

COCHISE  
COLLEGE  
CATALOG

92/93



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## Governing Board

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Mrs. Frances Miller, Secretary  
Mr. Natalio Sabal, Member  
Mrs. Jeanne Aughenbaugh, Member  
Mr. Janus Poppe, Member

## Arizona State Community College Board

Ed Dunsmore, Cochise County representative

## President of the College

John W. Rchurek

## Cochise College

Douglas, Arizona 85607  
(602) 364-7943

## Terra Vista Campus

11 N. Colombo  
Terra Vista, Arizona 85635  
(602) 458-7110

## Willcox Center

10 W. Fremont  
Willcox, Arizona 85643  
(602) 384-4502

Call Free 1-800-966-7943  
(hours 8 a.m. to 4:30 p.m.)

In compliance with the Family Education Rights and Privacy Act of 1974, Cochise College guarantees that the parents of dependent children will have a right to information about their offspring without having to gain the student's consent.

Cochise College reserves the right to make changes without notice in fees, faculty assignments, time schedules, courses, curricula, policies; to cancel classes when necessary; to set maximum and minimum limits for enrollment in certain classes; and to make changes to other matters contained in this catalog.

Cochise College, in compliance with the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1972, does not discriminate on the basis of race, color, national origin, sex, age or handicap in any of its programs or activities. Inquiries regarding this policy may be directed to: Personnel Services, Cochise College, Douglas, Arizona 85607; (602) 364-7943

Cochise College, en cumplimiento con lo estipulado en el Acta de Derechos Civiles de 1964, el Titulo IX de las Enmiendas de 1972 relativas a la Educacion y la Seccion 504 de la Acta de rehabilitacion de 1973, no discrimina en ninguno de sus programas o actividades por motivo de raza, color, origen, sexo, edad o impedimento. Para mayor informacion relacionada con estas politicas y lineamientos, por favor dirigirse a Personnel Services, Cochise College, Douglas, Arizona 85607; (602) 364-7943.

# General Information

## Mission

Cochise College is a comprehensive community college that provides educational services to all people of Cochise County, citizens of the State and specific populations in the southwestern United States. The College makes education beyond the secondary level available to students interested in, and capable of benefiting from programs of higher education. Cochise College promotes the highest quality in curriculum design and excellence in teaching.

The quality and effectiveness of instruction offered by the College is important to those interested in higher education: students, teachers, administrators, alumni and the general public. The College administration facilitates instruction and leads the staff and students to personal and group fulfillment in their educational endeavors. Free communication, an association of ideas and feelings among the administration, faculty, students, governing board and community is essential for the realization of personal and institutional goals.

## Goals

To offer studies during the first two years of college that will transfer to the baccalaureate degree. The student pursuing a baccalaureate degree may transfer to the institution of his or her choice with upper division standing after having successfully completed appropriate lower division studies.

To provide educational opportunities for students wishing to prepare for employment upon completion of a specific program.

To provide a program of general education that encompasses common knowledge, skills and attitudes needed by an individual to be effective as a person, a member of a family, a worker and a citizen in our democratic society.

To develop competency in oral and written communication, computation, critical thinking, and other skills and knowledge necessary for success in contemporary society.

To provide a program of guided studies that will enable students in need of preparatory work to pursue college-level studies and to promote study programs for students with superior academic capabilities.

To assist students in preparing for college life and future endeavors by providing a program of counseling, advisement and placement. These services enable students to discover aptitudes and interests and assist in their choices of a vocation or further education.

To make available lifelong learning opportunities for the growth of the citizens of the County, State and region through cultural activities, employment upgrade, credit classes, vocational retraining and personal growth courses.

To cooperate with secondary schools, colleges, civic groups, educational foundations, individuals, business and governmental agencies in any proper endeavor that will result in an educational advantage to students of the College and community.

## Accreditation and Affiliation

Cochise College is accredited by the Arizona State Board of Directors for Community Colleges and the North Central Association of Colleges and Schools. The College also holds memberships in the Arizona Community College Association, the Council of North Central Junior Colleges, the North

Central Association of Colleges and Schools, and the American Association of Community and Junior Colleges and the American Association of Community College Trustees. The College also holds Federal Aviation Administration certification for its professional pilot and aviation maintenance programs and full accreditation of the nursing program by the Arizona State Board of Nursing and the National League for Nursing.

## **Governance**

The College district is governed by the 17-member Arizona State Board of Directors for Community Colleges and by a five-member Governing Board elected from precincts in Cochise County. The College is financed by legislative appropriation, a County-wide tax levy and student tuition.

## **Community Services**

Cochise College extends its educational services to meet the needs of the entire County. Community Services is that phase of the educational program which provides educational, cultural and recreational services beyond formalized classroom instruction. Among these services are a Speakers' Bureau, offering faculty lectures without charge; a program of public events and cultural activities including lectures and forums, art exhibits, film series, noncredit courses and community use of the College libraries and other facilities.

Other community services also include institutes and workshops to meet special needs of business, industry and the professions; community recreation; campus tours; public information and hosting a variety of local, state and national conferences.

## **The Cochise College Foundation**

The Cochise College Foundation, incorporated March 20, 1967, supports the educational objectives of Cochise College. It has a County-wide membership of fifteen men and women interested in promoting the goals of the College. The

Foundation, having received Internal Revenue Service qualification, is a recognized avenue for receipt of money, property or other items of value bequeathed or donated for the benefit of the College.

The Foundation provides over \$100,000 in scholarships to Cochise College students each year and has assisted the College with several capital projects over the past twenty years.

# The Douglas Campus

The Douglas Campus of Cochise College is located on the southern portion of a 500-acre site in southeastern Arizona on Highway 80, 16 miles east of Bisbee and eight miles west of Douglas. The College was the second community college organized under the act of the 24th Arizona State Legislature providing for two-year colleges. The establishment of the College District in 1961, and the funding for construction of the facility in 1962, represented a dedicated effort on the part of the citizens of Cochise County. The campus first opened its doors to resident and commuter students in September, 1964.

The 17-building campus includes a student union, residence halls for men and women, apartments for married students, a learning resource center, and a well-equipped physical education facility, in addition to classrooms and laboratories for both occupational and arts and sciences programs.

The Douglas Campus serves some 1,400 students by offering pre-professional coursework, designed for transfer to a university, in virtually all disciplines. The campus also provides one and two-year programs designed for employment or transfer upon completion:

Administration of Justice  
Administrative Assistant  
Agriculture  
Aviation Maintenance Technology  
Business  
Lerical Assistant  
Computer Information Systems  
Correctional Practices  
Electronics Technology  
Executive Secretary

Middle Management  
Motor Transport Technology  
Nursing  
Public Administration  
Professional Pilot Program  
Social Services  
Teacher Aide

## Student Services

The Student Services staff provide personal, academic, veterans, and career counseling; diagnostic and vocational interest testing; financial aid advisement; and job placement. Faculty members advise students in the development of course choices on the basis of transfer curriculum and program guides. The Student Development Centers house counseling, advising, placement testing and tutorial services.

The Douglas Campus also offers a varied student activities program that includes student government, campus clubs and organizations, musical and dramatic presentations and literary magazine, and social and cultural events. Students also participate in intramural sports throughout the year. Student athletes compete in intercollegiate rodeo, baseball, and men's and women's basketball.

For further information on housing, athletics and other student services turn to the Student Services section.

## Charles DiPeso Library

The Charles DiPeso Library, one of the most modern community college libraries in the Southwest, meets the curricular needs of students and provides optimum resources and facilities for college work. In addition to a large open-stack reading and reference room, there are listening facilities, group study rooms, an audio-visual classroom and an Infotrac CD-ROM magazine index. The DiPeso Library houses 44,000 books, 232 periodical titles and 575 audio-visual titles. Library hours:

7:30 a.m. to 9 p.m. Monday through Thursday  
7:30 a.m. to 4:30 p.m. Friday  
10 a.m. to 2 p.m. on posted Saturdays.

## Women's Re-entry Program

A special program designed to assist women re-entering college is available. A counselor will work with women to facilitate an easy transition into the educational environment. Various support groups are also available to respond to needs of re-entry women.

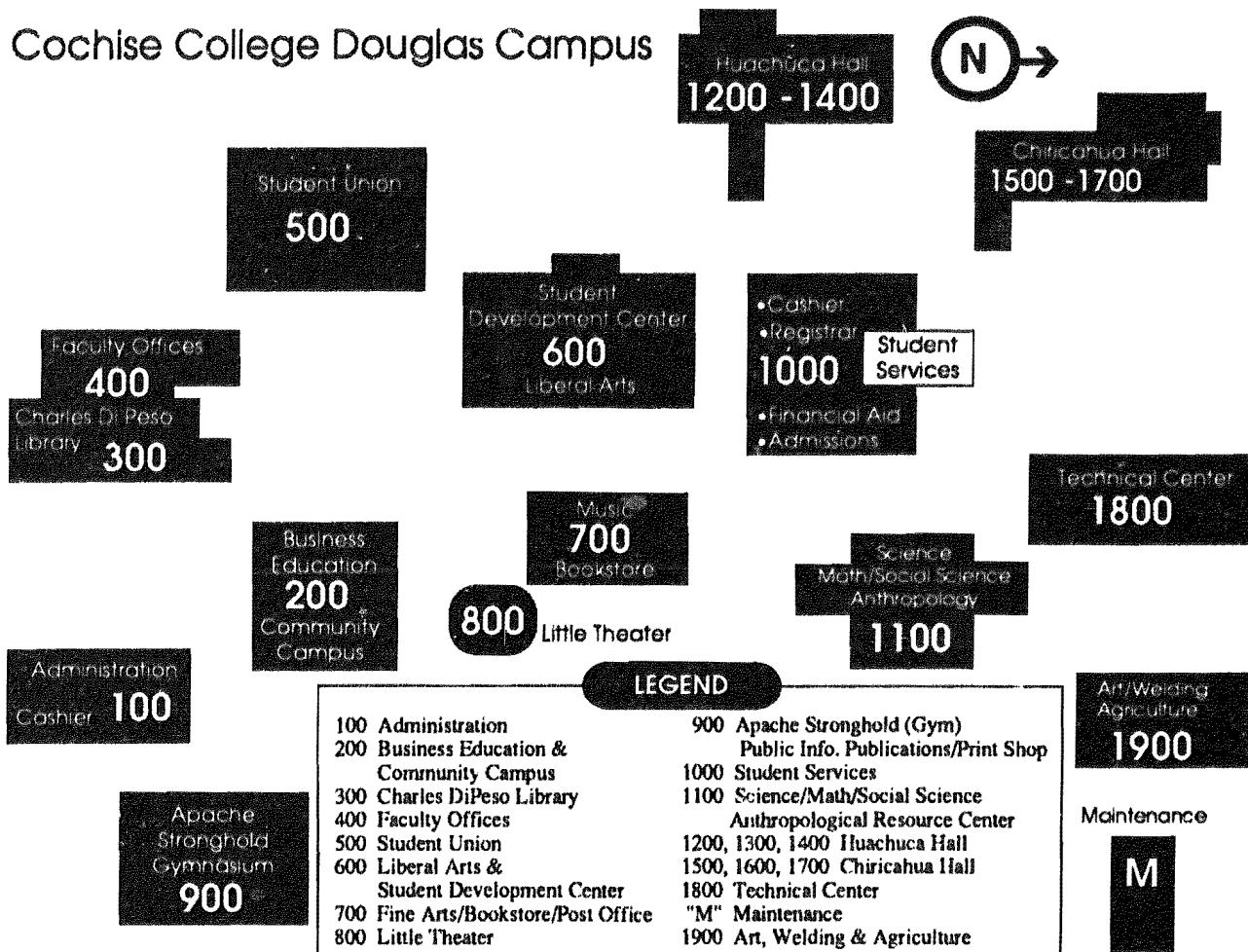
## Career Action Center

Students may avail themselves of special career guidance services from trained counselors and personally work with a computer to research over 1,000 careers. Using this service, a student can examine the potential careers of the future and make better educational and career choices.

## Job Placement

The Center also offers a career job placement service for students who wish to work part-time while in school and gain full-time employment after completing their educational goals. Assistance in developing resumes, job contacts and interviewing skills are also available.

## Cochise College Douglas Campus



# The Sierra Vista Campus

The Sierra Vista Campus was founded in 1977 to meet the community needs of the greater Sierra Vista/Fort Huachuca area. It 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.

Approximately 2,600 students participate in a full schedule of day and night classes conducted at the campus and other locations in the greater Sierra Vista-Fort Huachuca area. Students may enroll on a full or part-time basis and complete all requirements for the Associate Degree in the following programs:

Administrative Assistant	Machine Technology
Administration of Justice	Manufacturing Technology
Clerical Assistant	Microcomputer Practitioner
Computer Information Systems	Middle Management
Drafting Technology	Public Administration
Electronics Technology	Social Services
Executive Secretary	Welding Technology
Fire Science	
Hospitality Administration	

Students may also earn a transferable associate degree leading to studies in pre-professional disciplines and virtually all baccalaureate degrees offered at the universities.

## Friday and Saturday College

Cochise College has pioneered a schedule designed to help students who, because of unique work schedules or other reasons, cannot be full-time Monday through Friday students. It is possible to take one to four classes and come to campus only on Friday or Saturday. Careful planning with a counselor is advised.

## Student Services

The Student Services Staff provides personal, academic, career and veterans counseling; diagnostic and vocational interest testing; and financial aid advisement. Faculty members work with students as academic advisors, assisting them in the development of course choices for their two years at the College on the basis of transfer curriculum and program guides. A new Student Development Center has been established to assist all students in their educational development. Students are urged to take advantage of these services.

The College encourages participation in extracurricular activities, student government, campus organizations, and cultural events to promote leadership, student relationships and social development.

A bookstore, student lounge and snack bar are available for the convenience of students.

## Serviceman's Opportunity College (SOC)

As a Serviceman's Opportunity College, Cochise offers the following kinds of special assistance to 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.

## Women's Re-entry Program

A special program designed to assist women re-entering college is available. A counselor will work with women to facilitate an easy transition into the educational environment. Various support groups are also available to respond to needs of re-entry women.

## Career Action Center

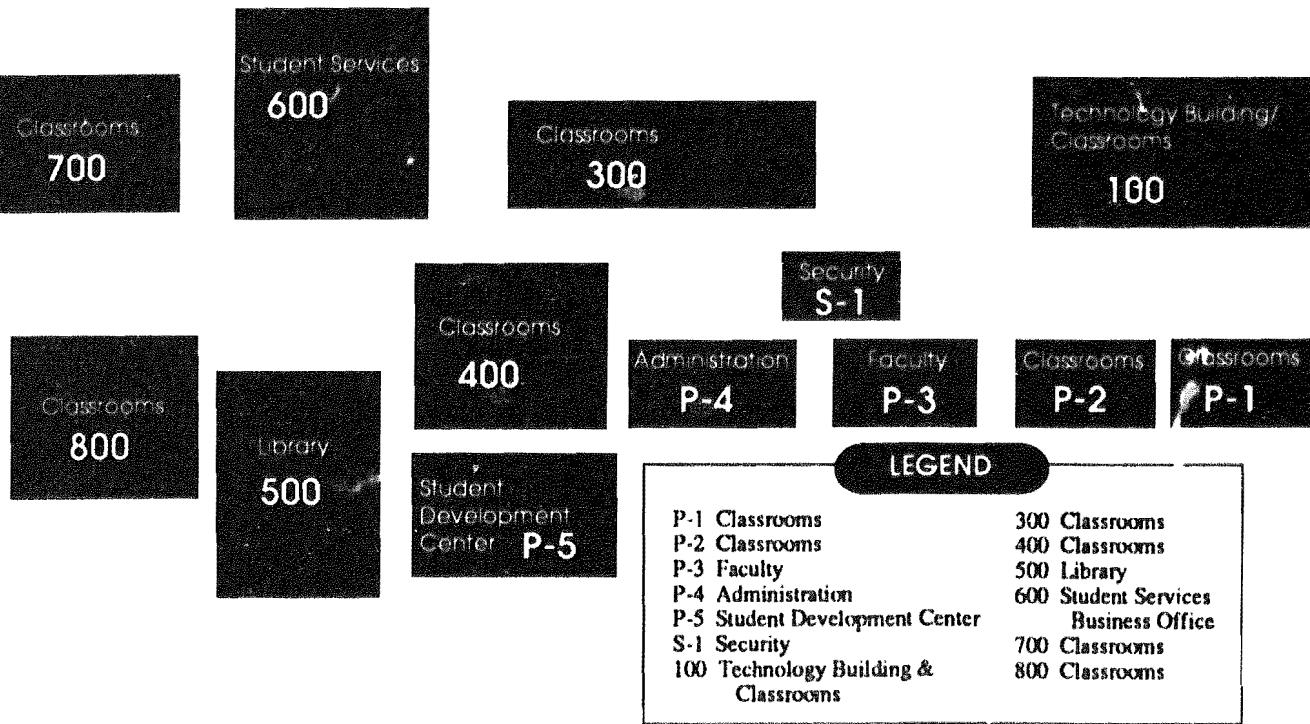
A campus Career Action Center is available to all students. A student may receive special career guidance from trained counselors and personally work with a sophisticated computer to research the many aspects of over 1,000 careers. Using this service, a student can better examine the potential careers of the future and make better educational and career choices. Job placement service is also available to assist students who wish to prepare to enter the world of work. Assistance in developing resumes, job contacts and interviewing skills is available to the student.

