1-3)

Prerequisite(s): None.

A rotating forum/seminar emphasizing a variety of areas in media, including but not limited to, television, radio, film, electronic media, newspapers, magazines, and books. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only, unless otherwise designated in degree programs.

1 to 3 hours lecture.

MED 201* ESSENTIALS OF NEWSPAPER PUBLISHING (3)

Prerequisite(s): JRN/MED 102 and CIS 116 (student may test out).

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 once for credit. Identical to MED 201.

2 hours lecture; 3 hours laboratory.

MED 207 INTRODUCTION TO DESKTOP PUBLISHING (3)

Prerequisite(s): None.

Recommended: Computer literacy.

Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to CIS 285 and JRN 207.

3 hours lecture.

MED 209 COMPUTER ILLUSTRATION AND DESIGN (3)

Prerequisite(s): None.

Recommended: Computer knowledge.

Principles and practices of design and applications of computer graphics using Corel Draw and Windows Paintbrush. Emphasis on the practical aspects of production.

3 hours lecture.

MED 265* BEGINNING COMMERCIAL DESIGN (3)

Prerequisite(s): ART 103 or permission of instructor.

An introduction to the basic elements and principles of commercial design and the techniques of advertising layout. This includes their practical applications with the tools and materials used in the field of advertising. Identical to ART 265.

2 hours lecture; 4 hours studio.

MED 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. Identical to ART 285.

2 hours lecture; 4 hours studio.

MED 286* INTERMEDIATE PHOTOGRAPHY (3)

Prerequisite(s): ART/MED 285 or permission of instructor.

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. Identical to ART 286.

2 hours lecture; 4 hours laboratory.

MED 287 COMPUTERIZED PHOTOGRAPHY I (3)

Prerequisite(s): None.

An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to JRN 287.

3 hours lecture/discussion/demonstration with practical experimentation.

Military Intelligence Operations

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 U.S. Army jurisdiction. This includes the planning, communicating, operating, credentialing, and investigatory processes related to counterintelligence investigations. This is a pass/fail course with a minimum grade of C to pass.

3 hours lecture with practical exercise.

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 destroy 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. This is a pass/fail course with a minimum grade of C to pass.

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 with practical experience.

MIO 104 ANALYTICAL PROCESS AND PRODUCTS (1)

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. This is a pass/fail course with a minimum grade of C to pass.

1 hour lecture and practical exercise.

MIO 105 INTERROGATION OPERATIONS (2)

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. This is a pass/fail course with a minimum grade of C to pass.

2 hours lecture with practical experience.

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 with practical exercise.

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 with practical exercise.

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 with practical exercise.

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 soft-

ware 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 with practical experience.

MIO 201 COLLECTION OPERATIONS (3)

Prerequisite(s): MIO 101 or permission of the instructor.

A course designed to develop student counterintelligence source operations learning in the operational cycle. Course includes counterintelligence planning, identifying, assessing, recruiting, training, tasking, interviewing, and providing source operations support. This is a pass/fail course with a minimum grade of C to pass.

3 hours lecture with practical exercise.

MIO 202 FORCE PROTECTION OPERATIONS AND SUPPORT (2)

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. This is a pass/fail course with a minimum grade of C to pass.

2 hours lecture and field exercises.

MIO 203 COMBATting TERRORISM (1)

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. This is a pass/fail course with a minimum grade of C to pass.

1 hour lecture and field exercises.

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. This is a pass/fail course with a minimum grade of C to pass.

3 hours lecture with practical exercise.

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.

Motor Transportation Technology**MTT 101* MOTOR TRANSPORT BASIC (4)**

Prerequisite(s): Satisfactory completion of physical examination and truck driver license applications, minimum age 21 years.

A beginning course preparing the student to understand the role of motor transportation industry and to prepare for the Arizona State License and Department of Transportation's certification examinations. Initial development of basic skills and techniques required to control the tractor-trailer transport vehicle.

2 hours lecture; 4 hours laboratory.

MTT 102* OVER THE ROAD OPERATIONS (5)

Prerequisite(s): Satisfactory completion of MTT 101.

Students will study and operate in the highway traffic environment to develop vehicle handling skills, safe and efficient operating practices, perceptual skills necessary to recognize potential hazards, and manipulative skills needed to handle a vehicle in an emergency. A study and practice of defensive driving techniques, accident prevention in heavy vehicle operation, and the use of energy efficient driving techniques.

3 hours lecture; 5 hours laboratory.

MTT 103* VEHICLE MAINTENANCE AND INSPECTION (1.5)

Prerequisite(s): MTT 101 or concurrent enrollment.

This course provides the student with knowledge and skills required to keep a tractor-trailer rig in safe and efficient operating condition.

1 hour lecture; .5 hour laboratory.

MTT 104* FREIGHT AND TRUCK OPERATIONS (5.5)

Prerequisite(s): MTT 101 or concurrent enrollment.

A course designed to cover non-driving activities which must be performed by tractor-trailer drivers. Students will perform these auxiliary activities to assure safety to the driver, the vehicle, cargo, and other road users. Development of knowledge and skills to assist the student in securing desired employment, understanding the importance of health maintenance practices and industrial safety procedures, effectively communicating in verbal and written forms, and positively interacting with fellow employees, customers, and the general public.

3.5 hours lecture; 4 hours laboratory.

MTT 105 COMMERCIAL DRIVER LICENSE (2)

Prerequisite(s): At least 21 years of age and eligible to apply for a Commercial Driver License (CDL) or at least 18 years of age and eligible for a restricted CDL for in-state driving.

Designed to train third party examiners in the conduct of CDL test administration procedures. Through implementation of the Arizona Department of Transportation (ADOT) Motor Vehicle Division (MVD) approved training program, the course will prepare the examiner in accordance with the guidelines and criteria established by the Arizona Association of Motor Vehicle Administrators (AAMVA).

1 hour lecture; 2 hours laboratory.

MTT 106 OVER-THE-ROAD PRACTICUM (6)

Prerequisite(s): MTT 104

Students demonstrate driving skills, maintenance skills, and evaluation skills in an employment environment. Students will experience various road and environmental conditions. Driving hours, miles, and locations are logged, and skills are evaluated by an employer or potential employer.

18 hours laboratory.