## Andrea Cracchiolo Library

The Andrea Cracchiolo Library houses over 16,000 books, 130 periodical titles and 266 audiovisual titles. The 6,000-square-foot building provides open-stack reading and reference rooms, seminar and study rooms and carrels for using computers and microfilm reader/printers. Students have access to typewriters, calculators, tape recorders and an Infolrac CD-ROM magazine index. All materials from the Charles DiPeso Library on the Douglas campus are available via daily courier service. Library hours:

7:30 a.m. to 9:00 p.m. Monday through Thursday  
7:30 a.m. to 4:30 p.m. Friday  
10:00 a.m. to 4:00 p.m. on posted Saturdays

## Cochise College Sierra Vista Campus



# The Community Campus

The Community Campus provides credit, non-credit, and small business development programs throughout Cochise County, and professional development courses and services throughout the Southwest. The Community Campus maintains a center in Willcox and utilizes the facilities as classrooms in public schools, businesses, and public sector agencies in fourteen communities throughout the County. The concept of Community Campus, established in the mid-1960s, is to bring college courses and programs to locations where people live and work.

## **Credit Courses**

Courses taught in the Community Campus have equal content and requirements to those taught at the Cochise College campuses. Courses are taught by both full-time College faculty and associate faculty from business, industry and the public education sectors. All faculty are certified to teach by the College and the Arizona Community College Board.

Credit courses are offered primarily in the evening throughout Cochise County. Credit courses also include joint credit courses offered for high school students during the day, telecourses via cable television, and Department of Corrections professional development.

## **Non-Credit Classes**

Non-credit classes cover a variety of subjects and offer alternative opportunities to individuals seeking non-traditional educational experiences. Weekend and evening seminars and workshops ranging from local history and culture, arts and crafts such as weaving, silversmithing and gourmet cooking, parenting, reading clinics, word processing, health and physical fitness, personal growth and enrichment, films and lectures, are provided for general participation.

Adult Basic Education, including English as a Second Language (ESL) and General Education Development (GED) are offered free in several county communities. Adults wishing to obtain their GED (High School Equivalency) Diploma, to improve their English, or to improve other basic skills, are invited to attend classes on an open entry-open exit basis.

Adventure College, a summer program for children in grades 4-8, is also included in non-credit programs.

### **Center for Professional Development Program**

Education courses and training services, geared for skill enhancement and professional development, are offered to military, business, industry, organizations and individuals throughout the Southwest. Professional Development provides an alternative training format. Credit or non-credit courses are offered as compressed classes or workshops and seminars. Professional Development Programs include: basic and advanced skills, education in reading, math and written communication; occupational skills improvement; computer information systems workshops; vocational training in electronics, aviation maintenance, telecommunications, drafting, administration of justice, and compressed courses in management, personnel development and public administration. Class location can be on campus or on the job site. Classes are offered through quarterly, semi-quarterly and semi-annually published schedules and in response to individual requests for training.

### **Small Business Development Center (SBDC)**

The Small Business Development Center (SBDC) is a jointly sponsored program of Cochise College and the U.S. Small Business Administration. The SBDC assists small businesses throughout Cochise County in developing the skills and procedures to help them succeed. The SBDC works with

owners to learn methods and tools to meet the challenges of operating their business. The SBDC offers low cost, tactical training sessions in a variety of topics related to starting and running a business. The SBDC also offers free individual consultation in areas of concern to the business owner. Training and consultation are offered throughout the county. The SBDC has a resource center with books, periodicals, videos and other materials to aid in starting and running a successful small business.

The SBDC works with individuals in all stages of running a business, from those who are thinking of starting a business to those who have been in business for many years. Assistance is available whether a business is in the planning stage, having current problems, or wants to take on new opportunities.

### **The Prison Education Program**

The Prison Education Program offers a wide range of developmental, academic, personal development and vocational courses/programs to meet the diverse needs of inmate students. All credit courses are selected from the college course bank and taught by faculty fully certified by the Arizona Community College Board. Business machine repair, building maintenance, and horticulture programs are unique to the Prison Education Program, as are classes in pre-release and life success skills.

# Cochise College Calendar 1992-1993

## Second Summer Semester

Independence Day Holiday, Observed July 4

## Fall Semester 1992

Faculty returns	August 10
Fall convocation	August 10-11
Fall registration	August 12, 13, 14, 17
Residence Halls Open	August 16, 1 p.m.
Classes begin 6 p.m.	August 17
Last day for adding classes	August 25
Labor Day Holiday	September 7
Last day to change subject level	September 16
Columbus Day holiday	October 12
Mid-semester exams	October 13-16
Graduation filing deadline (Dec. grads)	October 23
Last day to drop classes without academic penalty	October 23
Last day to change audit status	October 23
Veteran's Day Holiday	November 11
Thanksgiving recess	November 26-27
Spring semester 1993 pre-registration	November 18-Dec. 11
Last day of regular classes	December 9
Final exams (once a week only classes) (all other classes)	December 8-14
Christmas recess (all staff)	December 10-14
	December 21-January 3

## Spring Semester 1993

Staff return	January 4
Spring convocation	January 4
Spring registration	January 6, 7, 8, 11
Residence Halls Open	January 10, 1:00 p.m.
Classes begin 6 p.m.	January 11
Martin Luther King Holiday	January 18
Last day for adding classes	January 19
Last day to change subject level	February 12
President's Day Holiday	February 15
UA/ASU priority financial aid application deadline	February 28

## (Spring Semester 1992 continued)

Last day to drop classes without academic penalty	March 5
Mid-semester exams	March 8-12
Graduation filing date (May graduates)	March 12
Spring recess	March 22-26
Summer Innovative Fellowship deadline	March 31
Fall semester 1993 pre-registration	April 12-30
Cochise College priority financial aid application deadline	April 15
Annual Awards Ceremony- Douglas campus	May 4
Classes end	May 5
Annual Awards Ceremony- Sierra Vista campus	May 6
Final exams (once a week only classes) (all other classes)	May 4-10 May 6-10
Commencement (Friday)	May 14
Memorial Day Holiday	May 31

## Summer-Sessions

1992 -	1st session June 1 - July 1 2nd session July 6 - August 5
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## Professional Pilot

1992 -	July 27 - December 18
1993 -	January 11 - June 11

## English and Spanish Immersion Programs

1993 -	June 21 - August 6
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## Aviation Maintenance Technology

1992 -	July 6 - September 24: Phase I, III, V September 28 - December 17: Phase II, IV
1993 -	January 11 - April 1: Phase I, III, V April 5 - June 24: Phase II, IV

1992

July

S	M	T	W	T	F	S
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
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August

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September

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October

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November

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29	30					

December

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27	28	29	30	31		

1993

January

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24	25	26	27	28	29	30
31						

February

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28						

March

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April

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May

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23	24	25	26	27	28	29
30	31					

June

S	M	T	W	T	F	S
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

# Admission

## Policy

All high school graduates are admitted to Cochise College. Those who have not graduated from high school but have reached the age of 18 on or before the first day of classes for which application is being made may be admitted with certain restrictions. Others who have not graduated from high school and are under age may be admitted with the high school equivalency examination such as a GED. Current high school students or others under age 18 may be admitted through a special policy. Contact the Admissions Office for further information.

The Admissions Office invites anyone interested in Cochise College to visit the Douglas or Sierra Vista Campus to learn more about programs of study and available services. The Admissions Office is open Monday through Friday, 8 a.m. to 4:30 p.m. Campus tours are available throughout the year. Call or write the Admissions Office for an appointment.

## Procedure

Applicants are admitted to Cochise College after the Office of Admissions has received and approved:

- Application for Admission.
- \$5 application fee for out-of-state students.
- Student Medical Record; Part I. - This self-appraisal form is to be completed by the applicant and is required of all full-time students. The College reserves the right to require a physical examination when deemed necessary by the College Nurse or by a particular college instructional program.

- High School Transcripts. - Final high school transcripts are required of all applicants who have graduated from high school. Applicants who are under the age of 18 and who have not graduated from high school are required to submit results of the GED Examination or evidence of other high school equivalency. High school transcripts are to be sent directly by the sending institution to the Admissions Office. Transcripts carried by the applicant will not be accepted.

- College Transcripts. - Applicants who have attended college elsewhere must submit a transcript of college work in order for a course or courses to be considered by Cochise College for graduation purposes. College transcripts are to be sent directly by the sending institution to the Transcript Clerk's Office. Transcripts carried by the applicant will not be accepted.

- Report of Physical Examination; Part II. - Persons planning to participate in intercollegiate athletics and those who are residents of foreign countries must have this form completed by a licensed physician. Nursing applicants must complete a physical examination determined by the College Nursing Program.

- Out of County Affidavits. - The affidavit is required for all residents of Apache, Gila, Greenlee and Santa Cruz counties before registration each semester.

College entrance examinations, such as ACT or SAT, are not required for admission. However, the College does administer the ACT on testing dates throughout the year as a service to County high school students and residents who wish to take the test.

**Disclosure of Social Security Account Number**  
Social security account numbers will be used solely to identify student records. Disclosure and use of social security account numbers aid in matching current and future records with any

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

Release of Social Security numbers also ensures that records will be permanently identified by frequently used, easily remembered social security account numbers and avoids the necessity of recalling a separate student identification number when requesting information and services, such as registration each semester, application for re-admission, attendance verification and transcript requests in the years to follow.

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

### **Placement Testing**

Success in college depends upon placement in courses best suited to one's educational experiences, free placement information is useful in planning your academic program. Placement testing must be completed before registering for any mathematics, reading or composition courses. Students reading below grade level 11.5 must register for a reading course before completion of 15 credit hours. A student may retest to demonstrate grade level 11.5 on a standard test. The Student Development Center has testing information.

All entering full-time students must take placement tests in reading, English and mathematics. Part-time students who take English and math will take placement tests prior to registration for classes in those subjects. All degrees require transfer-level English and mathematics courses. Students who fail to demonstrate ability to benefit from college-level instruction following one semester of skills review may be placed on academic probation by the registrar. The Associate of Arts and Associate of Science Degrees require transfer level English and mathematics courses.

### **International Student Language Requirements**

All international students and students whose first language is not English are tested by the English Immersion Program prior to registration. Students whose test results show insufficient English proficiency to succeed in regular college courses are required to take courses in the English Immersion Program. Those students who place in an Advanced level are allowed to take some classes outside of the English Immersion Program in addition to their English classes. International students are expected to obtain an 11.5 reading grade level score or demonstrate an equivalent proficiency prior to application for graduation.

### **Acceptance to the Nursing Program**

Admission to Cochise College is the initial step for entrance into the Nursing program. Please note this does not guarantee acceptance into the Nursing Program. Nursing is a limited enrollment curriculum which frequently receives more applications than can be accepted. When this occurs, a point system is used to determine entry into the program. Points are given for the Comparative Guidance Placement Test score and required general education courses completed prior to entry.

A student must take the Comparative Guidance Placement Test, usually given in February of each year, prior to the fall of expected admission to Nursing courses. The test measures basic reading, English usage, math without algebra, and some conceptual skills.

Students should be prepared to transport themselves to class and clinical agencies.

Further information on specific requirements is available from the Office of Admissions or the Nursing Division.

Information also is available on the following: admission criteria for applicants wishing to enter the second semester freshman class, and admission criteria for current LPN's and LVN's.

## **Admission to Aviation Programs**

Students seeking admission to the Aviation Maintenance Technology or the Professional Pilot Program should contact the Admission or the Aviation Division Office to arrange for a pre-entry conference and aptitude test well in advance of their planned entrance to either of the programs.

## **Aviation Program Deposits**

Prior to acceptance to these programs, students are required to submit a non-refundable program deposit well in advance of program start dates:

Professional Pilot	\$90
Aviation Maintenance Technology	\$90

## **Admission for Veterans**

Cochise College has been approved for veterans training under federal and Arizona statutes. By Arizona Statute, Cochise College will determine the admissibility of an honorably discharged veteran, who has served in the armed forces of the United States for a minimum of two years and who has previously enrolled at university or community college in Arizona. No failing grades by such veteran at any Arizona university or community college prior to his military service may be considered. Specific information on veterans' progress, attendance and prior training evaluation may be obtained from the Coordinator of Veterans Affairs.

A veteran student admitted or re-admitted to Cochise College under this statute is subject to progression, retention, graduation, and other academic regulations and standards in this catalog.

## **Admission for International Students**

All international students, including students from Mexico, must be at least 18 years of age at the time of registration for classes (at least 16 years of age for summer immersion program). All full-time international students attending on an

F-1 Visa must have a certificate of graduation from a high school, or its equivalent.

A letter of admission and Immigration Form I-20 are sent to the applicant only after the Office of Admissions has received and approved the following:

1. Application for Admission
2. \$5 Application Fee
3. Student Health Record - Part I
4. Report of Physical Examination - Part II  
(including required laboratory reports)
5. High School Transcripts
6. College Transcripts (if applicable)
7. Statement of Financial Guarantee

International students must report to the Admissions Office upon arrival at Cochise College. English proficiency testing will be required and the student may be required to enroll in intensive English coursework.

## **Special Student Admission**

Youths who have not yet graduated from high school must participate in special educational programs at Cochise College according to procedures developed by the Vice President for Student Services. Please contact the Admissions Office for specific procedures for Special Student Admissions.

## **Re-admission**

Students who have been absent from Cochise College four semesters or longer must apply for re-admission prior to the opening of the semester for which they wish to enroll.

## **Registration Information**

New and returning students can register for classes by going through early registration as well as during the regular registration periods. Late registration is allowed through the second Friday of the semester; however, written permission of

the receiving instructor is required. Registration is not complete until all fees have been paid. Students who do not have their fees paid on the day they register will have all their courses dropped, requiring them to re-register. Students with financial aid awards should report to the Financial Aid Office.

## **Advisement Program**

A coordinated effort offered between selected college faculty and counselors provides all full, part-time, vocational, transfer, international and other students advisement throughout their academic experience. Students are encouraged to come in to the Student Development Center throughout the semester to ensure that they receive academic support prior to having problems with class work or schedules. Student Development Center advisors assist in degree and transfer planning and in choosing programs of study compatible with students' short and long term educational goals.

## **Counseling**

The counseling staff of Cochise College is available in the Student Development Center to assist students in developing decision making skills and personal strengths which allow them to help themselves. Problems of adjustment related to academic and personal or social areas are not unusual, and counselors are here to assist students during the day and certain evening hours. Career counseling and related testing is available.

## **Career Action Center**

The College's Career Action Center is an amalgamation of three separate but closely related services - Cooperative Education, Student Placement, and Career Placement. Professional staff members will serve student job and career needs, including part-time or temporary employment, Cooperative Education, or full-time career employment. Short-term workshops are conducted periodically on topics such as resume writing, interviewing techniques, the hidden job market, networking, and dress for success.

## **Cooperative Education**

Cooperative Education (CO-OP) is an educational process that formally integrates College course work with study-related work experience in business, industry, and government. Using "learning objectives" established during each semester of registration, the CO-OP student earns College credit to apply toward program completion requirements.

The student's work is coordinated by college staff and the student will receive college credit for this job experience. 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 is the laboratory component for various programs offered at Cochise College.

## **Student Job Placement**

As an integral part of the Career Action Center, student placement representatives receive job orders (both part and full-time) regularly from employers throughout the state. Job listings are prepared daily and are posted at convenient locations on campus. In close cooperation with the Arizona State Job Service representatives, the Placement Office seeks out information on employment opportunities throughout Cochise County, the state, the region, and the nation, and makes this information available to students and graduates. A new emphasis on Placement services is the availability of career counseling and a career library, plus workshops and video assisted instruction on job-seeking skills for students and graduates.

## **International Students**

Any international student attending Cochise College on a non-immigrant student visa (F-1) is required by the United States Immigration and Naturalization Service to follow the rules below:

Each student must maintain full-time student status for both the fall and spring semesters. This requires completion of a

minimum of 12 credits for each semester.

International students may not work off campus. On-campus employment may be authorized under certain conditions.

All international students must maintain an up-to-date record in the Office of the International Student Advisor. This record must indicate the student's current living address and admission number.

## **Student Classification**

### **Classification of Students**

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

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

**Full-time Student:** Student carrying 12 or more units during the semester.

**Part-time Student:** Student carrying 1 to 11 units during the semester.

## **Residency Requirements**

### **Residence in Local High School District**

Students whose residence is in one of the high school districts comprising the Cochise College District are qualified to enroll at Cochise College according to the admissions policies and procedures set forth in this catalog.

### **Residence of Counties Not Maintaining a Community College**

Students residing in Apache, Gila, Greenlee or Santa Cruz counties must complete an out-of-county affidavit prior to registration. Their out-of-county tuition will be paid by the county of residence. The in-state tuition is the responsibility of the student.

### **Residence in Counties Maintaining a Community College**

Students who are residents of counties maintaining a community college are not charged out-of-county tuition. No affidavit is required.

### **Students from Out of State**

Under an ordinance of the Arizona State Community College Board, tuition waivers are no longer available to assist non-Arizona residents in attending an Arizona community college. Out-of-state tuition is set forth in this catalog.

A tuition agreement exists between Cochise College and Western New Mexico University. For more information contact the Admissions Office.

### **Residency Regulations**

Each student applicant shall have the question of legal residence determined prior to the time of registration and payment of fees. It is the responsibility of the applicant to register under the correct residence determination.

Enforcement of residence requirements and regulations shall be the responsibility of the Chief Executive Officer of each community college district.

Appeal of interpretation or judgements 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 determines classification for tuition purposes.

Published below are the Arizona Revised Statutes which determine classification for tuition purposes. (A.R.S. & 15-1801 et sec.)

### **Definitions**

Adult means a person who has attained the age of eighteen (18) years.

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.

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 intercession beyond the normal academic year in order to maintain continuous attendance.

County resident means an individual 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 fifty (50) days prior to the first day of classes of the semester.

Dependent means a son, daughter, stepson, or stepdaughter over half of whose support for the calendar year in which the taxpayer begins, was received from the taxpayer.

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

Emancipated person means a person who is neither under a legal duty of service to his parent nor entitled to the support of such parent under the laws of this state.

Guardian means a legal guardian appointed by a court order.

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 not circumstances indicating that such guardianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person.

### **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.

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, and his/her parent is entitled to claim the student as an exemption for state and federal tax purposes.
2. He/she is an employee of an employer which transferred him to this state for employment purposes or he is the spouse/dependent of such employee.
3. 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.
4. 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. The domicile of an

nemancipated 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 removes 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.

### **Alien In-State Student Status**

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.

### **Presumptions relating to Student Status:**

Unless the contrary appears to the satisfaction of the registering authority of the community college or university at which a student is registering, it shall be presumed that:

No emancipated person has established a domicile in this state while attending any educational institution in this state as a full time student, as such is defined by the State Board of Directors for Community Colleges or the Arizona Board of Regents, in the absence of a clear demonstration to the contrary.

Once established, a domicile is not lost by mere absence unaccompanied by intention to establish a new domicile.

A person who has been domiciled in this state immediately prior to becoming a member of the armed forces of the United States shall not lose in-state status by reason of such person's presence in any other state or county while a member of the armed forces of the United States.

### **Student Status Regulations**

The Arizona Board of Regents and the State Board of Directors for Community Colleges 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: Nonresident Tuition**

It is unlawful for any nonresident student to register concurrently in two or more public institutions of higher education in this state including any university or community college for a combined student credit hour enrollment of more than six semester hours without payment of nonresident tuition at one of such institutions.

Any nonresident student desiring to enroll concurrently in two or more public institutions of higher education in this state including any university or community college for a combined total of more than six semester hours who is not subject to nonresident tuition at any such institutions shall pay the nonresident tuition at the institution of his choice in the amount equivalent to nonresident tuition at such institution for the combined total of semester hours for which the nonresident student is concurrently enrolled.

### **Proof of Residency: In-state**

A domicile affidavit must be filed with the Admissions Office verifying continuous residency in the state for a twelve (12) month period.

At least three (3) of the following items shall 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 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.

## **Special Admission of Students Under Age Eighteen**

As provided in A.R.S. Section 15-1821, and Senate Bill 124, Article 2, Cochise College will admit students under the age of 18. The student, to benefit from the opportunity, must submit supporting documentation that identifies him/her as intellectually gifted as per the procedure established by the State Community College Board. As a part of this documentation, the student must:

- a. provide the Cochise College Admission's Office with an official score report from either the American College Test (ACT) or the Scholastic Aptitude Test (SAT). The composite score on the test submitted must be at the 90 percentile or higher for admission;
- b. submit a letter of application to the Cochise College Admission's Office. This letter, co-signed by the parent(s) and /or legal guardian, MUST outline the class(es) in which the student intends to seek enrollment;
- c. submit a completed application form co-signed by the parents to the Cochise College Admission's Office. These forms are available at the Admissions Office on the Douglas Campus and at the Student Services Office on the Sierra Vista Campus.

The Student must submit all requested documentation to the Douglas Campus Admissions Office six (6) weeks prior to the starting date for the semester the student intends to matriculate. When all requested documentation is complete, an appointed

Admissions Committee will meet and review all materials and make a recommendation to the Director of Admissions and Records. After the Committee's recommendation, the Director of Admissions and Records will make a ruling and notify the student of the decision.

Additional restrictions also apply. For more information, contact the Admissions Office at the Douglas Campus (Phone 1-800-966-7943)

# Fuition and Fees

## Payment of Fee Schedule

All students entering must have sufficient funds to defray their immediate expenses at time of registration.

Student's accounts with past due balances may be turned over to a collection agency and the student will be liable for collection/attorney fees incurred.

For specific registration dates and payment dates, please consult the Fall or Spring class schedule.

## Miscellaneous Fees

Credit by Examination (current tuition rate)

Golden Apache-Senior Tuition Fee (60 years or older)  
per credit unit \$11.50

CLEP General and Subject Examination per test \$38

Transcript fee - Official \$2.50

Unofficial \$1

Returned Check fee (for each returned) \$15

Nursing Insurance (subject to change) \$12

ID cards \$2

Replacement of ID card or meal card \$5

Drop-Add Courses \$5

Department of Corrections (DOC) \$1,080/FTSE

Graduation Fee \$10

## Deposits

Residence Hall Housing \$ 50\*

Family Housing Apartments \$100\*

\*Required with housing application and does not apply toward room and board fees.

Professional Pilot \$ 90+

Airframe and Powerplant \$ 90+

+A non-refundable deposit which will be applied to aviation tuition and/or fees.

## Student Fee Information for 1992/93 Fiscal Year

### I. Tuition - Regular, Professional Pilot and Summer\*

Registration Fee (Non-refundable)	\$ 10 per student
In-State	\$ 23 per unit
Out-of-State	\$ 35 per unit
1-6 unit	\$ 35 per unit
7 or more unit	\$144 per unit (retroactive to 1 unit)
In-State Flight Courses	\$125 per unit
Out-of-State Flight Courses	\$144 per unit
Summer Session*	\$ 23 per unit
Registration Fee (non-refundable)	\$ 10 per student

\*Effective 6-3-91, tuition rates for summer school will be the same as for regular classes.

Regular Registration Fee and Tuition fees apply as listed above for both In-State and Out-of-State students.

**Lab Fees:** Consult class schedule for current listings.

If Financial Aid is pending, 100% of fees are payable.

Fees for Regular Registration are 100% payable at time of registration.

### II. Tuition - Aviation Maintenance Technology

#### In-State

Phase I = 18 units	\$460 (\$25 per unit + \$10 regis. fee)
Phase II, III, IV, V = 17 units	\$435 (\$25 per unit + \$10 regis. fee)

#### In-State Lab fee:

Phase I, II, III, IV, V = 17 units \$190

#### Out-of-State - Special Package

(includes room/board/tuition & fees)

Phase I \$3,164

Phase II, III, IV & V \$3,014 (per phase)

### III. Residence Hall Fees (Douglas Campus)

#### A. Regular Students - 17 weeks

Semester	Private Room Add'l
**Room \$ 535	\$215 per semester
**Board \$ 940	
Total \$1,475	

Apartments \$275 per month payable monthly in advance.

#### B. Professional Pilot - 21 weeks

Semester	Private Room Add'l
**Room \$ 661	\$265 semester
**Board \$1,161	
Total \$1,822	

Apartments \$275 per month payable monthly in advance.

#### C. Aviation Maintenance Technology -12 weeks

Semester	Private Room Add'l
**Room \$ 378	\$152 semester
**Board \$ 663	*Apartment deduct
Total \$1,041*	\$182 per phase

Apartments \$275 per month payable monthly in advance.

\*\* Room and Board are combined. A student who lives in a residence hall must participate in the board program. There are no exceptions.

All fees are payable as the final step in the registration procedure. Cochise College accepts checks only for the total amount due for tuition and fees.

**Note to Financial Aid Students:** When financial aid has been approved and applied to students' accounts, any balance will be refunded to the student. Any amount unpaid after the financial aid has been applied will be due and payable by the student.

Installment payments can be accepted only for room and board. Prior approval by Business Office or designated person is required. One-half of room and board is due at registration; balance of room and board is due in five weeks. A promissory note signed by the student is required. All other fees for the semester must be paid in full at time of registration.

In the event a check is returned unpaid by the bank, a \$15 service fee will be assessed, and the student will be dropped from all classes.

If fees are not paid in full on or before dates indicated, the student will be dropped from all classes. All remaining charges must be paid in full prior to any future registration.

All book purchases will be on a cash basis only. The only exception will be Vocational Rehabilitation Education students, Veterans Vocational Education, qualified veterans and Financial Aid students.

Residents of Apache, Coconino, Gila, Santa Cruz, and Greenlee Counties must file an out-of-county residence affidavit. Forms are available at the Admissions Office.

#### Graduation Fees

Every candidate for an Associate Degree is required to pay a diploma fee of \$10. Those completing certificate programs are not required to pay the fee. The graduation fee is to be paid when the student returns the graduation application to the Student Development Center.

#### Flight Training Fees

Please consult the Aviation Division for current flight fees. All flight fees are subject to change without notice. Unused flight fees will be refunded in full.

#### Laboratory Fees

Lab fees are charged for those classes requiring unusual equipment, facilities, etc. Lab fees range from \$5 to \$190 per

course. Please consult a class schedule or a current Lab Fee Schedule for courses charging lab fees and the amount.

Please note: Laboratory fees are non-refundable except for cancelled classes. All student lab fees are due at registration.

\*Cochise College reserves the right to make changes without notice in fees, faculty assignments, time schedules, courses, curricula policies; to cancel classes when necessary; to set maximum and minimum limits for enrollment in certain classes; and to make changes to other matters contained in this catalog.

## **Refunds**

All refunds and deposits that may be due to a student will be first applied to any encumbrances owed to the college.

For specific dates and percent of refund, please consult the appropriate semester class schedule.

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

Students whose class or classes are cancelled by the college will receive a full refund of all fees for the cancelled class(es). Checks will be issued for cancelled classes within three weeks after the end of registration. No cash refunds. These fees may be applied to other courses.

## **Board**

Departing students shall be charged for meals through Saturday of the week in which formal withdrawal occurs. Students departing during the last two weeks of the semester will be charged the full semester rate for meals.

## **Room**

All full-time resident students who are single are advised to live in college housing and have their meals in the college dining hall. This does not apply to the commuting student who lives in his own home or with legal guardian or relatives. The board payment provides a seven (7) day meal ticket for the semester with 19 meals each week when classes are in session.

Room and Board are combined. A student who lives in a residence hall must participate in the board program. There are no exceptions.

Please contact the Housing Office for residence hall and apartment availability.

Students withdrawing from college or residence halls after having officially registered into a hall are not entitled to a refund of room rent. Should a student withdraw due to a legitimate medical emergency or other unusual circumstance, the unused portion of room rent through the end of the applicable semester may be refunded with the approval of the Vice President for Student Services.

## **Apartment and Room Deposits**

Apartment and/or room deposits will be refunded according to the conditions of the Residence Hall and Married Housing contracts (less any amounts due to the college for damages or other charges).

**PLEASE NOTE:** All refunds and deposits due students for any reason will be forfeited unless written application is submitted on or before June 15th of the academic year in which they are due.

# Financial Aid, Scholarships and Grants

Cochise College provides access to a full range of federal, state, and privately donated financial aid funds to its students through the Office of Financial Aid (OFA). Assistance is available to students based on financial need, academic merit, and program of study. The application process for financial aid begins with the completion of an American College Testing (ACT) application for student financial aid, entitled The Family Financial Statement.

Students should apply as soon as possible after January 1 of the year in which they will begin their academic career. The ACT application forms are widely available from high school counselors, community colleges, and the OFA. Students must file a separate application for the Guaranteed Student Loan Program, as described below. Applications received by the Financial Aid Office on or before April 15th will be funded first. To receive Financial Aid a student must be admitted into a program leading to a degree or certificate.

## Federal Aid Programs

**Supplemental Education Opportunity Grants\***  
The SEOG Program is a direct grant to undergraduate students demonstrating exceptional financial need. Eligibility is determined by the Office of Financial Aid.

### Pell Grants\*

The Pell Grant Program is funded by the federal government in order to provide primary access for students for their degrees. Eligibility is established by the federal government and students are funded at the level appropriate to their dependency status, living accommodation, and enrollment level. The base of funding begins with the Pell Grant Program.

## **Guaranteed Student Loans\***

The Guaranteed Student Loan Program is available to meet educational expenses. Loans are made through banks, credit unions, and other financial institutions. The loans are federally insured for repayment and lenders are paid a subsidy on the interest rate charged at eight percent as long as the student is enrolled in school. Repayment begins six months after the borrower leaves school and continues over a five-to-ten year repayment period. Applications are available from the Office of Financial Aid.

NOTE: Professional pilot students must have a private pilot certificate to qualify for loans.

## **College Work Study\***

The College Work Study Program allows students to defray part of their cost of education through work experience. Many job placements are career related, offering both valuable experience and income to the student. The recipient may work up to 16 hours per week in an on-campus placement.

Various departments on campus employ students in work-study positions to perform a variety of functions. The employing department decides on the selection of the student. Student financial aid recipients must be aware that institutional earnings from all sources are required to be reported to the Office of Financial Aid. In limited circumstances, students' financial aid packages may require adjustment in order to coordinate the earnings with other offers of aid. Students are interviewed after being declared eligible and then placed in jobs through the Career Action Center.

\*Must be enrolled in a minimum of 6 units

## **Scholarships**

Academic scholarships are offered on the basis of financial need, grade point average, leadership qualities, and community services. Funds are provided by private donors to Cochise College. Scholarships are intended for students who are residents of the State of Arizona. Scholarship selection is dependent on the student's overall achievement and may be limited to specific fields of study. Through submission of a single application, the student application will be considered for all of the scholarships available. Students also should contact their individual departments regarding funds which may be available through those sources.

All students are encouraged to apply for financial aid, regardless of financial status. The broad range of financial aid resources available to the Office of Financial Aid provide access on a variety of levels. Students who do not have financial need may still qualify for academic scholarships. Contact the Office of Financial Aid for further information.

# Student Services

## Student Life Committee

The Student Life Committee is composed of faculty, staff and students. The committee evaluates and recommends policies and procedures to the College Senate in areas of social standards, medical service, resident student and food services, financial aid, admissions, tutoring, registration and recruitment.

It also reviews student publications, college and community relations, the Student Government budget, and student activities.

## Student Development Center

The Student Development Center on each campus has an intensive advisement program which offers students ongoing quality advisement by special SDC advisors. A drop-in computer lab is available as is free course placement assessment in English, composition, ESL, reading and mathematics. Students may sign up for peer tutor assistance in any subject, and professional tutors may also be assigned. Students with good GPA's may receive minimum wage hourly pay for tutoring through the Center. A special program (IVEP) exists for students in need of special services such as; note-takers, readers and interpreters. Disabled students are encouraged to contact the SDC for assistance. Personal counseling, career counseling and related testing are also available.

## Health Services

The College offers a well-equipped campus health center at the Douglas Campus directed by a full-time registered nurse. In cases of illness or injury, students are referred to a local doctor of their choice for diagnosis and treatment. Student health insurance is available on a voluntary basis through Private Health Insurance Companies.

## Student Union

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 various dining facilities are provided for student participation and enjoyment. Both Student Activities and Student Government Offices also are located in this building.

Dining services provided by the Student Union include the Que Pas snack bar, a private dining facility and a large well-equipped dining room capable of seating 250. Resident students are offered a well-balanced menu as well as seasonal buffets, specials, and unique monotony-breakers designed to create a "second-home" atmosphere in the Student Union.

## Student Activities

The College encourages participation in extracurricular activities, campus organizations, intramural, and intercollegiate athletics to promote leadership, student relationships, and social development. Most campus activities are the responsibility of student clubs and organizations. During the year, a full schedule of activities is planned for the student body by the student government and various clubs and organizations.

Student activities include: Apache Fest, athletic events, band, choir, billiards tournaments, college rodeo, Cultural Film Series, drama productions, informal dances, intramural sports, Public Events Series, Red and White Ball, Student Orientation Program, Las Vegas Night, concerts, lectures, picnics, weekend trips, Popular Film Series and others.

## Organizations

Student organizations attempt to meet special student needs and interests. Students of similar interests may form a club in which fellow students can participate in specialized activities. Presently, the following organizations are available for student participation: Alpha Eta Rho (Aviation), Apache (newspaper), Phi Theta Kappa (National Community/Junior College Honors Society), International Club, Phi Beta Lambda (business, office and business teacher education), Rodeo Club, Newman Club, Aviation Maintenance Specialists, Circle K Club and the Native American Club.

## **Athletics**

Cochise College competes with other community colleges in conference basketball, baseball and women's basketball. Apache Stronghold is the center for intercollegiate sports, concerts, and a variety of intramural activities.

## **Rodeo Team**

The Cochise College Rodeo Team competes with community colleges and universities in the Grand Canyon Region of the National Intercollegiate Rodeo Association, which includes Arizona and portions of Nevada and New Mexico.

## **Student Publications**

The "Mirage," a student literary magazine, is published once during the spring semester.

## **Food Service Committee**

A Food Service Committee made up of students, faculty, staff and professional food management personnel strive to maintain quality food programs for the campus community.

## **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 not residing with parents or other relatives, guardians or friends are encouraged to reside on campus and participate in the dining program. Housing and dining services are combined; therefore, all residential students are automatically on the meal plan. Unmarried students reside in Chiricahua Hall (for women) and Huachuca Hall (for men).

## **College and Housing 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, the "Apache Guide" Student Handbook as well as local, state and federal laws.

## **Dining Program**

The dining program includes three meals each day, Monday through Friday, and two meals, each on Saturday and Sunday. Students have the option of taking most meals either in the Cafeteria or the Que Pas snack bar. Cafeteria dining includes a wide selection of foods and beverages offered each meal on an "all you can eat" basis.

## **Apartment Housing**

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

## **Applications**

Students interested in on-campus housing are encouraged to apply early—preferably at least 60 to 90 days before the academic term begins. Housing applications will not be processed unless the prospective student has applied for admission to the College. Interested applicants may write to the Housing Office, Cochise College, Douglas, Arizona 85607 or call (602) 364-0262.