MTT 224 FIELD EXPERIENCE IN MOTOR TRANSPORTATION TECHNOLOGY (1-6)

Prerequisite(s): Successful completion of MTT 101, 102, 103, and 104. Permission and approval of a cooperative education program coordinator.

Recommended: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in motor transportation 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.

Motorcycle Safety Education

MSE 101 MOTORCYCLE RIDERS COURSE I: RIDING & STREET SKILLS (1)

Prerequisite(s): Access to an insured, licensed motorcycle, which is able to pass a recognized safety inspection. Approved, instructor specified rider apparel.

An introduction to motorcycle safety and operation, utilizing a coordinated program of classroom instruction and range exercises. Includes a review of controls; mechanicals; and riding in a straight line, on curves and in corners. Emphasis on rider safety and on the identification and minimization of common risks. Motorcycle Safety Foundation certification and waiver from ADOT-MVD motorcycle knowledge and skills test awarded for successful completion.

1 hour lecture and demonstration.

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/laboratory.

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/laboratory.

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 COLLEGE CHOIR (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 COLLEGE 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/laboratory.

MUS 112A	Piano
MUS 112B	Brass
MUS 112C	Woodwind
MUS 112D	Percussion
MUS 112E	String
MUS 112F	Guitar

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.

.5 hour per week per credit.

MUS 113A	Piano
MUS 113B	Brass
MUS 113C	Woodwind
MUS 113D	Percussion
MUS 113E	Strings
MUS 113F	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.

.5 hour lesson per week per credit.

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.

3 to 10 hours rehearsal/laboratory/performances.

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; 1 hour studio.

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; 1 hour studio.

MUS 232 MUSIC THEORY (3)

Prerequisite(s): MUS 132 and 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.

1 to 3 hours lecture.

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 with laboratory.

Networking

NET 101 A+ CERTIFICATION (2)

Prerequisite(s): None. 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 micro-computer industry. This course is designed to help students pass the A+ certification tests as quickly and easily as possible.

32 contact hours.

NET 201 803 ADMINISTERING MICROSOFT NT 4.0 (2)

Prerequisite(s): Substantial knowledge of the Microsoft Windows 95 or Windows NT 4.0 interface, including the ability to: use Windows Explorer, start applications, size and position windows, and switch between applications and tasks. Knowledge of basic computer hardware components, including: computer memory, hard disks, central processing unit (CPU), communication and printer ports, display adapters, and pointing devices. Knowledge of major networking concepts, including: client, server, local area network (LAN), wide area network (WAN), network adapter card, driver, protocol, and network operating system.

This course provides students with the knowledge and skills necessary to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain NT network. It also provides the prerequisite knowledge and skills required for NET 202.

32 contact hours.

NET 202 922 SUPPORTING NT 4.0 CORE TECHNOLOGIES (2.5)

Prerequisite(s): NET 201, or equivalent knowledge such as: working knowledge of the Microsoft Windows 95 interface, customizing the start menu, configuring the desktop, using control panel, moving and sizing windows, and switching between applications and tasks. Student should also have an understanding of the following: the Microsoft MS-DOS operating system, memory, hard disks, types of central processing units (CPUs), communication ports, printer ports, display adapters, and pointing devices, experience supporting networks or end users in the workplace or through instructor-led class experience.

This course provides the core foundation for supporting Microsoft NT 4.0 operating system. Students will learn the skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot Windows NT Server and Workstation 4.0. The knowledge gained through a combination of courses NET 201 and NET 202 prepares students for two Microsoft exams: #70-073 Implementing and Supporting Microsoft NT Workstation 4.0 and #70-067 Implementing and Supporting Microsoft NT Server 4.0.

40 contact hours.

NET 203 X578 NETWORKING ESSENTIALS (2.5)

Prerequisite(s): NET 201 and NET 202. Working knowledge of software and hardware on a PC to include the understanding of software installation and the creation and editing of AUTOEXEC.BAT and CONFIG.SYS files. NET 203 will not substitute for CIS 150.

Provides students with the background necessary to understand local area networks in Microsoft courses on workstations and networking. Serves as a general introduction for students who need a foundation in current networking technology for local area networks, wide-area networks and the Internet.

40 contact hours.

NET 204 1303 MASTERING MICROSOFT VISUAL BASIC 6.0 FUNDAMENTALS (2.5)

Prerequisite(s): Solid knowledge of object-oriented programming concepts.

This course teaches programmers the skills necessary to create Microsoft Visual Basic programming system desktop applications and satisfies the Visual Basic prerequisites for course NET 205.

40 contact hours.

NET 205 1013 MASTERING MICROSOFT VISUAL BASIC 6.0 DEVELOPMENT (2.5)

Prerequisite(s): NET 204, or a good working knowledge of the Microsoft Visual Basic programming system. Potential students should be able to accomplish the following tasks before taking this training:

- Create an application with multiple forms
- Write a function procedure and a sub procedure
- Declare variables and use conditional statements
- Describe the use of the controls in the toolbox
- Add a simple menu interface to an application
- Retrieve and validate information from a user
- Add a custom control to a project
- Describe properties, methods, and objects
- Add run-time error handling to an application
- Run the application and use debug mode
- Create an EXE file from the project files
- Design and use a relational database
- Use SQL syntax to create database queries

This course will teach Microsoft Visual Basic programmers how to create database applications using components.

40 contact hours.

NET 206 1016 MASTERING ENTERPRISE DEVELOPMENT USING MICROSOFT VISUAL BASIC 6.0 (2.5)

Prerequisite(s): NET 205 or equivalent knowledge. Know how to build and debug a simple Visual Basic-based application, invoke and control an automation server, such as Microsoft Excel or Microsoft Word, from a Visual Basic-based application, create COM components using Visual Basic and invoke them from a client application, use ActiveX Data Objects to open a database and work with record sets, understand and use basic syntax for SQL.

This course will teach Microsoft Visual Basic programmers, who currently build desktop applications and access corporate databases, the basics of how to build three-tier client/server solutions. Upon completion of the course, students will be able to use the Application Architecture Model from the Microsoft Solutions Framework to organize applications into user, business, and data services. Students will also learn to implement business and data services in a Microsoft SQL server database through the use of stored procedures.

40 contact hours.

NET 207 1298 DESIGNING DISTRIBUTED APPLICATION DESIGN USING MICROSOFT VISUAL STUDIO (1.5)

Prerequisite(s): NET 204, and NET 205.