## **Student Responsibilities/Code of Conduct**

Cochise College assumes that men and women of college age are able and willing to maintain standards of self-discipline appropriate to membership in a college community. Students are expected to consider the rights of others and use mature and reasonable judgement concerning their actions while attending Cochise College. Students who bring or use alcoholic beverages or illegal drugs on campus or in the residence halls are subject to dismissal from the college. In all cases of disciplinary action, proper procedural safeguards are observed to insure students of their right to fair and impartial treatment. All students are expected to abide by federal, state, and local laws and the College code of conduct. All students are expected to abide by federal, state and local laws and the Cochise College Code of Conduct which is published in the "Apache Guide" at the beginning of each academic year.

# Academic Regulations

The development, enforcement, interpretation and waiving of academic requirements are a responsibility of the Vice President for Instruction. Student petitions for the waiver of academic regulations may be presented to the Office of the Director of Admissions and Records through the student's counselor/advisor.

## Classification of Students

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

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

**Full-Time Student:** Student carrying 12 or more units during the semester.

**Part-Time Student:** Student carrying 1 to 11 units during a semester.

## Grading System

Grades are earned in each course and the grade is recorded on the student's permanent record. Grade definitions are as follows:

A	Superior (4.0)
B	Good (3.0)
C	Average (2.0)
D	Poor (1.0)
F	Failure

**Withdraw Failing (WF)** - Indicates withdrawal from the class after Friday of the ninth week with a grade below a 'C' in the course. A Grade of 'WF' is computed in the student's grade point average as an 'F', or failure.

**Withdraw (W)** - Indicates a student has withdrawn from the course through Friday of the ninth week, or that he/she was earning a grade of 'C' or better if the withdrawal was after the Friday defined above. A grade of 'W' is not computed in the student's grade point average.

**Incomplete (I)** - Indicates that for a justifiable reason, such as a serious illness, the student failed to complete all requirements for the course. When this happens, the instructor submits an Incomplete Grade Contract to the Registration Office with the final grade roster. Failure to make up an incomplete during the succeeding semester will result in change from the grade of 'I' to an 'F' on the permanent record unless there is a contract on file in the Director of Admissions and Records Office stating otherwise. The grade of 'I' is not computed in the student's grade point average.

**Audit (A)** - Courses may be taken for audit at the discretion of the course instructor. Registration and fee policies are the same as those for regular students. However, priority in registration will be given those registering in a course for credit.

**Passing (P)** - Passing in a pass-fail course.

**Failure (XF)** - Failure in a pass-fail course.

## Grading System

Semester grades are assigned grade points as follows:

A	4	grade points per unit earned
B	3	grade points per unit earned
C	2	grade points per unit earned
D	1	grade points per unit earned
F	0	grade points per unit earned
WF	0	grade points per unit earned

Thus, a three-unit course with a grade of 'A' would earn  $(3 \times 4)$  12 grade points. The total grade points accumulated by a

student are divided by the total of units attempted (excluding "W" and 'I' grades) and the result is known as the student's cumulative grade point average, or "GPA".

In determining academic standing at Cochise College, the "GPA" of a transfer student is computed on the basis of units attempted at Cochise College only and will not include units and grade points earned at another college.

### **Scholastic Honors**

Any student who completes 12 or more units in one semester or phase at Cochise College and maintains a semester "GPA" of 3.900 or better will be placed on High Academic Honors standing.

Any student who completes 12 or more units in one semester or phase at Cochise College and maintains a semester "GPA" of 3.500 to 3.899 will be placed on Academic Honor standing.

### **Unit Load Limitations**

Student class load maximums shall be established according to the following:

1. Beginning freshman  
(first-time college students) 17 Units
2. Transfer students from another college  
with lower than a 2.0 GPA. 16 Units
3. Continuing students accruing 15 units and above:
  - a. With a cumulative GPA of 2.5 or better 19 Units
  - b. With a cumulative GPA of 2.0-2.49 16 Units
  - c. With a cumulative GPA of 1.6-1.99 12 Units

Due to the nature of the Aviation Maintenance, Professional Pilot Technology Program, students enrolled in the program shall be exempted the 19 unit maximum. Cooperative Education units shall be exempted from student load limitations.

### **Academic Probation**

Satisfactory progress will be reviewed for all students at the end of each semester and students who have not made satisfactory progress will be placed on academic probation for the next semester. A student on academic probation must consult with a college counselor to develop a plan to make up deficiencies. Students on financial aid must contact the Financial Aid Office.

Questions concerning an academic status should be directed to the Director of Admissions and Records.

The college determines satisfactory progress by the number of units completed and the earned GPA according to the following chart:

<i>Number of Units</i>	<i>GPA</i>
0 - 12 (or first semester freshman)	1.50
13 - 24	1.75
25 - 36	2.00
37 - 48	2.00
49 - 60	2.00
61 +	2.00

### **Academic Suspension or Dismissal**

A student attempting twelve or more units while on academic probation may be academically suspended if his or her semester grade point average falls below the accepted limits. (See limitations in the above academic probation section.)

All available factors having a bearing upon the academic record of the student will be evaluated prior to academic suspension. Exceptions may be made to suspension if the student has demonstrated significant improvement during academic probation. The Vice President for Student Services may re-admit an academically suspended student after one semester.

## **Credit for Transfer Students**

Students who have attended other regionally accredited colleges and universities must have official copies of their academic records sent to the Transcript Clerk's Office on the Douglas Campus.

Accredited higher education institutions are those that are fully accredited by the New England Association of Schools and Colleges, Middle States Association of Colleges and Schools, North Central Association of Colleges and Schools, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools, and Western Association of Schools and Colleges.

Students requesting an evaluation of transcripts for the purpose of seeking a Cochise College degree, must be currently enrolled at Cochise College before requesting such an evaluation.

The following rules govern the admission of a student who has attended another college:

1. Courses for which the student has earned a grade of 'D' or 'F' will not be accepted for credit.
2. Students with an earned "GPA" below 2.000 may be admitted on academic probation.
3. Students academically dismissed from another college may not attend Cochise College for one full semester after said dismissal.
4. Professional Pilot students who transfer to Cochise College may receive credit for up to 18 hours of aviation course credit for previously earned certificates and ratings if they complete at least one flight course resulting in a certificate or rating.
5. Grade point averages earned at other institutions are not calculated with GPA's earned at Cochise College.

## **Credit by Examination**

Cochise College offers credit by examination through departmental examinations. Credit by examination is made available on the principle that the student has previously acquired the knowledge or competencies prescribed in its course offering. The student must register for those courses in which he or she wishes to establish credit by examination.

A student may apply for special departmental credit by examination not to exceed a cumulative total of twelve units. The student may challenge only those courses numbered 100 or above, in which the student has not had advanced college coursework.

Units and grades earned will be computed into the regular course load and cumulative grade point average. The student may not challenge the same course twice or a course in which the student has earned a failing grade. Units earned through credit by examination may not be used to fulfill residency requirements. Credit by examination may be administered by full-time faculty only.

The student may apply for credit by examination by obtaining an application form from the Registration Office on either campus, securing permission and signatures from the appropriate instructor and division chairman, registering for the course by the forty-fifth day and paying the appropriate fees. Fees are non-refundable.

## **College Level Examination Program (CLEP)**

Cochise College accepts for college credit, both the General and the Subject examinations of the "CLEP", providing satisfactory scores are attained. Scores of 500 or above on all General examinations will entitle the student to six units of credit in each of the five General examinations: English Composition, Humanities, Mathematics, Natural Sciences, and Social Sciences - History.

Students must complete at least one Cochise course before credit may be granted for "CLEP". Credit earned under

"CLEP" may not be used toward the fifteen resident hours required for a degree. Three to 16 units of credit, depending upon the examination, may be earned by scores of 50 or better on the Subject examinations. The number of units of credit earned is listed in parentheses following the corresponding test indicated below:

Afro-American History (3)  
American Government (3)  
American History I (Early Colonization to 1877) (3)  
American History II (1865 to Present) (3)  
American Literature (3)  
Analysis and Interpretation of Literature (6)  
General Biology (8)  
Calculus w/Elementary Functions (10)  
College Algebra - Trigonometry (5)  
Computers and Data Processing (3)  
Educational Psychology (3)  
College Composition (3)  
Foreign Language:  
College French I, II (8) or (16)  
College German I, II (8) or (16)  
College Spanish I, II (8) or (16)  
English Literature (6)  
Freshman English (7)  
General Chemistry (7)  
Human Growth & Development (3)  
General Psychology (3)  
Introduction to Management (3)  
Introductory Accounting (6)  
Introduction to Business Law (3)  
Introductory Macroeconomics (3)  
Introductory Microeconomics (3)  
Introductory Marketing (3)  
Introductory Sociology (3)  
Trigonometry (3)  
Western Civilization I (Ancient Near East to 1648) (3)  
Western Civilization II (1648 to Present) (3)

For students taking "CLEP" examinations, duplicate credit will not be awarded in subjects at the same level. Students

will not be awarded credit through "CLEP" for courses equivalent to, or at a lower level than, other courses they have already taken through formal course work.

Students may earn up to 30 units of college credit by taking the "CLEP". However, credit granted by Cochise College does not obligate any other college or university to accept such credit. Interested persons may contact the Counseling Offices for testing procedures.

### **USAF/Dantes and Military Schools**

Cochise College follows the credit recommendation of the American Council on Education for Military Service Schools. Credit for USAF/DANTES courses will be granted in accordance with the minimum standard score and credit recommendation for each separate examination.

Colleges differ on their policies related to credit allowed for USAF/DANTES and Military Service Schools. Credit granted by Cochise College does not obligate any other college or university to accept such credit.

Students must complete at least one Cochise College course before credit will be granted for USAF/DANTES or Military Service courses. Credit earned on any of these may not be used toward the 15 resident hours required for an AA, AS, or AAS degree. A maximum of 30 units will be allowed for credit for non-traditional learning.

### **Independent Study**

Cochise College recognized that outstanding scholarship is attained when the student attains scholastic maturity and possesses the motivation to pursue knowledge independently. Although this stage of academic achievement is normally expected at upper division and graduate levels, the College further recognizes that many 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 division chairman. Independent study may not be used as a substitute for an existing course.

The college provides independent study opportunities for students who:

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.
3. Have demonstrated the need for investigation into areas of knowledge that may not be included in existing formal courses.

The student and 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 division chairman, and will be compatible with published academic standards and procedures. Units assigned to an independent study contract may not be increased or reduced after commencement of the study. Contracts must be completed with the semester in which study begins.

Independent study may take place only during the academic year excluding summer sessions.

After signing the contract, the student shall complete an Add Slip and submit both documents to the Office of the Director of Admissions and Records. Independent studies are subject to the Drop-fees. Contracts are subject to the same grading stipulations and other procedures as set forth by the Office of the Director of Admissions and Records.

## **Grade Report**

Each student receives a grade report at completion of the semester. Final semester grades are recorded on the student's permanent record.

Grade reports of unmarried students under 18 years of age are mailed to the parents or guardian. Grade reports of other students are mailed to their home address.

## **Final Examinations**

Final examinations are a most important function within the academic process. Failure to include a substantive final examination in the process serves to reflect negatively not only on the validity of the course, but also on the credibility of the institution. Giving final exams earlier than provided for by College procedure simply reduces the amount of teaching time called for by academic standard.

Certain courses may call for demonstration of completion of competency for final projects requiring more than the two hours of work and, therefore, these projects may serve as a final. Such projects must necessarily begin and end before the exam period. This being the case, the class shall meet during the prescribed exam period for review, critique or otherwise meaningful activity.

Should there be a necessity to request exception to the final exam schedule, such exception must be in writing to the respective chairman.

Evening classes will have final examinations during the last class meeting.

A final examination schedule will be printed in the class schedule at the beginning of each semester. Students are expected to attend all final examinations as scheduled. Students who are unable to attend may receive a failing grade at the discretion of the instructor.

## Change of Grade

A grade reported to the Registrar may be changed only upon authorization of the faculty member issuing the grade.

## Repeating Courses

A course may be repeated according to the following guideline:

Type of Course	Number of Repeats
University Parallel	One time only**
Vocational Skill Courses	*Two times only**
Fundamental Skills Courses	As required to gain skill level
Activity (music, PE, drama, art)	Four times only

The listing of the original course and grade remains as part of the permanent record, but only the last grade earned will be computed for graduation and cumulative grade point average. A student need not repeat a course which he has failed unless it is a prerequisite for another course or is a course required for graduation or transfer. \*

\* Excepting Emergency Medical Training

\*\* A student may be allowed to repeat a course beyond the limit with approval of the appropriate division chair.

## Change of Program

Students may drop classes through the end of the ninth week of classes without academic penalty. Should the withdrawal occur prior to the 45th calendar day after college classes have begun, such withdrawal will not appear on the student's record. Withdrawals occurring between the 45th calendar day and the end of the ninth week will be assigned a 'W' for withdrawal, providing an official withdrawal is made.

Students dropping classes after Friday of the ninth week will be assigned a 'W' if the grade being earned up to withdrawal

was a 'C' or better. A 'W' is not computed in the student's "GPA". Should the student withdraw from a class in which he is earning below a 'C', a grade of 'WF' is computed in the student's "GPA".

Students may add classes through Friday of the second week of classes, providing the class is not closed, by initiating an add transaction with the Registration Office. Add transactions during the third and fourth weeks of classes may only be made for the purpose of moving to a lower or higher level course than one for which the student had already registered.

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.

1. All Drop/Add forms will originate in the Registration Office or the Student Development Center.
2. Students must obtain the appropriate signature for the classes they wish to drop or add.
3. Students will turn in the Drop/Add slip to the Registration Office and proceed to the Cashier's Office if there is a charge for the transaction.

NOTE: No slip will be accepted without the appropriate signature. No add slip will be accepted after the last day to add a class.

## Drop

1. Instructors may drop those students who have not been attending class by marking through the student's name on the "FTSE" roster and recording a drop date. There will be no refunds to students for a drop made by the instructor. The student must turn in a drop slip to the cashier in order to receive a refund.

- No drop slip will be accepted after the last day to drop a class without academic penalty. Students who wish to drop after that date must make arrangements with the instructor to receive a grade of 'W' or 'WF' on the final grade roster.

## **Withdrawal from College**

A student who wishes to withdraw from the College must obtain College withdrawal form from the Division of Student Services. Upon obtaining the appropriate signatures, the form is returned to the Division of Student Services.

Failure to officially withdraw may jeopardize the receipt of any funds due and may further result in the assignment of 'WF' for all courses in which the student may be enrolled.

## **Transcripts**

A transcript is a copy of the student's permanent record which, upon the written request of the student, is available to the student, to another college or university, or prospective employer.

Transcripts are forwarded by the Director of Admissions and Records Office at the written request of the student. Transcripts to educational institutions will be sent directly by mail.

Transcripts given directly to the students are marked "issued to student." The first transcript is issued without charge. Charges for additional transcripts are as follows: unofficial transcripts to student - \$1 each; all official transcripts - \$2.50 each.

## **Transfer of Credit**

Students transferring from Cochise College to one of Arizona's state universities and colleges are advised as follows:

1. Consult the Transfer Curriculum Guide. This document has been developed by Cochise College in cooperation with the universities and colleges and provides minimum course information for most major areas of study.
2. Universities will generally accept up to 72 units of community college coursework.

3. Courses carrying a numerical designation of 0 through 99 are not designed to transfer.
4. Courses in which a student earns less than a 'C' rarely are accepted for transfer at the receiving institution.
5. Students intending to transfer to a four-year institution are advised to discuss transfer with a College instructor.
6. The grade point average earned at Cochise College generally will not be calculated with the "GPA" earned at the receiving institution.

## **Attendance Policy**

Each instructor shall establish a specific attendance policy for each class and shall communicate same in writing at the first class meeting of the semester. An instructor may dismiss a student from class for absences exceeding the limit stated in the instructor's policy. The instructor may drop the student on a class roster or submit a drop slip to the Registration Office. Students dropped by instructors will receive no refund. It is the student's responsibility to make up classroom work and assignments missed while excused for College-sponsored trips.

## **Veteran's Satisfactory Progress**

A veteran (VA) student who drops a course or withdraws from College is required to report to the Veteran's Affairs Office immediately following such action. Failure to report any reduction in units or withdrawal from College may result in repayment of all money which the veteran may have received during that semester.

All veterans are advised to maintain close contact with the Office of Veteran's Affairs. Information concerning veteran's benefits and procedures may be obtained by contacting the Veteran's Affairs Office.

## **Registration for Physical Education**

A full-time student must complete 2 units in physical education for degree requirements. Waivers will be considered by student petition.

A student who is physically disqualified for participation in physical education as certified by a licensed physician (such certification by a physician must be renewed each semester) shall be exempt from physical education activity. Physically handicapped students will enroll in a personal health course or a special adaptive physical education course.

A student 24 years of age or older at the time of registration shall be exempt from physical education courses.

Honorably discharged service personnel with a minimum of two years of active duty, active duty service personnel, married men and women, and men and women who are heads of households are exempt from the requirement of two units of physical education.

## **Catalog Requirements**

Candidates for an Associate Degree may elect to fulfill degree requirements as outlined in any one catalog in effect during their dates of registration for credit at Cochise College, with the following exception: Students who have not enrolled at Cochise College for more than two consecutive semesters must meet degree requirements as outlined in the catalog in effect at the date of their re-enrollment for Cochise College credit or any subsequent catalog in effect during their dates of registration for credit at Cochise College.

## **Second Associate Degree**

Candidates for a second Associate Degree at Cochise College must earn the 16 units required for the second degree at Cochise College in addition to the units required for the first degree and must meet all other requirements for the second degree.