This course assumes that the student has a minimum of beginning/intermediate programming skills such as understanding basic programming terms and concepts and building and debugging simple single-user desktop applications.

Building custom software applications for today's complex business world requires a solid, well-rounded education in program design. This course teaches students to analyze the scope of a project before writing the first line of code. Security requirements, performance requirements, existing applications and data, scalability issues, data storage, and other critical

development considerations will be discussed during this hands-on course.

24 contact hours.

NET 208 NETWORK+ CERTIFICATION (2.5)

Prerequisite(s): Typical student would be a technician with 18-24 months experience in the IT industry or 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 Windows NT 4.0 and NetWare 4.x.

40 contact hours.

Nursing

NUR 120* TRANSITION NA/PN (2)

Prerequisite(s): Admission into NUR 123 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, clinical expectations and basic nursing skills.

2 hours lecture.

NUR 121 MEDICATION MATH (1)

Prerequisite(s): Admission to Nursing program

Recommended: 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, NUR 122, which is the first semester of the Associate Degree Nursing Program, 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, 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 LPN (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 NUR 123.

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)

Prerequisites: 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: 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 (9)

Prerequisite(s): ENG 101, PSY 101, PSY 240, BIO 201, BIO 202, NUR 121, NUR 122, and NUR 123.

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; 9 hours laboratory.

NUR 233* NURSING IV (9)

Prerequisite(s): ENG 101, PSY 101, PSY 240, BIO 201, BIO 202, BIO 205, Elective, NUR 121, NUR 122, NUR 123, and NUR 232.

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 an RN to promote the transition from student to beginning RN.

4 hours lecture; 5 hours laboratory.

NUR 240 CRITICAL CARE NURSING FOR THE HEALTH CARE PRACTITIONER (3)

Prerequisite(s): Licensed nurse or paramedic, both with ACLS certification.

Recommended: 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

Office Administration

OAD 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.

OAD 102 DOCUMENT FORMATTING (3)

Prerequisite(s): Prerequisite keyboarding speed of 30 wpm and CIS 116.

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.

3 hours lecture; 1 hour laboratory.

OAD 111 BUSINESS ENGLISH (3)

Prerequisite(s): None.

An in-depth study of the mechanics of English required for 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.

OAD 116 LEARN TO USE MICROCOMPUTERS (3)

Prerequisite(s): None.

A concentrated study of computerized office applications for occupational or instructional use. This lecture-based, hands-on approach leads the student step by step through the various stages of the application being presented. Students acquire entry-level job skills with word processing, database and spreadsheet software.

3 hours lecture.

OAD 150 PROFESSIONAL IMAGE AND BUSINESS ETIQUETTE (3)

Prerequisite(s): None.

A study of business etiquette as it applies to today's multicultural and global business environment. A step-by-step guide to making introductions, making small talk, professional presence, office courtesies, diplomacy, telephone techniques, netiquette rules, written communications, protocol of meetings, business dining, business travel, and how to do business around the world.

3 hours lecture.

OAD 161 WRITING WITHIN ORGANIZATIONS (2)

Prerequisite(s): None.

The study of organizational writing to include its purposes, strategies, and processes. Emphasis 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.

OAD 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/laboratory.

OAD 193A	Elementary Keyboarding
OAD 193B	Intermediate Keyboarding
OAD 193C	Advanced Keyboarding
OAD 193D	Beginning Data Entry
OAD 193E	Intermediate Data Entry
OAD 193F	Advanced Data Entry
OAD 193G	Windows I
OAD 193H	Windows II
OAD 193I	Windows III
OAD 193J	Document Preparation Review I
OAD 193K	Document Preparation Review II
OAD 193L	Document Preparation Review III
OAD 193M	PowerPoint I
OAD 193N	PowerPoint II
OAD 193O	PowerPoint III
OAD 193Q	Internet
OAD 193R	Introduction to Computers I
OAD 193S	Introduction to Computers II
OAD 193T	Introduction to Computers III
OAD 193U	Introduction to Email
OAD 193V	Word I
OAD 193W	Word II
OAD 193X	Word III
OAD 193Z	Introduction to Outlook
OAD A193	EXCEL I

OAD B193	EXCEL II
OAD C193	EXCEL III
OAD D193	ACCESS I
OAD E193	ACCESS II
OAD F193	ACCESS III
OAD G193	Computerized Accounting I
OAD H193	Computerized Accounting II
OAD I193	Computerized Accounting III
OAD J193	Developing Proofreading Skills I
OAD K193	Developing Proofreading Skills II
OAD L193	Developing Proofreading Skills III
OAD M193	Speedbuilding I
OAD N193	Speedbuilding II
OAD O193	Speedbuilding III

OAD 201 ADVANCED DOCUMENT FORMATTING (3)

Prerequisite(s): OAD 102 with a grade of C or permission of instructor. Must also have had or be currently enrolled in OAD 214. Must key 35 wpm or higher.

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 five minutes.

3 hours lecture, 1 hour laboratory.

OAD 206 RECORDS MANAGEMENT (3)

Prerequisite(s): OAD 210 or OAD 216.

A study of the principles and practices of effective records management for manual and computerized records systems.

3 hours lecture.

OAD 207 OFFICE ADMINISTRATION (3)

Prerequisite(s): CIS 116 and OAD 167.

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 supervisors, training directors, administrative assistants, and executive secretaries.

3 hours lecture.

OAD 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.

OAD 210 AUTOMATED OFFICE PROCEDURES (3)

Prerequisite(s): CIS 116.

An introduction to spreadsheet and database software and the numeric keypad by touch. The course is designed to develop skill in the use of speed and accuracy necessary to apply this knowledge to a variety of data entry situations: spreadsheets, databases, accounting, banking, online point-of-sale entries, and other numeric computer-related applications.

3 hours lecture.

OAD 211 AUTOMATED OFFICE PRACTICE (3)

Prerequisite(s): OAD 210 or OAD 216.

Practice in using transcription equipment, preparing business letters, news releases, and reports. Workflow procedures

and standards, and personal grooming techniques will also be reviewed using practice sets in specialized areas: executive, medical, and legal.

3 hours lecture.

OAD 212 TRANSCRIPTION/TERMINOLOGY (3)

Prerequisite(s): OAD 111 and OAD 213 or OAD 216.

A study of complex terminology encountered in medical records, legal documents, or technical business documents with emphasis on machine transcription. Practice sets in medical records, legal documents, or technical documents will be utilized.

3 hours lecture.

OAD 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 keyboarding speed of 25 wpm.

3 hours lecture; 1 hour laboratory.

OAD 214 ADVANCED WORD PROCESSING (3)

Prerequisite(s): OAD 213 or OAD 216.

An advanced study of word processing concepts, software, equipment and required skills for career usage using special entry/editing techniques.

3 hours lecture; 1 hour laboratory.

OAD 215 ADVANCED MEDICAL TRANSCRIPTION/TERMINOLOGY (3)

Prerequisite(s): OAD 213 and OAD 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.

OAD 216 COMPUTERIZED OFFICE MANAGEMENT (3)

Prerequisite(s): CIS 116 or OAD 210 or OAD 213.

A study of computerized office applications including correspondence, mailings, focused reports, desktop publishing, inventory, budgets, graphical representation of data, business presentations, and software management. Techniques will be taught on the microcomputer. The course is designed to prepare the individual for a better-than-entry-level position.

3 hours lecture; 1 hour laboratory.

OAD 217 ADVANCED COMPUTERIZED OFFICE MANAGEMENT (3)

Prerequisite(s): OAD 216

A concentrated study of electronic records management for occupational or personal use. This lecture-based, hands-on approach leads the student through various electronic records management programs, systems, technologies, equipment and methods.

3 hours lecture; 1 hour laboratory.

OAD 221 LEGAL ASSISTANT I (3)

Prerequisite(s): OAD 213 or OAD 216.

The above may be waived by permission of the instructor or department head.

A study of legal writing, legal analysis, interviewing, non-verbal communications, human relations, legal terminology, legal ethics, general law, the American legal system, and judicial remedies.

3 hours lecture.

OAD 222 LEGAL ASSISTANT II (3)

Prerequisite(s): OAD 213 or OAD 216.

The above may be waived by permission of the instructor or department head.

A study of the areas of law and the basic documents required in initiating contested and uncontested actions and finalizing default actions.

3 hours lecture.

OAD 223 BASIC LEGAL RESEARCH (3)

Prerequisite(s): OAD 213 or OAD 216.

The above may be waived with permission of the instructor or department head.

A continuing study of legal writing and analysis; a review of the organizational structure of the American court system; study of case reporting systems and other legal research tools; finding and verifying validity of case opinions; case citation; and electronic research.

3 hours lecture.

OAD 224 FIELD EXPERIENCE IN OFFICE TECHNOLOGY (1-6)

Prerequisite(s): A declared major in office technology. Permission and approval of cooperative education program coordinator.

Recommended: Sophomore standing

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.

OAD 226 FIELD EXPERIENCE IN MEDICAL TRANSCRIPTION (1-6)

Prerequisite(s): OAD 212. Permission and approval of a cooperative education program coordinator.

Recommended: Sophomore standing.

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.

OAD 227 FIELD EXPERIENCE IN LEGAL PROCEDURES (1-6)

Prerequisite(s): OAD 222. Permission and approval of a cooperative education program coordinator.

Recommended: Sophomore standing.

A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish course objectives for law office procedures and document preparation. Variable credit (1-6) is available by special arrangement. May be taken four times for maximum of 16 credit hours, with no more than six credits in a given semester.

OAD 268 TECHNICAL PRESENTATIONS (3)

Prerequisite(s): CIS 116 or CIS 120.

Recommended: Student should have 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.

OAD 293 ADVANCED CURRENT OFFICE APPLICATIONS (1)

Prerequisite(s): Permission of division advisor.

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/laboratory.

OAD 293A	Advanced Word I
OAD 293B	Advanced Word II
OAD 293C	Advanced Word III
OAD 293D	Advanced Outlook
OAD 293E	Machine Transcription/Terminology
OAD 293F	Legal Terminology
OAD 293G	Legal Transcription
OAD 293H	Medical Terminology
OAD 293I	Medical Transcription
OAD 293J	Advanced Legal Applications
OAD 293K	Advanced Medical Applications
OAD 293L	Advanced Office Professional I
OAD 293M	Advanced Office Professional II
OAD 293N	Advanced Office Professional III
OAD 293O	Advanced Word Projects
OAD 293P	Advanced Word Applications I
OAD 293Q	Advanced Word Applications II
OAD 293R	Advanced Word Applications III
OAD 293S	Advanced Medical Terminology/Transcription
OAD 293T	Advanced Medical Specialty Terminology
OAD 293U	Advanced Medical Specialty Transcription
OAD 293V	Advanced Medical Specialty Transcription/Terminology
OAD 293W	Medical Transcription of Foreign Accents I
OAD 293X	Medical Transcription of Foreign Accents II
OAD 293Y	Medical Transcription of Foreign Accents III
OAD A293	Post Advanced Office Professional I
OAD B293	Post Advanced Office Professional II
OAD C293	Post Advanced Office Professional III
OAD D293	Expert Office Professional I
OAD E293	Expert Office Professional II
OAD F293	Expert Office Professional III

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): Completion of, or concurrent enrollment in, ENG 101 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): Completion of, or concurrent enrollment in, ENG 101 or permission of instructor.

Recommended: Sophomore standing.

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: 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 or permission of instructor.

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.

May be repeated for credit.

Physics

PHY 092 SPECIAL TOPICS AND APPLICATIONS IN PHYSICS – NON-TRANSFER(.25 – 3)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or 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 (.25 – 4)

Prerequisite(s): None.

Recommended: 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.

Variable lecture and/or laboratory.

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.

May be repeated for credit.

Political Science

POS 100 INTRODUCTION TO POLITICAL SCIENCE (3)

Prerequisite(s): RDG 122 or exemption. ENG 100 or concurrent enrollment.

A comprehensive introductory study of the nature and practice of politics, focusing mainly on significant political principles and institutions as they relate to American and foreign governments.

3 hours lecture.

POS 110 AMERICAN NATIONAL GOVERNMENT (3)

Prerequisite(s): RDG 122 or exemption. ENG 100 or concurrent enrollment.

A study of the political system of the United States with emphasis on constitutional development, political culture, voting, political parties, campaigns and elections, interest groups, public opinion, and the three branches of the national government. Designed to increase the student's awareness and understanding of the political process of the impact of race, gender and ethnicity upon the political process and of the citizen's role within that process. Fulfills the federal Constitution requirement for Arizona Teaching Certification.