## **Graduation Requirements**

Cochise College grants the degree of Associate of Arts, Associate of Science, Associate in General Studies, and Associate of Applied Science degrees. Students should review the catalog section on Degrees and Programs, and consult with a counselor or faculty advisor for specific requirements for each of these degrees. A minimum of 64 units are required for the 'AA', 'AS', 'AAS' and 'AGS' degrees.

Graduation requires a cumulative grade point average of 2.00 or better for all college credit coursework undertaken and for any work satisfied through credit by examination.

Where applicable, a grade point average of 2.00 or better for all college credit work undertaken in the Major Emphasis Area is required for graduation.

A minimum of one quarter of the total units required for each degree granted must be completed at Cochise College.

Minimum Exit Competencies for the 'AA', 'AS', and 'AGS' Degrees are:

English - completion of ENG 101 with a 'C' or better;  
Math - 6 units at any level or 3 units MAT 120 and above;  
all with a 'C' or better;  
Reading - 11.5 grade level in accordance with standardized test scores.

## **Graduation Application**

Students planning to graduate must file a Graduation Application with the Student Development Center and pay appropriate fee at the Cashier's Office.

Applications must be filed by October 23, 1992 for fall graduation and by March 12, 1993 for spring graduation. Dates also apply to certificate applications. If an application is late, a diploma will not be ordered until the following order date. Diplomas will be mailed after final grades are received and records evaluated. See your counselor as to what degree you qualify for. Diplomas are ordered as marked on application.

# Degrees and Programs

## Academic Standards

Cochise College is committed to maintaining and encouraging the highest academic standards, thereby enabling students to transfer to colleges and universities throughout the nation and to successfully enter the working environment.

## University Parallel Programs

Cochise College offers the first two years of a four-year program for students who wish to extend their education to include a bachelor's (four-year) degree. In addition, the student may remove any high school grade or subject deficiencies.

Students who plan to transfer to Arizona universities, or to other colleges and universities, should review the specific catalog to determine lower division requirements. Catalogs of major universities and colleges are available in the Student Development Center and the Division of Student Services. The counseling staff, in cooperation with various schools and colleges within the three Arizona universities, have developed a Transfer Curriculum Guide. This publication provides curriculum transfer plans for most Bachelor's Degree programs. \*Curriculum plans for a variety of pre-professional transfer programs are located elsewhere in this section.

The student who plans to graduate from Cochise College and wishes to obtain junior standing in another college or university has four requirements to fulfill:

1. Clear up any entrance deficiencies in grades or subject matter if the senior college to which he or she expects to transfer so requires.
2. Fulfill the general requirements of Cochise College and the senior college which are prescribed for all students.
3. Fulfill his or her own pre-major requirements, i.e., the lower division requirements for his/her upper division major.

\*Students may also consult the Course Equivalency Guide.

4. Earn a cumulative grade point average of 2.0 or better.

Under the provision of the ROTC Vitalization Act of 1964, community college men and women are now eligible to immediately enter the Advanced ROTC Program when they transfer to a four-year college or university.

Information relative to this program may be secured from the Division of Student Services.

### **Occupational-Vocational Programs**

Occupational-vocational programs are for the student whose goals are generally in fields of technology or other areas leading to employment immediately upon program completion. Such goals may also be for purposes for skill upgrade, continuing education or retraining in a new career field. Each course and program has been developed with the aid of business and industry advice to assure the College and student that learning is both current in content and high in quality. Upon successful completion of curriculum requirements, the student will receive an associate degree or certificate. The Career Action Center will assist graduates in finding permanent positions in their specialization area.

Many occupational courses and programs will transfer to Arizona and other universities depending upon the student's selection of a specific degree. If the student intends to transfer to obtain a four-year degree, courses must be carefully selected to ensure transferability before the course is taken. For more information on specific transfer options, consult a Cochise College counselor or the university of interest.

In addition to the two year-degrees and certificate programs of less than two years, the College offers a variety of short term credit and non-credit occupational-vocational courses on a scheduled, and when requested, basis. Business, industry or other interested groups may obtain further information for these services from the Community Campus Office on the Douglas Campus or the Professional Development Office at the Sierra Vista Campus.

### **Academic Skills**

Reading, English, and math placement is mandatory for all entering full-time students (12+ units) and all part-time students upon the completion of 12 units. Students are placed in appropriate courses according to placement tests given to all freshmen during registration. A course in study and test-taking skills, as well as a psychology course, are included in the counseling component of the skills program. Students also are advised about graduation requirements and careers, and are encouraged to learn in one-to-one tutoring sessions.

### **Courses Numbered Below 100**

Coursework numbered below 100 may not fulfill Associate of Arts, Associate of Science or Associate of Applied Science degree requirements. A maximum of 12 units of coursework numbered below 100 may be used as electives in the Associate of General Studies degree. Coursework numbered below 100 is not transferable.

### **Computer Literacy**

Cochise College encourages all students to become knowledgeable in the use of computer systems as a source of information and their data processing and problem solving capabilities. Computer language courses may not be used to satisfy the foreign language requirement.

### **Cooperative Education**

Cochise College students enrolled for credit in any College program may elect to participate in the Cooperative Education Program. This is a cooperative arrangement between an employer, the student and the College to provide part-time (or in some cases, full-time) job placement in training positions related to the student's career interest. The student's work is coordinated by college staff and the student will receive college credit for this job experience. This program also is

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

### Spanish Immersion Program

The College offers a Spanish Immersion Program that provides intensive day-long instruction to non-native speakers. The program is designed to provide a basic speaking-listening facility in the Spanish language. During the 16-week semester, students attend classes, work with conversants and participate in language laboratory activities five hours daily each week.

Students receive 16 units of transferable credit upon successful completion of the program, equivalent to the first two years of college Spanish.

A seven-week summer Spanish Program is also offered, for which students receive eight units of college credit in Spanish.

### English Immersion Program

The English Immersion Program offers a student whose first language is not English, the basic language proficiencies needed to enter regular college programs. Grammar, reading, writing, conversation, listening comprehension and culture classes are offered six hours daily at the beginning, intermediate and advanced levels. Classroom instruction is complemented by extensive use of audio-visual materials, field trips and cultural activities.

### Degrees and Certificates

Cochise College offers the Associate of Arts, Associate of Science, Associate of General Studies, and the Associate of Applied Science degrees with major emphasis in a number of academic areas. Requirements for specific academic programs are given in the program curriculum guide.

### Associate of Arts Degree

#### Minimum Requirements

	Credit Hours
English 101, 102*	6
Humanities**	8-12
Mathematics (MAT 120 or above)	3
Laboratory Science**	8
Social Science**	9-12
Physical Education	2
Major Emphasis or Electives	13-20
Foreign Language** (Second semester proficiency)	8
<b>TOTAL</b>	<b>64</b>

\* Foreign students may substitute ENG 107 and ENG 108 for ENG 101 and ENG 102.

\*\* Transferability of specific courses within a discipline will be determined by use of current Transfer Curriculum and Course Equivalency Guides. Except as noted above, course substitutions are not allowed.

### Associate of Science Degree

#### Minimum Requirements

	Credit Hours
English 101, 102*	6
Humanities/Social Science**	12
Laboratory Science**	8
Mathematics (MAT 120 and above)	9-11
Physical Education	2
Major Area of Emphasis or Electives	25-27
<b>TOTAL</b>	<b>64</b>

\* Foreign students may substitute ENG 107 and ENG 108 for ENG 101 and ENG 102.

\*\* Transferability of specific courses within a discipline will be determined by use of current Transfer Curriculum and Course Equivalency Guides. With the above exceptions, course substitutions are not allowed.

## **Associate of General Studies Degree**

Lower division course requirements for certain four-year college degree programs may require fewer science, mathematics and foreign language units than do the Associate of Arts and Associate of Science degrees at Cochise College. The Associate in General Studies degree may also be appropriate for students who wish to pursue a more uniquely designed associate degree for purposes other than transfer or preparation for employment. The general studies component of the AGS ensures that upon completion of the degree requirements, the graduate will possess a minimum set of competencies commensurate with the two-year, post-secondary degree.

### **Minimum Requirements**

	<b>Credit Hours</b>
English 101	3
Other 100 level English Course (or Communications 102)	3
Humanities/Fine Arts*	6-8
Laboratory Science*	4-8
Mathematics (any level)* (or 3 units of MAT 120 or above)	6
Social Science*	6-9
Physical Education	2
Electives**	<u>25.34</u>
<b>TOTAL</b>	<b>64</b>

\* May not include courses numbered below 100 except math.

\*\*May include 12 units of coursework below 100.

## **Associate of Applied Science Degree**

This degree is intended to prepare graduates for employment in a specific career while providing the general education necessary to develop the knowledge,

skills and attitudes essential to lifelong learning and personal growth. Refer to the appropriate program curriculum guide for career course requirements.

The Applied Science Degrees available at Cochise are described under Degree Programs.

<b>Minimum Requirements</b>	<b>Credit Hours</b>
English (100 level or above)*	3 or 6
Social Science/Humanities (100 level or above)**	3
Mathematics (100 level or above)*	3 or 6
General Education Electives**	6
<b>TOTAL GENERAL DEGREE</b>	
EDUCATION COURSES	18
Career Courses (see program guides)	26-43
Electives	<u>3-20</u>
<b>TOTAL DEGREE UNITS</b>	<b>64</b>

\* Nine units of English and Mathematics with a minimum of three units in each area. Chemistry 130 and/or Physics 111 or higher may substitute for mathematics.

\*\* Nine units chosen from the catalog Listing of Degree Requirements and Qualifying Courses with a minimum of three units in Social Science or Humanities.

## **Certificate of Completion**

The Certificate of Completion is awarded to students who complete a specified course of study, credit or non-credit, but which does not meet specified requirements for the 'AA', 'AS', or 'AAS' degrees.

## Catalog Listing of Degree

### Requirements and Qualifying Courses

Qualifying courses vary according to degree program and choice of university. Students should consult an advisor.)

<b>Mathematics Requirement</b>	<b>Degree</b>			
	<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>
MAT010 Fundamental Mathematics			X	
MAT020 Elementary Algebra			X	
MAT110 Intermediate Algebra			X	X
MAT117 College Algebra	X	X	X	X
MAT120 College Algebra	X	X	X	X
MAT124 Plane Trigonometry	X	X	X	X
MAT155 Finite Mathematics	X	X	X	X
MAT256 Calculus for Business	X	X	X	X
MAT261 Analytic Geometry with Calculus	X	X	X	X
MAT262 Analytic Geometry with Calculus	X	X	X	X
MAT263 Analytic Geometry with Calculus	X	X	X	X
BUS104 Business Mathematics			X	X
BUS219 Business Statistics			X	X
BUS220 Business Statistics			X	X
CHM130 Fundamental Chemistry			X	
CIS110 Computer Math			X	X
ELT110 Mathematics for Electronics			X	X
ELT120 Advanced Mathematics for Electronics			X	X
GTC100 Technical Mathematics I			X	X
GTC101 Technical Mathematics II			X	X
PHY111 General Physics			X	

### Laboratory Science Requirement

BIO101 General Biology	X	X	X	
BIO102 General Biology	X	X	X	
BIO 160 Intro to Human Anatomy & Physiology			X	X

### Laboratory

#### Science Requirement

	<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>
BIO184 Plant Biology	X	X	X	X
BIO190 Animal Biology	X	X	X	X
BIO191 General Zoology	X	X	X	X
BIO192 General Zoology	X	X	X	X
BIO201 Human Anatomy & Physiology I			X	X
BIO202 Human Anatomy & Physiology II			X	X
BIO205 Microbiology			X	X
BIO226 Ecology			X	X
CHM100 Preparation for Chemistry			X	X
CHM130 Fundamental Chemistry				X
CHM140 Fundamental Organic & Biochemistry			X	X
CHM151 General Chemistry I			X	X
CHM152 General Chemistry II			X	X
CHM235 Organic Chemistry I			X	X
CHM236 Organic Chemistry II			X	X
ANT136 Archaeological Excavation				X
ANT137 Archaeological Excavation				X
PHY101 Introduction to Physics				X
PHY111 General Physics	X		X	X
PHY112 General Physics	X		X	X
PHY230 General Physics with Calculus			X	X
PHY231 General Physics with Calculus			X	X
GEO101 Physical Geography			X	X
GLG101 Introduction to Geology I	X		X	X
GLG102 Introduction to Geology II	X		X	X

### Social Science Requirement

	<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>
AJS156 Criminology			X	X
AJS254 Psychology in Law Enforcement			X	X
ANT101 The Origin and Antiquity of Man			X	X

<b>Social Science Requirement</b>	<b>Degree</b>				<b>Social Science Requirement</b>	<b>Degree</b>			
	<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>		<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>
ANT102 Development of Culture	X	X	X	X	GEO102 Cultural Geography	X	X	X	X
ANT125 Society and Culture	X	X	X	X	GEO10 Political Geography			X	X
ANT235 Introduction to Archaeology	X	X	X	X	GEO105 Economic Geography	X	X	X	X
ANT136 Archaeology Excavation			X	X	HIS110 History of the United States	X	X	X	X
ANT137 Archaeology Excavation			X	X	HIS111 History of the United States	X	X	X	X
ANT138 Archaeology Site Survey			X	X	HIS115 Survey of the American West	X	X	X	X
ANT140 Rock Art of American Indian			X	X	HIS126 Afro-American History	X	X	X	X
ANT285 Prehistoric Cultures of North America	X	X	X	X	HIS127 Afro-American History II	X	X	X	X
ANT286 Historic Indian Tribes of North America	X	X	X	X	HIS130 Arizona History	X	X	X	X
ANT287 Archaeology of the Southwest			X	X	HIS140 Survey of Western Civilization I		X	X	X
ANT190 The Border, from Heroic Past to Present Controversies			X	X	HIS141 Survey of Western Civilization II	X	X	X	X
ANT226 Non-Literate Societies of the World	X	X	X	X	HIS142 Survey of Western Civilization III	X	X	X	X
BUS109 Survey of American Business	X	X	X	X	HIS160 Introduction to the History of the Soviet Union		X	X	X
BUS123 Human Resources Management			X	X	HIS229 History of Mexico I	X	X	X	X
BUS124 Military Organizations & Staff Functions			X	X	HIS230 History of Mexico II	X	X	X	X
BUS125 Management & Organizational Behavior			X	X	LIN101 Introduction to Linguistics	X	X	X	X
BUS126 Exploring Your Potential as a Manager			X	X	LIN180 Effective Messages			X	X
BUS127 Leadership & Supervision			X	X	POS100 Introduction to Political Science		X	X	X
BUS128 Special Problems in Management			X	X	POS110 American National Government		X	X	X
BUS147 Labor Relations			X	X	POS220 National and Arizona Constitution		X	X	X
BUS160 Job & Family Success Skills			X	X	POS221 Arizona Constitution	X	X	X	X
CPD010 Building Self Esteem			X	X	POS230 Introduction to International Relations		X	X	X
CPD103 Personality and Adjustment			X	X	POS240 Comparative Politics	X	X	X	X
CPD105 The Challenge of Parenting			X	X	PSY101 Introduction to Psychology	X	X	X	X
CPD107 Stress Management			X	X	PSY210 Social Psychology	X	X	X	X
CPD121 Career and Life Planning			X	X	PSY230 Personality Theories & Research		X	X	X
ECN201 Principles of Economics	X	X	X	X	PSY240 Developmental Psychology	X	X	X	X
ECN202 Principles of Economics	X	X	X	X					

<b>Social Science Requirement</b>	<b>Degree</b>				<b>Humanities/Fine Arts Requirement</b>	<b>Degree</b>			
	<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>		<b>AA</b>	<b>AS</b>	<b>AGS</b>	<b>AAS</b>
Y250 Introduction to Psychological Research	X	X	X	X	ENG219 Advanced Creative Writing		X	X	
Y290 Experimental Psychology	X	X	X	X	ENG220 British Literature I	X	X	X	X
C101 Introduction to Sociology	X	X	X	X	ENG221 British Literature II	X	X	X	X
C160 Ethnic Group & Minorities	X	X	X	X	ENG222 Introduction to Shakespeare	X	X	X	X
C202 Social Problems	X	X	X	X	ENG224 American Literature I	X	X	X	X
C207 Introduction to Social Welfare			X	X	ENG225 American Literature II	X	X	X	X
C210 Marriage and the Family			X	X	ENG226 World Literature I	X	X	X	X
<b>Humanities/Fine Arts Requirement</b>					ENG227 World Literature II	X	X	X	X
T140 Rock Art of the American Indian			X	X	ENG228 Mythology & Folklore		X	X	X
T101 Introduction to Art			X	X	ENG299 Individual Studies *	X	X	X	X
T103 Basic Design			X	X	FRE101 Elementary French		X	X	
T105 Art in Elementary School			X	X	FRE102 Elementary French		X	X	
T106 Basic Drawing			X	X	GER101 Elementary German		X	X	
T107 Survey of World Art	X	X	X		GER102 Elementary German		X	X	
T108 Survey of World Art II	X	X	X		HIS140 Survey of Western Civilization I	X	X	X	X
T130 Fundamentals of Painting I			X	X	HIS141 Survey of Western Civilization II	X	X	X	X
T131 Fundamentals of Painting II			X	X	HIS142 Survey of Western Civilization III	X	X	X	X
T230 Two Dimensional Design			X	X	HUM101 Humanities in Contemporary Life		X	X	
T231 3-Dimensional Design			X	X	HUM104 Heritage from Mexico		X	X	
T245 Beginning Figure Drawing			X	X	HUM110 Introduction to Film		X	X	
RT265 Beginning Commercial Design			X	X	HUM115 Cultural Heritage of the Southwest		X	X	
RT270 Ceramics			X	X	HUM167 Cultural Values in the Borderlands Workplace		X	X	
RT280 Beginning Painting			X	X	HUM205 Humanities	X	X	X	X
RT285 Beginning Photography			X	X	HUM206 Humanities	X	X	X	X
RT286 Intermediate Photography			X	X	LAT101 Elementary Latin		X	X	
RT290 Sculpture			X	X	LAT102 Elementary Latin		X	X	
NG104 Introduction to Literature	X	X	X		LIN101 Introduction Linguistics	X	X	X	X
NG112 Children's Literature			X	X	MUS101 Introduction to Music	X	X	X	X
NG115 Genealogy of English Words			X	X	MUS102 Introduction to Music	X	X	X	X
NG116 Genealogy of English Words			X	X	PHI 111 Introduction Philosophy	X	X	X	X
NG119 Creative Writing			X	X					
NG209 Introduction to Poetry			X	X					
NG210 The Bible as Literature			X	X					



## Transfer Students — University Bachelor Degree Programs

The following is a partial list of majors available at the University of Arizona, Arizona State University, Northern Arizona University, Western New Mexico University, and Embry-Riddle Aeronautical University.