3 hours lecture.

POS 220 FEDERAL AND ARIZONA CONSTITUTION (3)

Prerequisite(s): RDG 122 or exemption. ENG 101.

A study of the governments of the United States and Arizona through the interpretation of the constitution of each political entity. Approved for teacher certification. Teachers needing only Arizona Constitution should enroll in POS 221.

3 hours lecture.

POS 221♦ ARIZONA CONSTITUTION (1)

Prerequisite(s): RDG 122 or exemption. ENG 101.

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. ENG 101.

A study of the international political system and nation-state relations, including the development of the international system, the Cold War, state power, the pursuit of national objectives, and the analysis of current international problems.

3 hours lecture.

POS 240 COMPARATIVE POLITICS (3)

Prerequisite(s): RDG 122 or exemption. ENG 101.

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.

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 individual ground and flight instruction.

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 ground and flight instruction.

PFT 121 COMMERCIAL PILOT FLIGHT I (3)

Prerequisite(s): Completion of PFT 111, 112, 113 with a grade of C or better 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 individual ground and flight instruction.

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 with a grade of C or better 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, 113, with a grade of C or better or possession of a Private Pilot Certificate.

A continuation of the development of the requirements for the Commercial Pilot Certificate.

1.5 hours individual ground and flight instruction.

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 MULTI-ENGINE 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.

One hour individual ground and flight instruction.

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 ground and flight instruction.

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 individual ground and flight instruction.

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 individual ground and flight instruction.

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 individual ground and flight instruction.

PFT 230 FLIGHT INSTRUCTOR FUNDAMENTALS GROUND SCHOOL (3)

Prerequisite(s): PFT 130 and PFT 204 or permission from the 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, 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 INITIAL FLIGHT (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 individual ground and flight instruction.

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 individual ground and flight instruction.

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 & 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 individual ground and flight instruction.

PFT 243 PILOT-IN-COMMAND, TAILWHEEL AIRPLANE (.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.

.5 hour individual ground and flight instruction.

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 individual ground and flight instruction.

**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 individual ground and flight instruction.

**PFT 271 UNMANNED AERIAL VEHICLE (UAV)
OPERATOR (29)**

Prerequisite(s): PFT 101 or successful completion of an FAA approved Stage One Ground School. Sponsored employee of the Department of Defense or of a DOD UAV contractor.

Provides the student with the theoretical and practical skills and knowledge necessary to safely employ, in any theater of operation, the UAV system for which the student has been trained, incorporating the aerial vehicle, mission payload and flight line operations.

21 hours lecture; 26 hours laboratory.

**PFT 272 UNMANNED AERIAL VEHICLE (UAV)
EXTERNAL PILOT (26)**

Prerequisite(s): PFT 101, or completion of a FAA certified Stage One Ground School, and PFT 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: 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.

Psychology

PSY 101♦ INTRODUCTION TO PSYCHOLOGY (3)

Prerequisite(s): Reading level of 12.0.

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): None.

Recommended: RDG 122 or exemption. 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 and ENG 101 with a grade of C or better.

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): Reading level of 12.0.

An exploration of grief, dying and the loss of loved persons as individuals as well as global human experiences. The primary focus will be upon the coping skills of the affected persons and helping skills of others. Values, behaviors and intervention strategies will be studied in international, medical, diverse, social and legal contexts.

3 hours lecture.

PSY 230♦ PERSONALITY THEORIES AND RESEARCH (3)

Prerequisite(s): PSY 101 and ENG 101 with a grade of C or better.

A survey of major psychological theories of personality including psychoanalytic, neo-Freudian, dispositional/trait, learning and humanities/existential theories. Personality assessment based upon theory and research, normal and abnormal personality types, and exploration of one's own personality are also addressed.

3 hours lecture.

PSY 240♦ DEVELOPMENTAL PSYCHOLOGY (3)

Prerequisite(s): PSY 101 and ENG 101.

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): MAT 122, PSY 101, and ENG 101 with a grade of C or better.

Basic concepts of experimental design, measurement, and descriptive and inferential statistics as applied to psychological variables.

3 hours lecture.

PSY 290 EXPERIMENTAL PSYCHOLOGY (4)

Prerequisite(s): PSY 101, PSY 250 and ENG 101.

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.

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.

PAD 192 APPLICATIONS IN PUBLIC ADMINISTRATION (.5)

Prerequisite(s): None.

A study of topics related to applications in public sector employment. Subjects covered include: the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity.

.5 hour lecture.

PAD 192A FUNDAMENTALS OF SUPERVISION (.5)

Prerequisite(s): None.

A practical introduction to the major concepts and skills needed by supervisors in today's diverse workforce. Topics covered are: the changing role of supervisors; managing your leadership style; techniques to plan, organize, prioritize and delegate work requirements; methodology of effective communication; ethical issues and quality management's impact on today's workforce.

.5 hour lecture.

PAD 192B PERSONNEL ASPECTS OF SUPERVISION (.5)

Prerequisite(s): None.

This course is a continuation of the Fundamentals of Supervision course. Topics covered are: conducting an effective (and legal) interview; legal aspects of supervision including EEO, sexual harassment, ADA, affirmative action; discipline and grievance procedures; effective and productive performance appraisals; cultural diversity and its effect on the workplace; methods to motivate and empower employees, and the role group dynamics play in effective supervision.

.5 hour lecture

PAD 201 MANAGEMENT IN THE PUBLIC ORGANIZATION (4)

Prerequisite(s): Successful completion of PAD 101-103 or a formal request for advanced entry, approved by the Center for Professional Development coordinator and ASU.

A practical study of management designed to provide the public sector professional with the analytical approaches and skills necessary to function effectively within a management setting bound by human, fiscal, and environmental constraints. Focuses upon productivity, employee diversity, and political environments as well as on the management of planning, programs, human and financial resources and organizational change.

4 hours lecture.

PAD 202 SYSTEMS APPROACH TO PUBLIC MANAGEMENT (3)

Prerequisite(s): Successful completion of PAD 201.

A practical analysis of the public organization as a system. Includes the study of effective decision making, teams and team performance, the management function of information systems, the relationship of various systems approaches to organizational improvement/transformation, and the impact of the internal and external environment on organizational performance and organizational change. Incorporates an analytical problem-solving approach to actual situations faced by the public sector organizations.

3 hours lecture.

PAD 203 DECISION-MAKING PROCESS (2)

Prerequisite(s): Successful completion of PAD 202.

A theoretical and practical study of case analysis and the decision making process within public sector organizations. Includes a review of situational analysis, problem analysis, decision analysis and the relationship between the decision maker and the decision environment.

2 hours lecture.

Reading

RDG 019 TRANSITIONAL READING (3-4)

Prerequisite(s): Placement test score.

Recommended: 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.

3 to 4 hours lecture.

RDG 020A READING FUNDAMENTALS I (3-4)

Prerequisite(s): Placement test score or RDG 019.

Recommended: 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.

3 to 4 hours lecture.

RDG 020B READING FUNDAMENTALS II (3-4)

Prerequisite(s): Placement test score or RDG 020A.

Recommended: 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.

3 to 4 hours lecture.

RDG 021 POWER READING (3)

Prerequisite(s): Placement test score or RDG 020.

Recommended: Keyboarding skills.

A course emphasizing literal and inferential comprehension, rate building, vocabulary development and textbook reading strategies.

3 hours lecture.

RDG 022 INDIVIDUALIZED READING (3)

Prerequisite(s): ENG 020

A continuation of reading ENG 020 for second semester students whose Nelson-Denny scores remain below 12.1; individualized approaches to reading for mature adults, part-time evening vocational students or those who wish to concentrate on selected aspects of literal and critical comprehension while developing higher level thinking skills using college vocabulary.

3 hours lecture.

RDG 110 COLLEGE STUDY SKILLS (3)

Prerequisite(s): Placement test score.

Recommended: Keyboarding skills.

A course emphasizing literal and critical reading strategies applied to content area textbooks and essays, general study skills application, and content area vocabulary acquisition.

3 hours lecture.

RDG 122 READING CRITICALLY (3)

Prerequisite(s): Placement test score or RDG 021 or RDG 110.

Recommended: 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 of 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.

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): Reading level of 12.0.

This course will examine strategies and programs used to prevent drug and alcohol abuse problems with focus on the work place, schools, and community.

3 hours lecture.

SSV 222 TREATMENT AND REHABILITATION FOR DRUG AND ALCOHOL DEPENDENCY (3)

Prerequisite(s): SSV 183 or SSV 221 and reading level of 12.0.

This course will examine the various modalities used to help persons recover from drug and alcohol dependency. There will be a focus on the different treatment models used for intervention, rehabilitation and recovery, and the rationale for their use.

3 hours lecture.

SSV 223 PSYCHO-PHARMACOLOGY (3)

Prerequisite(s): SSV 183 and reading level of 12.0.

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): None.

Recommended: SSV 183 or SSV 221 and reading level of 12.0.

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 with a grade of C or better and reading level of 12.0.

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 with a grade of C or better and reading level of 12.0.

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 272 HUMAN SERVICES RESOURCES (3)

Prerequisite(s): PSY 101 or SOC 101.

A capstone course designed for advanced students, featuring individual study, discussion exchange and reports on practical resource issues and problems. This resource development group is intended for the student enrolled in the AAS Social Services program.

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.

Sociology

SOC 101 INTRODUCTION TO SOCIOLOGY (3)

Prerequisite(s): Concurrent enrollment in RDG 110 or reading level of 12.0.

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 ETHNIC GROUPS AND MINORITIES (3)

Prerequisite(s): ENG 101 with a grade of C or better and SOC 101 or ANT 101 with a grade of C or better and reading level of 12.0.

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* SOCIAL PROBLEMS (3)

Prerequisite(s): ENG 101 with a grade of C or better, and SOC 101 or ANT 102 with a grade of C or better and reading level of 12.0.

Topics to be covered include issues, questions and problems affecting women, racial and ethnic minorities, 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 deviance. The course is designed to pre-

pare students to assess social problems and propose resolutions in a logical and scientific manner.

3 hours lecture.

SOC 207 INTRODUCTION TO SOCIAL WELFARE (3)

Prerequisite(s): ENG 101 or concurrent enrollment, and SOC 101 or ANT 108 or PSY 101, all with a grade of C or better and reading level of 12.0.

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 and SOC 101 or ANT 102 or PSY 101 and reading level of 12.0.

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 with a grade of C or better and SOC 101 or ANT 102 with a grade of C or better and reading level of 12.0.

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): PSY 101 or SOC 101 or ANT 102, with grades of C or better and ENG 101 with a grade of C or better and reading level of 12.0.

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 094 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)

Prerequisite(s): Concurrent enrollment in SPA 216 or 202 or 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.

SPA 101 ELEMENTARY SPANISH (4)

Prerequisites: None

Recommended: SPA 115 or previous experience/instruction in a second language.

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 with a grade of C or better, or two years 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 102 or permission of instructor.

Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

SPA 192 SPECIAL TOPICS IN LANGUAGE, LITERATURE & CULTURE (.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.

.5 to 1 hour lecture.

SPA 201♦ INTERMEDIATE SPANISH (4)

Prerequisite(s): SPA 102 with a grade of C or better 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 with a grade of C or better or three 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 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 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 COMPOSITION AND CONVERSATION (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 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)

Prerequisite(s): SPA 202 or 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.

SPA 294 FIELD EXPERIENCE IN SPANISH (1-6)

Prerequisite(s): 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 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.

Spanish Immersion Program

Intensive day-long instruction in Spanish for six weeks for non-native speakers, designed to provide a basic speaking-understanding facility in Spanish language. Eight units of college credit are available in this summer program which is equivalent to Spanish 101 and 102.

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 TELESERVICE 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): TLS 101, 102 and 103 sponsorship by a tele-services 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.

Theatre Arts (DRAMA)

THE 101 ACTING (3)

Prerequisite(s): None.

Introduction to theories of dramatic art and practice in acting situations. This is an intensive course in learning about deportment, how to deal with the demands of the theater, how to comport oneself on the stage, how to enter, exit, or steal attention. The method is the use of basic acting techniques.

3 hours lecture plus performance.

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 lecture, demonstrations and 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.

1 to 3 hours lecture/laboratory.

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.

Welding Technology

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): 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 (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 hour laboratory.