Cochise College can create an individual transfer program of study for most University majors. The student initiates development of the program by contacting a Cochise College advisor who in turn consults with an advisor in the appropriate University department.

Major	ERAU	NAU	ASU	WNMU	U of A
Accounting	X	X	X	X	
Administrative Service		X			
Advertising	X				
Aeronautical Science	X				
Aerospace Engineering		X			
Agricultural Engineering, Communications, Economics, and Education			X		
Agronomy			X		
Animal Science			X		
Anthropology	X	X		X	
Applied Geography	X				
Applied Geology	X				
Applied Sociology	X				
Architectural Studies		X			
Architecture				X	
Art	X	X	X		
Art Education	X			X	
Art History	X		X		
Art Special			X		
Arts Management	X				
Asian Language (Chinese/Japanese)	X				
Astronomy	X			X	
Atmosphere Science			X	X	
Aviation Science	X				

Major	ERAU	NAU	ASU	WNMU	U of A
Aviation Technology	X				
Biochemistry					X
Bioengineering			X		
Biology		X	X	X	
Botany		X	X	X	
Broadcasting			X		
Business Economics		X	X		
Business Education					X
Chemical Engineering			X		X
Chemistry		X	X	X	X
Child Development/Family Relations					X
Choral (Music)-General			X		
Civil Engineering		X	X		X
Civil Engineering Technology				X	
Classics					X
Clinical Laboratory				X	
Clothing and Textiles					X
Communications				X	X
Communications Art				X	
Computer Engineering					X
Computer Engineering and Technology					X
Computer Information System		X	X		
Computer Science			X	X	
Computer Science & Engineering		X			
Construction				X	
Consumer Studies & Family Resource Management					X
Creative Writing					X
Criminal Justice				X	X
Criminal Justice Administration					X
Dance				X	
Dental Hygiene				X	
Design Science				X	
Drama Education					X
Drama Production					X
Drama-Musical Theater					X
Dramatic Theory					X
Early Childhood Education				X	
Earth Science				X	
Ecology & Evolutionary Biology					X

Major	ERAU	NAU	ASU	WNMU	UofA	Major	ERAU	NAU	ASU	WNMU	UofA
Economics		X	X	X	X	Hispanic Studies				X	
Education, Elementary		X	X	X	X	History		X	X	X	X
Education, Secondary		X	X	X	X	Home Economics				X	
Education, Selected Studies	X					Home Economics & Journalism				X	
Education, Special		X	X	X		Home Economics Education				X	
Electrical Engineering Technology		X				Home Economics Extension Education				X	
Energy Engineering					X	Honors				X	
Energy Systems Engineering		X				Horticulture					X
Engineering Mathematics					X	Hotel & Restaurant Management				X	
Engineering Physics					X	Housing & Urban Development				X	
Engineering Science			X			Human Services				X	
Engineering, Special Programs	X					Human Services Administration				X	
Engineering Technology		X				Humanities		X	X	X	
English		X	X	X	X	Hydrology					X
Entomology					X	Industrial Arts Education				X	
Environmental Chemistry	X					Industrial Design				X	
Environmental Resource in Agriculture			X			Industrial Engineering				X	
Environmental Science	X					Industrial Supervision				X	
Extended English					X	Industrial Technology				X	
Family Resource & Human Development			X			Industrial Vocational Education				X	
Finance	X	X			X	Instrumental Music		X	X		
Food Science					X	Interdisciplinary Programs (Eng)		X			
Food Service					X	Interdisciplinary Studies	X				
Forestry	X					Interior Design		X	X		X
French		X			X	International Affairs		X			
General Agriculture					X	International Business				X	
General Business				X		Irrigation					X
General Business Administration				X		Italian				X	X
General Fine Arts Studies					X	Jazz & Studio Performance		X			
General Home Economics					X	Jazz Studies					X
General Science		X	X		X	Journalism		X	X		X
General Studies	X				X	Justice Studies				X	
Geochemistry	X					Landscape Architecture					X
Geography	X	X			X	Language Arts-Social Studies				X	
Geological Engineering					X	Latin					X
Geology (Geosciences)		X	X		X	Linguistics					X
German		X			X	Management		X	X		
Greek					X	Management Information Systems			X		
Health Education	X				X	Marketing		X	X	X	X
Health Services Administration				X		Materials Science			X		

<i>Major</i>	<i>ERAU</i>	<i>NAU</i>	<i>ASU</i>	<i>WNMU</i>	<i>UofA</i>
Materials Science & Engineering			X		
Math Science: Applied Mathematics		X	X	X	
Mathematics	X	X		X	
Mathematics & Statistics	X				
Mechanical Engineering	X	X		X	
Mechanical Engineering Technology		X			
Media Arts				X	
Medical Technology	X	X	X	X	
Merchandising/Fashion Promotion		X			
Mexican American Studies				X	
Microbiology	X	X		X	
Microelectronics Engineering					
Technology			X		
Mining Engineering				X	
Molecular & Cellular Biology			X		
Music	X			X	
Music Education	X			X	
Music Therapy		X			
Natural Resource Interpretation	X				
Natural Resource Recreation			X		
Nuclear Engineering				X	
Nutritional Sciences				X	
Occupational Safety & Health			X		
Operations Management				X	
Operations/Production		X			
Oriental Studies				X	
Performances (Music)			X		
Personnel Management			X		
Philosophy	X	X		X	
Physical Education	X	X	X	X	
Physical Science	X				
Physical Therapy				X	
Physics	X	X		X	
Plant Pathology				X	
Political Science	X	X		X	
Portuguese				X	
Psychology	X	X	X	X	
Public Administration	X	X			
Public Management				X	
Public Planning					

<i>Major</i>	<i>ERAU</i>	<i>NAU</i>	<i>ASU</i>	<i>WNMU</i>	<i>UofA</i>
Public Recreation Administration					X
Public Relations				X	
Purchasing/Materials Management					X
Quantitative Business Analysis					X
Radiology					X
Range Management					X
Real Estate				X	X
Recreation				X	
Recreational Leadership				X	
Regional Development					X
Rehabilitation					X
Religious Studies				X	X
Russian					X
Russian & Soviet Studies					X
Social Science (Studies)				X	X
Sociology				X	X
Soil & Water Science					X
Spanish				X	X
Speech & Hearing					X
Speech Communication					X
Speech Pathology & Audiology				X	X
Studio Art					X
Telecommunication					X
Theatre				X	X
Theory & Composition (Music)				X	X
Transportation					X
Urban Planning					X
Vocational Industrial Education					X
Voice					X
Watershed Management					X
Wildfire & Fisheries Sciences					X
Wildlife Biology					X
Women's Studies					X
Zoology				X	X

# Program Guides

The following program guides are selected examples of curricula available at Cochise College. It should be noted that many more pre-baccalaureate transfer programs are available. The student is encouraged to seek advice from a counselor or faculty advisor on these and other available programs. The guides shown here are suggested outlines based on the requirements of more than one university. Students should seek advice from a counselor or faculty advisor on the requirements of a specific university.

## Administration of Justice Associate of Applied Science

General Education Requirements		Units	
Composition	ENG 101	3	
Composition	ENG 102	3	
Written Communications & Reports	ENG 109	3	
Intermediate Algebra	MAT 110	3	
Intro to Psychology	PSY 101	3	
Intro to Sociology	SOC 101	3	
American National Government or National and Arizona Constitution	POS 110		
	POS 220	3	
Physical Education	HPE	2	
		23	

Core Curriculum		Units	
The Criminal Justice System	AJS 101	3	
Police Science	AJS 105	3	
Corrections as a System	AJS 112	3	
Juvenile Procedures	AJS 130	3	
Criminal Law I	AJS 200	3	
Criminal Law II	AJS 201	3	
Fundamentals of Speech	COM 102	3	
Computer Literacy for Professionals	CIS 102	1-2	

Major Emphasis: Law Enforcement	Units
Police Patrol Functions	3
Criminal Investigation	3
Forensic Science	3
Police Community Relations	3
Psychology in Law Enforcement	3
Free Elective*	4-6

19-21

or

Major Emphasis: Corrections	Units
Criminology	3
Community Corrections	3
Penology	3
Social Psychology	3
Free Elective*	7-9

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19-21

\*Recommended that students take some of these free elective credit as Cooperative Education Practicum.

## Administration of Justice Associate of General Studies-Transfer

General Education Requirements	Units
Composition	3
Composition	3
College Algebra	3
Laboratory Sciences (BIO,CHM, GLG,PHY)	8
Humanities*	9-12
Social Science (must include POS 110, PSY 101, SOC 101)	12
Physical Education	1

40-43

\*See specific university requirements for applicable courses.

**Major Emphasis: Northern Arizona University-****Criminal Justice/Corrections**

		Units
The Criminal Justice System	AJS 101	3
Juvenile Procedures	AJS 130	3
Criminology	AJS 156	3
Criminal Law I	AJS 200	3
Criminal Law II	AJS 201	3
Forensic Science	AJS 236	3
Intro to Data Processing	CIS 172	3
Business Statistics	BUS 219	3
		<hr/>
		24

(NAU requires 12 units of Humanities - 6 units Letters and 6 units Creative Arts)

**Major Emphasis: Arizona State University-Justice Studies****Core Curriculum**

		Units
The Criminal Justice System	AJS 101	3
Criminology	AJS 156	3
Forensic Science	AJS 236	3
Social Science		3
AJS Elective*		3
		<hr/>
		15

**Law Enforcement Emphasis**

		Units
Police-Community Relations	AJS 240	3
Criminal Law I	AJS 200	3
Criminal Law II	AJS 201	3
AJS Elective*		3
		<hr/>
		12

\*See specific university requirements for applicable courses.

**Corrections Emphasis**

Juvenile Procedures	AJS 130	3
Corrections as a System	AJS 112	3
Penology	AJS 215	3

Units

3

3

3

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9

(ASU requires 9 units of Humanities and 10 units of Math and Science which must include 4 units of a Lab Science, and 4 units of Computer Science CIS 174 and CIS 175.)

**Major Emphasis: University of Arizona-Public Administration with emphasis on Criminal Justice Administration**

		Units
Finite Mathematics	MAT 155	3
Calculus for Business	MAT 256	3
Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
Business Statistics	BUS 219	3
Intro to Data Processing	CIS 172	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Public Speaking	COM 110	3

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27

(8 units of a foreign language will satisfy the Humanities requirement)

**Correctional Practices Certificate**

(A staff development program for Department of Corrections employees)

# Correctional Officer Training Academy

## Certificate\*

		Units
Prisoner's Rights	AJS 110	1
Correctional Institutions	AJS 111	3
Corrections as a System	AJS 112	3
Crisis Intervention	AJS 113	1
Communications in Criminal Justice	AJS 118	1
Firearms	AJS 119	1
Firearms Certification	AJS 120	1
First Aid & CPR	HPE 188	1
		12

\*Certificate awarded only if COTA Academy sponsored by Cochise College. Students completing the COTA Academy at a site other than Cochise College will receive credit for the above courses only.

# Correctional Program Officer

## Certificate\*\*

		Units
Correctional Casework Techniques	AJS 159	3
Identification of Gangs	AJS 161	1
Organization and Impact of Gangs	AJS 162	1
Special Populations I	AJS 163	1
Special Populations II	AJS 164	1
Basic Management Skills	AJS 165	1
Management by Objectives	AJS 167	1
Correctional Supervision I	AJS 184	3
		12

\*\*Certificate will be granted by the Arizona Community College granting a plurality of credits in the certificate program. Certificate program requires a minimum of 2.0 GPA for courses within the program.

# Parole Officer

## Certificate\*\*

		Units
Correctional Casework Techniques	AJS 159	3
Identification of Gangs	AJS 161	1
Organization and Impact of Gangs	AJS 162	1
Special Populations I	AJS 163	1
Special Populations II	AJS 164	1
Basic Management Skills	AJS 165	1
Management by Objectives	AJS 167	3
Parole Supervision	AJS 170	3
Correctional Supervision I	AJS 184	3
		15

\*\*Certificate will be granted by the Arizona Community College granting a plurality of credits in the certificate program. Certificate program requires a minimum of 2.0 GPA for courses within the program.

# Corrections Management

## Certificate\*\*

		Units
Basic Management Skills	AJS 165	1
Management by Objectives	AJS 167	1
Correctional Supervision I	AJS 184	3
Correctional Supervision II	AJS 185	3
Correctional Administration	AJS 186	3
Criminal Justice Management Problems	AJS 187	1
		12

\*\*Certificate will be granted by the Arizona Community College granting a plurality of credits in the certificate program. Certificate program requires a minimum of 2.0 GPA for courses within the program.

## Agriculture

### **Associate of General Studies**

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>	<b>Final Year</b>	<b>Final Year</b>
Composition	ENG 101	3	General Zoology, Plant Biology, or General Biology	4
General Zoology, Plant Biology, or General Biology		4	Livestock Production and Management	AGR 243
Social/Behavioral or Humanities/Fine Arts		3		3
Physical Education		1		
Principles of Veterinary Science	AGR 101	3	<b>Agriculture Electives: See your advisor or counselor for recommended electives.</b>	
Introduction to Agriculture	AGR 102	3		

**Agriculture Electives: See your advisor or counselor for recommended electives.**

## Agriculture

## **Associate of Applied Science Degree**

<b>Associate of Applied Science Degree</b>		
	<b>Second Semester Units</b>	
Composition	ENG 102	3
General Zoology, Plant Biology, or General Biology		4
College Algebra	MAT 120/117	3
Physical Education		1
Range Management	AGR 105	3
Animal Industry	AGR 208	3
		—
		16
<b>Freshman</b>		
Composition		<b>First Semester Units</b>
General Biology		ENG 101
Agriculture Electives		BIO 102
		9
<b>Agriculture Electives: See your advisor or counselor for recommended electives.</b>		

**Agriculture Electives: See your advisor or counselor for recommended electives.**

Second Semester Units			
Sophomore	First Semester/Units	English in 100 Level	3
General Chemistry I	CHM 151	General Biology	4
Social/Behavioral Science or Humanities/Fine Arts		Agriculture Electives	9
Principles of Macroeconomics	ECN 201		16
Horse Science & Management	AGR 237	Sophomore	First Semester Units
General Zoology, Plant Biology or General Biology		Mathematics	MAT 110 3
	4	Chemistry	CHM 100 or 151 4
		Agriculture Electives	6
			13

	Second Semester	Units	
Fundamentals of Speech	COM 102	3	
Social Science/Humanities		3	
Agriculture Electives		12	
		<hr/> 18	

**Agriculture Recommended Electives: See your advisor or counselor for recommended course work.**

		Units	
Principles of Veterinary Science	AGR 101	3	
Introduction to Agriculture	AGR 102	3	
Range Management	AGR 105	3	
Farrier Science	AGR 107	3	
Team Roping	AGR 138	3	
Western Horsemanship	AGR 139	3	
Rodeo Skills	AGR 140	3	
English Equitation	AGR 141	3	
Range Plants	AGR 207	3	
Animal Industry	AGR 208	3	
Auxiliary Engine Operation and Repair	AGR 209	3	
General Welding	AGR 210	3	
Advanced Agriculture Welding	AGR 212	3	
Agriculture Alloy and Repair			
Welding	AGR 213	3	
Animal Feeding	AGR 230	3	
Horse Science and Management	AGR 237	3	
Livestock Production and Management	AGR 243	3	
Project Welding	AGR 250	3	
Individual Studies	AGR 299	1-4	

		Units	
Recommended Business Electives			
Written Communications and Reports	ENG 109	3	
Principles of Management	BUS 143	3	
Business English Communications	OED 167	3	
Financial Accounting	BUS 201	3	
Introduction to Data Processing	CIS 172	3	

## Equine Science and Management Certificate

	Units
<b>Core Courses</b>	
<b>Science Courses</b>	
AGR 101 Principles of Vet.Science	3
AGR 105 Range Management	3
AGR 230 Animal Feeding	3
AGR 237 Horse Science & Management	3
AGR 243 Livestock Production & Mgmt.	3
<b>Technology Courses</b>	
AGR 107 Farrier Science	3
AGR 138 Team Roping	3
AGR 139 Western Horsemanship	3
AGR 140 Rodeo Skills	3
AGR 212 Advanced Agriculture Welding	3
<b>TOTAL</b>	<b>30</b>

All these courses are required for the certificate. Two 3-unit courses may be substituted with departmental approval.

## Anthropology Associate of Arts Degree\*

	Units
<b>General Education Requirements</b>	
Composition	ENG 101
Composition	ENG 102
Foreign Language	
(Second semester proficiency)	8
Laboratory Science	
Math	MAT 120/117 and above
Humanities	
Social Science	
Physical Education	
	8-10
	9-12
	2

<b>Core Curriculum Courses</b>		<b>Units</b>			<b>Units</b>
Origin & Antiquity of Man	ANT 101	3	Social Science *		9
Development of Culture	ANT 102	3	Foreign Language		8
Society and Culture	ANT 125	3	Humanities**		9
Prehistoric Cultures of North America	ANT 185	3	Physical Education		2
Historic Indian Tribes of North America	ANT 186	3			<u>45</u>
Recommended Electives*		5-0			
		<u>64</u>			

\*Must include HIS 140-141

\*\*Must include ART 107-108

#### Required courses:

Basic Drawing	ART 103	3
Basic Design	ART 106	3
Two Dimensional Design	ART 230	3
Three Dimensional Design	ART 231	3
Beginning Figure Drawing	ART 245	3
Beginning Painting	ART 280	3
Survey of World Art I	ART 107	3
Survey of World Art II	ART 108	3

24

#### Art Electives: Nine units from the following:

Ceramics	ART 270	3
Beginning Commercial Design	ART 265	3
Sculpture	ART 280	3
Beginning Photography	ART 285	3
Intermediate Photography	ART 286	3

3

3

3

3

3

3

3

3

3

\*See the major area advisor for specific transfer curriculum to UA, ASU or NAU.

## Field Archaeology

### Certificate

#### Core Courses

The Origin & Antiquity of Man	ANT 101	3
Society and Culture	ANT 125	3
Introduction to Archaeology	ANT 135	3
Archaeological Excavation	ANT 136	4
Archaeological Excavation (advanced)	ANT 137	4
Archaeological Survey	ANT 138	3
Archaeology of the Southwest	ANT 187	3

**Units**

24

#### General Education Requirement

Composition	ENG 101	3
Electives		3-4
		<u>29-30</u>

## Aviation Maintenance

### Technology

#### Associate of Applied Science Degree

## Art

### Associate of Arts

English 101, 102		6
Mathematics (MAT 120/117 or above)		3
Laboratory Science		8

**Units**

**Units**

<b>Phase</b>			<b>Units</b>
Phase I - General		AMT 150	18
Phase II - Basic Airframe		AMT 160	17
Phase III - Advanced Airframe		AMT 260	17
Phase IV - Basic Powerplant		AMT 270	17
Phase V - Advanced Powerplant		AMT 275	17

General Education Electives (English, Mathematics, Social Science/Humanities; 100 level or above)	18
	<u>104</u>

Acceptance into the Airframe Maintenance Technology Program requires an interview plus acceptance into the Airframe Maintenance Technology Program. Admission to Cochise College does not guarantee acceptance into the AMT Program.

## Professional Pilot Program Associate of Applied Science Degree

Courses AVN 101, 102, 103 and 204 and AVN 111, 112, 113 and 214 are the minimum requirements for a degree and are usually completed in eleven months. Most students return and complete AVN 208, 220, 230, 240 and AVN 218, 221, 231, and 241 and any academic course requirements not met for the degree. Flight semesters average twenty-two weeks. AVN 101 and 103 are taken concurrently.

		Units
Stage One - Commercial Pilot Ground School	AVN 101	5
Stage One - Commercial Pilot Flight Lab	AVN 111	6
Stage Two - Commercial Pilot Ground School	AVN 102	5
Stage Two - Commercial Pilot Flight Lab	AVN 112	3
Stage Three - Commercial Pilot Ground School	AVN 103	5
Stage Three - Commercial Pilot Flight Lab	AVN 113	3
Stage Four - Commercial Pilot Ground School	AVN 204	5
Stage Four - Commercial Pilot Flight School	AVN 214	5
Stage Five - Commercial Pilot Flight School	AVN 215	1

Principles of Macroeconomics	ECN 201	3
Financial Accounting	BUS 201	3
Composition	ENG 101	3
Principles of Marketing	BUS 145	3
Lab Science		4
Physical Education	HPE	2
Principles of Microeconomics	ECN 202	3
Business Law	BUS 231	3
Human Resources Management	BUS 123	3
Managerial Accounting	BUS 102	3
Principles of Management	BUS 143	3
Social/Behavioral Science		3
Business Math	BUS 104	3

## Professional Pilot Program Associate of Science Degree

		Units
Stage One - Commercial Pilot Ground Pilot	AVN 101	5
Stage One - Commercial Pilot Flight Lab	AVN 111	6
Stage Two - Commercial Pilot Ground School	AVN 102	5
Stage Two - Commercial Pilot Flight Lab	AVN 112	3
Stage Three - Commercial Pilot Ground School	AVN 103	5
Stage Three - Commercial Pilot Flight Lab	AVN 113	3
Stage Four - Commercial Pilot Ground School	AVN 204	5
Stage Four - Commercial Pilot Flight Lab	AVN 214	5
Stage Five - Commercial Pilot Flight School	AVN 215	1
Composition	ENG 101	3
Social/Behavioral Science		3
Lab Science		4
Humanities/Fine Arts		3
Physical Education	HPE	2

College Algebra	MAT 120/117	3	Associate of Applied Science		
Composition	ENG 102	3	Freshman	First Semester	Units
Social/Behavioral Science		3			
Humanities/Fine Arts		3-4	Composition	ENG 101	3
Math	MAT 124 or higher	6-9	Introduction to DC Circuits	ELT 105	3
Electives		3	Mathematics for Electronics	ELT 110	3
			OR		
			Social Sciences/Humanities		<u>3</u>
<b>Optional Courses</b>		<b>Units</b>			<b>16</b>
Multi-Engine Rating	AVN 230-231	1-2			
Flight Instructor Engine	AVN 220-221	5-3			
Flight Instructor Instruments	AVN 240-241	3-3		<b>Second Semester</b>	<b>Units</b>
Flight Instructor Multi-Engine	AVN 230-231	2-2			
Fundamentals of Aviation Instruction	AVN 225	3	Advanced Math for Electronics	ELT 120	3
			OR	MAT 117/120	
			Semiconductors & Transistors	ELT 122	4
			Digital Circuits & Systems	ELT 233	4
			Communications Electronics I	ELT 245	4
			General Education Elective		<u>3</u>
					18

\*Acceptance into Professional Pilot Program requires an interview with the Chief Flight Instructor plus acceptance into the Professional Pilot Program. Admission to Cochise College does not guarantee acceptance into the pilot program.

## Avionics Technology Certificate Program

Introduction to DC Circuits	ELT 105	Units	Sophomore	First Semester	Units
Introduction to AC Circuits	ELT 106	4		AVT 127	3
Math for Electronics	ELT 110	3		ELT 231	4
OR	MAT 110			ELT 243	4
Semiconductors & Transistors	ELT 122	4		ELT 265	4
Avionics Fundamentals	AVT 127	3		General Education Elective	
Pulse Circuits	ELT 231	4			
Digital Circuits & Systems	ELT 233	4			
Modern Electronic Devices	ELT 243	4			
Communication Electronics I	ELT 245	4			
Microprocessors & Microcomputers	ELT 265	4			
Navigation Systems	AVT 250	4			
Flight Control Systems	AVT 253	4			
Aircraft Radar & Pulse Systems	AVT 257	4			
Microcomputer Systems	ELT 270	4			
		53	Navigation Systems	AVT 250	4
			Flight Control Systems	AVT 253	4
			Aircraft Radar & Pulse System	AVT 257	4
			Microcomputer Systems	ELT 270	4
					16

## **Business Administration**

### **Associate of Science**

<b>General Education Requirements</b>		<b>Units</b>
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Finite Math	MAT 155	
3		
Calculus for Business	MAT 256	3
Social and Behavioral Science/ Humanities		12
Physical Education		2
Lab Science		8
<b>Core Curriculum Courses</b>		<b>Units</b>
Statistics	BUS 219	3
Business Communications	BUS 167	3
Survey of American Business	BUS 109	3
Intro to Data Processing	CIS 172	3
Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
Business Law	BUS 231	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Electives		3
<b>TOTAL HOURS</b>		<b>67</b>

Students transferring to UA, ASU, NAU are required to see a business faculty advisor for specific transfer curriculum to these Universities.

## Administrative Assistant

## **Associate of Applied Science Degree (Accounting, Computer Science, Management, Microcomputer Science, Secretarial)**

<b>Freshman</b>	<b>First Semester Units</b>
Grammar, Usage & Punctuation	ENG 111 3
Typing	OED 104, or 201 3
Business Math	BUS 104 3

<b>Bookkeeping &amp; Financial Management or Financial Accounting</b>	<b>BUS 146</b>	<b>3</b>
<b>Major Selection</b>		<b>3</b>
<b>Physical Education</b>		<b>1</b>
		<b>16</b>
	<b>Second Semester Units</b>	
<b>Business English Communications</b>	<b>OED 167</b>	<b>3</b>
<b>Records Management</b>	<b>OED 206</b>	<b>3</b>
<b>Word Processing</b>	<b>OED 213</b>	<b>3</b>
<b>Exploring Your Potential as a Manager</b>	<b>BUS 126</b>	<b>3</b>
<b>Major Selection</b>		<b>3</b>
<b>Physical Education</b>		<b>1</b>
		<b>16</b>
	<b>First Semester Units</b>	
<b>Sophomore</b>		
<b>Office Administration</b>	<b>OED 207</b>	<b>3</b>
<b>Secretarial Office Procedures</b>	<b>OED 210</b>	<b>3</b>
<b>Advanced Word Processing or Typing</b>	<b>OED 214</b>	<b>3</b>
<b>Major Selection</b>	<b>OED 201 or 202</b>	<b>3</b>
<b>Transcription/Terminology</b>	<b>OED 212</b>	<b>3</b>
		<b>18</b>
	<b>Second Semester Units</b>	
<b>Business Law</b>	<b>BUS 231</b>	<b>3</b>
<b>Secretarial Practice</b>	<b>OED 211</b>	<b>3</b>
<b>Computerized Office Management</b>	<b>OED 208</b>	<b>3</b>
<b>Office Communications</b>	<b>OED 209</b>	<b>3</b>
<b>Major Selections</b>		<b>6</b>

**Majors:** Select 5 classes from one of the following majors for your Major Selections for a total of fifteen (15) units.

## **Accounting**

Financial Accounting	BUS 201
Managerial Accounting	BUS 202
Intermediate Accounting	BUS 210
Intermediate Accounting	BUS 211
Computerized Accounting	BUS 180
Computer Applications for Business	CIS 181

## **Computer Systems**

Introduction to Data Processing	CIS 172
COBOL I	CIS 173
COBOL II	CIS 273
FORTRAN	CIS 174
Intro to Prog/PASCAL	CIS 171
Advanced PASCAL	CIS 271
Basic Computer Prog.	CIS 175
Programming-Basic II	CIS 275

## **Management**

Special Problems	BUS 128
Human Resources Management	BUS 123
Principles of Management	BUS 143
Small Business Management	BUS 283
Survey of American Business	BUS 109
Data Base Management	CIS 250

## **Microcomputer Specialists**

Computer Applications for Business	CIS 181
Computerized Accounting	BUS 180
Introduction to Data Processing	CIS 172
Computer Keyboarding/Data Entry	OED 113
Intro to Prog/PASCAL	CIS 171
Advanced PASCAL	CIS 271
Programming Basic I	CIS 175
Programming Basic II	CIS 275

## **Secretarial**

Bilingual Typing	OED 203
Shorthand I	OED 105
Shorthand II	OED 205
Computer Keyboarding/Data Entry	OED 113
Advanced Word Processing	OED 214
Professional Typing	OED 202

\*Electives Major courses not selected, Cooperative Education, other business classes, or non-business classes as approved by advisor.

## **Middle Management**

### **Associate of Applied Science (Non-Transferable)\***

General Education Requirements	Units
Composition	ENG 101
Business Math	BUS 104
Social Science/Humanities	6
General Education Electives	6
	18

### **Core Curriculum Requirements**

Core Curriculum Requirements	Units
Financial Accounting	BUS 201
Managerial Accounting	BUS 202
Business Law I	BUS 231
Survey of American Business	BUS 109
Introduction to Data Processing	CIS 172
Business Communications	BUS 167
Principles of Marketing	BUS 145
Principles of Microeconomics	ECN 202
Small Business Management	BUS 283
Principles of Management	BUS 143
Principles of Finance	BUS 156

MAJOR EMPHASIS	15
AAS Degree	66

\*Definition of Non-Transferable - The Middle Management program of study is not designed to transfer into a four year degree. Some specific courses may transfer.

#### MAJOR EMPHASIS

The student needs to choose one of the following Major Emphases.

##### Accounting

Taxation	BUS 121
Analyzing Financial Statements	BUS 136
Intermediate Accounting I	BUS 210
Intermediate Accounting II	BUS 211

##### Business Elective: Marketing

Salesmanship	BUS 144
Merchandising Management	BUS 149
Advertising	BUS 148

##### Business Elective: Banking

Principles of Banking Operations	BUS 135
Law & Banking	BUS 139
Bank Management	BUS 134
Analyzing Financial Statements	BUS 136
Computer Applications for Business	CIS 181; 281

##### General Business

Any Business Class

##### Women In Management

Exploring Your Potential as a Manager	BUS 126
Special Problems in Management	BUS 128
Business Electives	

#### Recommended Electives

Cooperative Education	CED 110
Principles of Macroeconomics	ECN 201
Typing	
Management Information Systems	CIS 282
Human Resources Management	BUS 123
Business Law II	BUS 232

#### Microcomputer Science

Introduction to Data Processing	CIS 172
Computer Applications for Business	CIS 181; CIS 281
Programming - COBOL Level I	CIS 173
Programming - COBOL Level II	CIS 273
Management Information Systems	BUS 282
BASIC Computer Programming I	CIS 175
Programming-BASIC Level II	CIS 275
Intro to Programming/PASCAL	CIS 171
Advanced PASCAL	CIS 271

## Business Certificate Programs

### Middle Management

#### Specialist Program (one year)

	Units
Principles of Marketing	3
Principles of Management	3
Human Resources Management	3
Salesmanship	3
Bookkeeping or/ Accounting	3
Principles of Finance	3
Small Business Management	3

21

#### Business Electives

Any Business course to include up to 9 units in  
Business Cooperative Education

9

30

## **Women In Management**

		Units
<b>Certificate Program</b>		
Exploring Your Potential as a Manager	BUS 126	3
Principles of Management	BUS 143	3
Special Problems in Management	BUS 128	3
Human Resources Management	BUS 123	3
Principles of Finance	BUS 156	3
		<u>15</u>

## **Sophomore**

Humanities/Fine Arts
Principles of Macroeconomics
U.S. History
Financial Accounting
National/Arizona Constitution

## **First Semester**

3-4
ECN 201
HIS 110
BUS 201
POS 220

3

3

3

3

15-16

## **Business Education**

### **Associate of General Studies**

		First Semester Units
<b>Freshman</b>		
Composition I	ENG 101	3
Lab Science		4
Intro to Psychology	PSY 101	3
Shorthand I or	OED 105	
Shorthand II	OED 205	3
Elementary Typing or	OED 103	
Intermediate Typing	OED 108	3
Physical Education		1
		<u>17</u>

	Second Semester Units
Humanities/Fine Arts	3-4
Social/Behavioral Science	
Principles of Microeconomics	ECN 202
Speech	COM 102
Introduction to Data Processing	CIS 172
Managerial Accounting	BUS 202

3-4

3

3

3

18-19

## **Clerical Assistant**

### **One-Year Certificate Program (Legal, Medical, General, Bilingual)**

		Second Semester Units
Composition II	ENG 102	3
Lab Science		4
Intermediate Algebra or	MAT 110	
College Algebra	MAT 120/117	3
Shorthand I or	OED 105	
Shorthand II	OED 205	3
Intermediate Typing or	OED 108	
Advanced Typing	OED 208	3
Physical Education		1
		<u>17</u>

	First Semester Units
General Office Procedures	OED 105
*Grammar Usage & Punctuation or	ENG 111
*English Fundamentals	ENG 010
Typing	OED 102, 103, 104 or 201
Computer Keyboarding/ Data Entry	OED 113
Business Math	BUS 104
or	
**Electives	0-3

0-3

14-18

	Second Semester Units	Word Processing	OED 213	3
Typing	OED 104, 201 or 202	*Electives or SPA 276 or BIO 202 Physical Education		3-4 1
Word Processing	OED 213			
Clerical Practice	OED 107			16-17
Records Management	OED 206			
*Business Communications or	OED 167	Sophomore	First Semester	Units
*Grammar Usage & Punctuation	ENG 111	Typing	OED 201 or 202	3
Business Math or		Advanced Word Processing	OED 214	3
**Electives	3	Secretarial Office Procedures	OED 210	3
	18	(Legal, Medical, General or Bilingual)		
		Machine Transcription/Terminology	OED 212	3
		Office Administration	OED 207	3
		*Elective or BUS 231		3
*Students who test above 010, cannot enroll in 010.				
**Recommended Electives: Specialty classes: Business Law, Bilingual Typing, Spanish, Office Communications, Machine				

\*Students who test above 010, cannot enroll in 010.