WLD 209* GAS TUNGSTEN ARC WELDING (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, 106, 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 106 and 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 218

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 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.

Recommended: Sophomore standing.

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.

Zoology

Please see Biological Sciences.

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Abbreviations

ASL	American Sign Language	ESOL	English for Speakers of Other Languages
AA	Associate of Arts	FAA	Federal Aviation Administration
AA-GR	Associate of Arts – General Requirements	FCC	Federal Communications Commission
AAS	Associate of Applied Science	FERPA	Family Education Rights and Privacy Act
AA-SR	Associate of Arts – Special Requirements	FTSE	Full-Time Student Equivalent
ABE	Adult Basic Education	GED	General Education Development
ABUS	Associate of Business	GMAW	Gas Metal Arc Welding
ADA	Americans with Disabilities Act	GPA	Grade Point Average
AFCEA	Armed Forces Communications and Electronics Association	GTAW	Gas Tungsten Arc Welding
AGEC	Arizona General Education Curriculum	HPE	Health and Physical Education
AGEC-A . . .	Arizona General Education Curriculum – Associate of Arts	LAN	Local Area Network
AGEC-B . . .	Arizona General Education Curriculum – Associate of Business	MIG	Metal Inert Gas
AGEC-S . . .	Arizona General Education Curriculum – Associate of Science	NAU	Northern Arizona University
AGS	Associate of General Studies	NCLEX-PN .	National Certification Licensing Exam for Practical Nurse
AMT	Aviation Maintenance Technology	NCLEX-RN .	National Certification Licensing Exam for Registered Nurse
ARS	Arizona Revised Statute	NET	Nursing Entrance Test
AS	Associate of Science	NFPA	National Fire Protection Association
ASU	Arizona State University	OSHA	Occupational Safety and Health Administration
AVT	Avionics Technology	PFT	Professional Pilot Technology
CAD	Computer Aided Design	PTK	Phi Theta Kappa
CER	Center for Economic Research	RN	Registered Nurse
CHA	Community Health Advisor	SARA	Superfund Amendments and Reauthorization Act
CIS	Computer Information Systems	SBDC	Small Business Development Center
CLEP	College Level Examination Program	SCUBA	Self-Contained Underwater Breathing Apparatus
CPM	Certified Public Manager	SDC	Student Development Center
CPR	Cardiopulmonary Resuscitation	SOC	Servicemembers Opportunity College
CPU	Central Processing Unit	TIG	Tungsten Inert Gas
CSC	Career Services Center	TOEFL	Test of English as a Foreign Language
DOC	Department of Corrections	UA	University of Arizona
EMT	Emergency Medical Technician	UAV	Unmanned Aerial Vehicle
ESL	English as a Second Language	VA	Veterans Affairs
		VICA	Vocational Industrial Clubs of America
		WAN	Wide Area Network

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- A**
- Abbreviations 308
 - Academic Calendar 6-7
 - Academic Dishonesty 47
 - Academic Programs 49
 - Academic Procedures/Information 40-44
 - Academic Suspension 40
 - Accreditation/Affiliation 9
 - Activities 33
 - Adding/Dropping Classes 45
 - Addresses 2
 - Additional Degrees 46
 - Administration of Justice 61-62, 127-132
 - Administration 296
 - Admission 17-19
 - Adult Education 37
 - Advising 30
 - AGEC Transfer Blocks 50-51
 - Agriculture 62-63, 132-135
 - Agriculture 62
 - Equine Science/Management 63
 - American Sign Language 135-136
 - Anthropology 64, 137-138
 - Areas of Study 61-126
 - Arizona Department of Corrections 59, 124-126
 - Advanced Business 124
 - Basic Facility Maintenance 124
 - Consumer Electronics Repair 125, 176-177
 - Custodial Services 125, 184-185
 - Fire Leadership 126
 - General Electronics Technician 125, 214-215
 - Lead Firefighter 126
 - Transition Certificate 126
 - Art 64-65, 139-143
 - Associate Degrees 53-59
 - Associate of Applied Science Degrees 58-59
 - Associate of Arts Degrees 54-58
 - Associate of Business Degrees 56
 - Associate of General Studies Degrees 57-58
 - Associate of Science Degrees 56-57
 - Associate Faculty 301-303
 - Astronomy 143
 - Athletics 34
 - Attendance Policy 42
 - Aviation 65-69
 - Airframe Mechanic 66
 - Aviation Maintenance Technology 66, 144-146
 - Avionics Technology 66-67, 147-148
 - Powerplant Mechanic 66
 - Professional Pilot Technology 67-69, 275-279
 - Arizona Transfer Agreements 50
- B**
- Benson Center 2, 12, 15
 - Biology 69, 148-151
 - Business 70-74, 151-157
 - Business Administration 71
 - Business Management 71-72
 - Certified Public Manager 73
 - Entrepreneurship/Small Business Management 72
 - General Business 72
 - International Business 73
 - International Management 72
 - Management 74
 - Supervisory Management 73-74
- C**
- Campus Addresses 2
 - Campus Locations 2, 11-15
 - Benson Center 2, 12, 15
 - Douglas Campus 2, 11, 14
 - Douglas Prison Education Division 2, 12
 - Extended Campus 12
 - Fort Huachuca 2, 12, 15
 - Nogales/Santa Cruz 2, 12, 15
 - Online Campus 2, 12
 - Sierra Vista Campus 2, 11, 14
 - Willcox Center 2, 12, 15
 - Campus Maps 13-15
 - Campus Nurse 33
 - Catalog, Choice of 40
 - Career Services Center 32
 - Center for Economic Research 37
 - Certificate Programs 59
 - Chemistry 75, 157-159
 - Civil Engineering Technology 160
 - Classified Staff 307
 - Cochise College Foundation 11, 28
 - College History, Mission, Philosophy 9-11
 - Communications 75-76, 160-162
 - Compact Program 38
 - Computer Information Systems/
 - Computer Science 76-83, 162-176
 - Cisco Networking 83, 159-160
 - Computer Applications 77
 - Computer Information Systems 77
 - Computer Programming 78-79
 - Computer Science 79
 - Imagery and Animation 78
 - Imagery and Graphics 78
 - Microcomputer Practitioner 80
 - Microcomputer Skills Proficiency 80
 - Network Administrator 80-81
 - Network Support 82
 - Network Technology 81
 - PC Maintenance/Repair 82
 - UNIX System Administrator 82
 - Web Developer 83
 - Concurrent Enrollment 21
 - Cooperative Education 32, 177-178
 - Correctional Officer Training Academy 178-179
 - Counseling 30
 - Counseling/Personal Development 179-181
 - Course Applicability System 50
 - Course Descriptions 127-295
 - Credit Load Limitations 41
- D**
- Degree Programs 54-58
 - Direct Employment Programs 59
 - Disability Services 31
 - Disclosure, Social Security Number 18
 - District Offices 2
 - Douglas Campus 2, 11, 14
 - Drafting and Design 85-86, 185-187
 - Dropping/Adding Classes 45
 - Dual Credit 37
- E**
- Economics 86, 187
 - Education 87-96, 187-193
 - Early Childhood Education 89-90, 187-191
 - Elementary Education 87
 - Secondary Education 90-95
 - Teacher Aide 88
 - Education for Underprepared Students 36
 - Electronics 96, 194-196
 - Emergency Medical Technology 114-115, 196-197
 - English 96-97, 197-204
 - English as a Second Language 97, 204-210
 - English Immersion Program 38
 - Workplace English 97
 - Enrollment Verification 21
 - Environmental Studies 210
 - Equal Educational Opportunity Statement 309
 - Exercise Science, Health & Physical Ed, Recreation & Wellness 98, 225-233
 - Extended Campus 12
- F**
- Faculty 297-303
 - Family & Consumer Sciences 98, 210
 - Family Education Rights and Privacy Act 21
 - Fees 23-25
 - Flight Training 24-25
 - Graduation 23
 - Laboratory 26
 - Refunds 26
 - Residence Halls 24-25
 - Final Exams 45
 - Financial Aid 27
 - Fire Science 99, 211-213
 - Food Nutrition 213
 - Fort Huachuca 2, 12, 15
 - French 214
 - Culinary Arts 83-85, 181-183
 - Chef de Cuisine-Food Prep 84
 - Chef Pâtissier 84
 - Chef Garde-Manger 84
 - Culinary Arts 84
 - Sous Chef 85

G

General Admission Procedures	17
General Education Courses	52-53
General Education Outcomes	49
General Technology Courses	215-222
Geography	100, 222-223
Geology	224
German	224-225
Governance/Governing Board	2, 10
Grades	40-42
Grade Changes	41
Grade Point Average	41
Grade Report	41
Grading System	40
Academic Status	40
Graduation/Completion Application	46
Graduation Requirements	45
Grants	27

H

Health & Physical Education	225-233
High School Students	33, 38
Admission	17
Dual Credit	37
Tech Prep	33
Workforce Development Program	38
History	100-101, 236-239
Honors Program	36, 239
Horticulture	240-241
Hospitality Administration	101-102, 241-242
Housing & Dining	33-35
Humanities	102, 242-244

I

Intelligence Operations	103-106, 255-257
Intercultural Studies	244
International Communications Certificate	102-103
Interpreter Training	103, 204-205

J

Journalism and Media Arts	106-108, 246-247
Media Communications	107, 253-255
Print Media Arts	108

K

Korean	247
--------------	-----

L

Language/Linguistics	108-109, 248
Latin	247-248
Learning Support Center	30
Libraries	30

M

Manufacturing Engineering	109-110
Maps	13-15
Mathematics	110-111, 249-253

Mission	10
Motor Transport Technology	111, 257-258
Motorcycle Safety Education	258
Music	111-112, 259-262

N

Nogales/Santa Cruz Education Center	2, 12, 15
Non-traditional Credit	42-44
Advanced Placement	42
College Level Examination Program	43
Credit by Exam	43
Independent	44
Military Service Schools/MOS	44
Nursing/Health Technologies	63, 112-115, 234-236, 264-266
Allied Health	63
Associate Degree Nurse	112-113
Community Health Advisor	113
Licensed Practical Nurse	112
Medical Assistant	113-114
Paramedic	114-115
Registered Nurse	112-113

O

Office Administration (see Professional Administrative Assistant)	267-271
Online Campus	2, 12

P

Payment of Fees	23
Philosophy	115, 272
Physics/Atmospheric Sciences/Astronomy	115-116, 273
Placement Assessment	30-31
Political Science	116, 274
Professional Administrative Assistant	117-119, 267-271
Computerized Office Applications	118
Medical Transcription	118
Office Assistant	118
Professional Administrative Assistant	117-119
Receptionist	119
Professional Staff	304-307
Psychology	119-120, 280-281

R

Reading	282-283
Registration	21
Repeating Courses	42
Room and Board	24-25, 33-34
Russian	284

S

Scholarships	27
Scholastic Honors	42
Servicemember's Opportunity College	38
Sierra Vista Campus	2, 11, 14
Small Business Development Center	37
Social Work	120-121, 284-285
Sociology	121, 286-287

Spanish	38, 108-109, 287-291
Spanish Immersion Program	38, 109, 291
Workplace Spanish	109
Special Interest Classes/Programs	36-38
Adult Education	37
Center for Economic Research	37
Dual Credit	37
English Immersion	38
Honors Program	36, 239
Servicemember's Opportunity College	38
Small Business Development Center	37
Spanish Immersion Program	38
Workforce Development Program	38
Workforce Training and Community Education	37
Student Activities/Organizations	33-34
Student Complaints/Grievances	47
Student Services	20-33
Advising	30
Bookstore	30
Campus Nurse	33
Career and Technical Education Program	32
Career Services Center	32
Counseling	30
Disability Services	31
Learning Support Center	30
Libraries	30
Placement Assessment	30-31
Student Support Services Program	31
Student Status	19-20, 40

T

Table of Contents	3
Tech Prep	33
Telephone Directory	5
Teleservices	121, 291-292
Theater Arts	122, 292-293
Transcripts	47
Transfer Agreements	50
Transfer to Cochise College	17-18
Transfer from Cochise College	50
Tuition and Fees	23-25
Tuition Waivers	25

U

USAF/Dantes & Military Service Schools	43
--	----

V

Veterans Policies	28
-------------------------	----

W

Welding Technology	122-123, 293-295
Aerospace Thermal Fusion	123
Aerospace Welding Technology	123
General Welding	123
Willcox Center	2, 12, 15
Withdrawal from College	47
Workforce Training and Community Education	37