**\*\*Recommended Electives: Specialty classes: Business Law, Bilingual Typing, Spanish, Office Communications, Machine Transcription/Terminology; Cooperative Education; PBL; Management Classes; Exploring Your Potential as a Manager or Special Problems in Management.**

## **Executive Secretary**

## **Associate of Applied Science Degree (Legal, Medical, General, Bilingual)**

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
<b>Typing</b>	OED 102, 103 or 104	2-3
<b>Shorthand</b>	OED 105 OR 205	3
<b>Grammar Usage &amp; Punctuation</b>	ENG 111	3
<b>Business Math</b>	BUS 104	3
<b>*Elective or SPA 275 or BIO 201</b>		3-4
<b>Physical Education</b>		1

**Recommended Electives:** Exploring Your Potential as a Manager, Special Problems, Computer Applications for Business, Computerized Accounting, Computer Keyboarding/Data Entry, and Data Communications, Cooperative Education, and PBL.

# **Computer Information Systems**

## **Associate of Applied Science**

<b>General Education Requirements</b>	<b>Units</b>
Composition	ENG 101 3
Intermediate Algebra	MAT 110 3

Course	Code	Credit	Description	Code	Credit	Description
Computer Math	CIS 110	3		Adv. ADA Programming	CIS 277	4
Financial Accounting	BUS 201	3		Intro to Lisp	CIS 278	4
Managerial Accounting	BUS 202	3		AND		
Business English Communications	OED 167	3				
Technical Presentations	OED 268	3				
Humanities/Social-Behav.Science		6	(Choose at least one course)			
		27	Computer Applications			Units
			Teachers and the Apple	CIS 131	3	
Core Curriculum Requirements		Units	Appleworks for Teachers	CIS 132	3	
Introduction to Programming			Computer Applications	CIS 181	3	
PASCAL	CIS 171	4	Desk Top Publishing	CIS 207	3	
Introduction to Data Processing	CIS 172	3	Adv. Desk Top Publishing	CIS 208	3	
Data Communications	CIS 230	3	Adv. Computer Applic.	CIS 281	3	
Local Area Networks	CIS 234	4	Current Comp. Applic.	CIS 193	1	
Data Base Management	CIS 250	3				
Ind. of Operating Systems	CIS 260	3	(No more than 3 units)			
Information Systems Analysis			Word Processing	OED 213	3	
and Design	CIS 270	3	Adv. Word Processing	OED 214	3	
		23	Telecommunications	CIS 140	3	
Electives from Below		18	Comp. Architecture	CIS 222	3	
		68	Networks & Switching	CIS 231	3	
Choose 3 courses, at least 2 at 200 level)			Digital/Analog Trans.	CIS 233	3	
Programming Electives		Units	Telecomm. & Broadcasting	CIS 235	3	
Scrappin Logo/Teachers	CIS 133	3	Computer Operations I	CIS 279	3	
COBOL Programming	CIS 173	4				
FORTRAN Programming	CIS 174	4				
Basic Programming	CIS 175	3				
PASCAL Programming	CIS 176	4				
Assembler Programming	CIS 220	4				
Programming	CIS 225	4				
IV. C Programming	CIS 226	4				
Software Eng. & Doc.	CIS 240	4				
IV. Pascal Programming	CIS 271	4	General Education Requirements		Units	
IV. Cobol Programming	CIS 273	4	Composition	ENG 101	3	
Basic II Programming	CIS 275	4	Composition	ENG 102	3	
ADA Programming	CIS 276	4	Humanities/Social-Behavioral Sciences			

# **Computer Information Systems**

## **Associate of Science**

<b>General Education Requirements</b>		<b>Units</b>
Composition	ENG 101	3
Composition	ENG 102	3
<b>Humanities/Social-Behavioral Sciences</b>		12
College Algebra	MAT 120	3
Finite Math	MAT 155	3
Calculus for Business	MAT 256	3

Lab Science	8	Major	Units
Physical Education	2	Computer Architecture	3
Core total	<u>37</u>	Intro to PASCAL	4
		COBOL	4
		Assembler Programming	4
		Advanced PASCAL	4
		Discrete Math	3
		Analytic Geometry with Calculus	3
Major	Units	Major total	<u>25</u>
Financial Accounting	BUS 201	3	
Managerial Accounting	BUS 202	3	
Intro to PASCAL	CIS 171	4	
Intro to Data Processing	CIS 172	3	
COBOL Programming	CIS 173	4	
Information Systems Analysis	CIS 270	3	
Advanced PASCAL	CIS 271	4	
Principles of Macroeconomics	ECN 201	3	
Principles of Microeconomics	ECN 202	3	
Major total	<u>30</u>		

Note: Students may use CIS 177 and CIS 277, ADA Programming, as alternates to CIS 171 and CIS 271.

## Computer Science Associate of Science Degree

General Education Requirements		Units	Core	Units
Composition	ENG 101	3	Beginning Pascal/ADA	CIS 171/
Composition	ENG 102	3		CIS 276
Humanities/Social-Behavioral Sciences		12	Inform. Systems Analysis	CIS 270
Analytic Geometry with Calculus	MAT 261	5	Adv. Pascal/ADA	CIS 271/277
Analytic Geometry with Calculus	MAT 262	5	Comparative Prog. Language	CIS 224
Lab Science		8	Technical Presentations	OED 268
Physical Education		2		
Elective		1-3		
Core Total		<u>39-41</u>		<u>TOTAL</u> 17
Electives - A minimum of 13 units chosen from the following:				
			Fortran Programming	CIS 174
			RPG Programming	CIS 176
			Assembler Programming	CIS 220
			C Programming	CIS 225
			Advanced C Programming	CIS 226
			Object Oriented Prog. w/C++	4 CIS 227
			Software Engineering	CIS 240
			Introduction to LISP	CIS 278

# Microcomputer Practitioner

## Certificate

Core		Units
Computer Keyboarding	OED 113	3
Computerized Office Management	OED 208	3
Word Processing	OED 213	3
Introduction to Data Processing	CIS 172	3

Core		Units
Computer Applications for Business	CIS 181	3
Advanced Computer Applications for Business	CIS 281	3
Core Total		18

Electives		Units
Computerized Accounting	BUS 180	3
Financial Accounting, or Bookkeeping & Financial Accounting	BUS 201	3
Business Statistics	BUS 146	3
Telecommunications Techniques	BUS 219	3
Introduction to PASCAL	CIS 140	3
Data Communications	CIS 171	4
Data Base Management	CIS 230	3
Formation Systems	CIS 250	4
Analysis and Design	CIS 270	3
Office Communication	OED 209	3
Transcription/Terminology	OED 212	3
Advanced Word Processing	OED 214	3
Elective Total		12-13
Total Certificate Hours		30-31

# Chemistry

## Associate of Science

Freshman	First Semester	Units
General Chemistry	CHM 151	4
Composition	ENG 101	3
College Algebra	MAT 120/117	3
Plane Trigonometry	MAT 124	3
Social Science		3

Second Semester	Units
General Chemistry	CHM 152
Composition	ENG 102
Analytic Geometry/Calculus	MAT 261
Social Science	3
Physical Education	1

Sophomore	First Semester	Units
General Organic Chemistry	CHM 235	4
or Elementary German	GER 101*	4
Physics	PHY 111/230*	4
Analytic Geometry/Calculus	MAT 262	5
Humanities/Fine Arts		3-4

Second Semester	Units
General Organic Chemistry	CHM 236
or Elementary German	GER 102*
Physics	PHY 112/231*
Analytic Geometry/Calculus	MAT 263
Humanities/Fine Arts	3-4
Physical Education	1

NOTE: Additional courses may be substituted for selections with an advisor's approval.

\*Check the Transfer Curriculum Guide to determine which is the best course for you to take, based upon the university you plan to attend.

## Pre-Dentistry Associate of Science

Freshman  
Elective Physical Education  
Composition  
College Algebra  
General Chemistry I  
General Physics  
Social/Behavioral Science

First Semester	Units
HPE	1
ENG 101	3
MAT 120/117	3
CHM 151	4
PHY 111	4
	3

Elective Physical Education  
Composition  
Trigonometry  
General Chemistry II  
General Physics  
Social/Behavioral Science

Second Semester	Units
HPE	1
ENG 102	3
MAT 124	3
CHM 152	4
PHY 112	4
	3

Sophomore  
General Organic Chemistry I  
Human Anatomy & Physiology I  
Humanities or Equivalent  
Elective

First Semester	Units
CHM 235	4
BIO 201	4
HUM 205	3-4
	3

General Organic Chemistry II  
Human Anatomy & Physiology II  
Humanities or Equivalent  
Analytic Geometry/Calculus

Second Semester	Units
CHM 236	4
BIO 202	4
HUM 206	3-4
MAT 261	5

Check with Office of Student Services for information on  
/ICHE scholarship.

The above courses prepare a student for entry into a  
accalaureate Program.

## Drafting Technology Associate of Science

General Education Requirements	Units
Composition	ENG 101 3
Composition	ENG 102 3
College Algebra	MAT 120 3
Trigonometry	MAT 124 3
Analytical Geo w/Calculus	MAT 261 5
Social/Beh.Science/Humanities	
Lab Science	
Physical Education	2

Core Curriculum	Units
Technical Graphics I	DFT 112 3
Technical Graphics II	DFT 113 3
Mfg. Mat. & Processes I	GTC 105 3
Mfg. Mat. & Processes II	GTC 106 3
Computer Aided Drafting	DFT 150 3
Adv. Computer Aided Dft.	DFT 250 3
Drafting for Manufacturing	DFT 200 4
Drafting for Electronics	DFT 130 3
Electro-Mechanical Design	DFT 230 3
Tool Design	DFT 240 4
Spatial Relationships	DFT 120 3

**TOTAL** 74

## Drafting Technology Associate of Applied Science

Freshman	First Semester	Units
Technical Graphics I	DFT 112	3
Spatial Relationships	DFT 120	3
Technical Math I	GTC 100	3
Manufacturing Materials & Processes I	GTC 105	3
Composition	ENG 101	3

	Second Semester Units
Technical Graphics II	DFT 113 3
Drafting for Electronics	DFT 130 3
Technical Math II	GTC 101 3
Manufacturing Materials & Processes II	GTC 106 3
Composition	ENG 102 3

	First Semester	Units
Sophomore		
Drafting for Manufacturing	DFT 200 4	
Topographical Design & Drafting	DFT 210 4	
General Education Electives:		6
	Second Semester	Units
Electro Mechanical Design	DFT 230 3	
Construction Drafting	DFT 220 3	
Tool Design	DFT 240 4	
General Education Electives:		6
		60

## Drafting Technology Certificate Program

	First Semester	Units
Technical Graphics I	DFT 112 3	
Spatial Relationships	DFT 120 3	
Technical Math I	GTC 100 3	
Manufacturing Materials & Processes I	GTC 105 3	
General Education Electives:		3
	Second Semester	Units
Technical Graphics II	DFT 113 3	
Drafting for Electronics	DFT 130 3	
Technical Math II	GTC 101 3	
Manufacturing Materials & Processes II	GTC 106 3	
General Education Electives:		3
		30

## Pre-Education Associate of General Studies Degree

General Education Requirements	Units
Composition	ENG 101 3
Composition	ENG 102 3
Mathematics	MAT 120/117 (or higher) 3
Humanities/Fine Arts*	6-12
Social Science*	6-12
Laboratory Science*	8-12
Physical Education	2

Core Curriculum Courses	Units
National and Arizona Constitution	POS 220 3
Introduction to Psychology	PSY 101 3
Introduction to Education	EDU 201 3
History of the United States	HIS 110/111 3

Recommended Electives*	Units
Fundamentals of Speech	COM 102/110 3
School and Community Health	HPE 186 3
Others as specified by the college/university	19-0

\*See the major area advisor for specific transfer curriculum to NAU, ASU or the UA.

NOTE: All students are required to pass the Pre-Professional Skills Test (PPST) before being admitted to the College of Education at the university.

# Teacher Aide Certificate Program

		Units
Composition	ENG 101	3
Mathematics	MAT 010 or higher	3 1-3
Health (one of the following)		
School & Community Health	HPE 186	3
Personal Health	HPE 187	3
First Aid & CPR	HPE 188	1
Physical Education and/or Art (one of the following)		3
Orientation to Phys. Ed.	HPE 180	3
Elem. School Physical Ed.	HPE 185	3
Introduction to Art	ART 101	3
Basic Design	ART 103	3
Art in the Elementary Sch.	ART 105	3
Basic Drawing	ART 106	3
Survey of World Art	ART 107	3
Survey of World Art	ART 108	3
Psychology and/or Counseling (one of the following)		3
Intro to Psychology	PSY 101	3
The Growing Yrs (Telecourse)	CPD 100	3
The Challenge of Parenting	CPD 105	3
Personality & Adjustment	CPD 103	3
Sociology (one of the following)		3
Intro to Sociology	SOC 101	3
Ethnic Groups & Minorities	SOC 160	3
Social Problems	SOC 202	3
Computers (one of the following)		3
Teachers and the Apple	CIS 131	3
Appleworks for Teachers	CIS 132	3
Terrapin LOGO for Teachers	CIS 133	3
Intro to Data Processing	CIS 172	3
Computer App. for Business	CIS 181	3

19-21

# Electronics Technology Associate of Science Degree

	First Semester	Units
Freshman		
Composition	ENG 101	3
College Algebra	MAT 120/117	3
General Physics	PHY 111	4
Introduction to D.C. Circuits	ELT 105	3
Introduction to A.C. Circuits	ELT 106	4
	Second Semester	Units
Composition	ENG 102	3
Plane Trigonometry	MAT 124	3
General Physics	PHY 112	4
Semiconductors & Transistors	ELT 122	4
Electronic Circuits & Systems	ELT 125	4
	First Semester	Units
Sophomore		
Social/Behavioral Science		3
Pulse Circuits	ELT 231	4
Digital Circuits	ELT 233	4
Modern Electrical Devices	ELT 243	4
Humanities/Fine Arts		3
Physical Education	HPE	1
	Second Semester	Units
Social/Behavioral Science		3
Physical Education	HPE	1
Analytical Geometry w/Calculus	MAT 261	5
Humanities/Fine Arts		3
Microprocessors & Microcomputers	ELT 265	4

# Electronics Technology Associate of Applied Science Degree

	First Semester	Units
Freshman		
Composition	ENG 101	3
Introduction to DC Circuits	ELT 105	3

Introduction to AC Circuits  
Math for Electronics  
or  
Basic Computer Programming

ELT 106 4  
ELT 110  
MAT 110 3  
ELT 107 3

Additional units from the following:  
6 ENG 103, 104, 220, 221, 222, 224, 225, 226, 227.

Advanced Math for Electronics  
or  
Semiconductors & Transistors  
Electronic Circuits & Systems  
Electives  
Social Science/Humanities

Second Semester Units  
ELT 120 3  
MAT 120/117  
ELT 122 4  
ELT 125 4  
3  
3

Recommended Electives: (15) ART 107, 108; ANT 102, 125, 135, 186; HIS 110, 111, 140, 141; JRN 101, 102; COM 102; THE 103, 110; MUS 101, 102; PHI 111, 130, 202; SOC 101, 202; HUM 101, 110.

Sophomore  
Pulse Circuits  
Digital Circuits  
Modern Electrical Devices  
Communications Electronics

First Semester Units  
ELT 231 4  
ELT 233 4  
ELT 243 4  
ELT 245 4

Freshman	First Semester	Units
Composition	ENG 101	3
College Algebra	MAT 120/117	3
Plane Trigonometry	MAT 124	3
General Chemistry I	CHM 151	4
*Spatial Relationships	DFT 120 or 112	3
Social/Behavioral Science		3
Physical Education		1

Communications Elect II  
Avionics  
Microprocessors & Microcomputers  
Electives

Second Semester Units  
ELT 247 4  
ELT 260 4  
ELT 265 4

Second Semester Units		
Composition	ENG 102	3
Analytic Geometry/Calculus	MAT 261	5
General Chemistry II	CHM 152	4
Humanities/Fine Arts		3-4
Principles of Macroeconomics	ECN 201	3
Physical Education		1

## English Associate of Arts

Composition	ENG 101, 102	Units
Mathematics	MAT 120/117	6
	or above	3
Laboratory Science		8
Humanities		8-9
Social Science		9
Foreign Language		8
Physical Education		2
		44-45

Sophomore	First Semester	Units
Analytic Geometry/Calculus	MAT 262	5
Physics with Calculus	PHY 230	4
Social/Behavioral Science		3
Humanities/Fine Arts		3-4
Programming Fortran	CIS 174	3
Second Semester Units		
Analytic Geometry/Calculus	MAT 263	3
Physics with Calculus	PHY 231	4
Humanities/Fine Arts		3
Social/Behavioral Science		3

Electives	6	
Consult your counselor as to transferability; differences exist depending upon 4 year university requirements.		
		20 51 71

\*Check with advisor.

The above courses prepare a student for entry into the Baccalaureate program.

## Fire Science Technology

### Associate of Applied Science

General Education Requirements		Units	
Composition	ENG 101	3	
Composition	ENG 102	3	
Written Communications & Reports	ENG 109	3	
Intermediate Algebra	MAT 110	3	
Fundamentals of Speech	COM 102	3	
Social Science Elective		3	
Physical Education	HPE	2	
		20	

Core Curriculum		Units	
Introduction to Fire Protection	FST 101	3	
Fundamentals of Fire Protection	FST 106	3	
Fire Operations I	FST 110	3	
Fire Operations II	FST 111	3	
Fire Service Hydraulics	FST 120	3	
Intro to Fire Suppression	FST 130	3	
Hazardous Materials I	FST 150	3	
Hazardous Materials II	FST 160	3	
Fire Apparatus & Equipment	FST 200	3	
Rescue Practices	FST 220	3	
Fire Fighting Tactics & Strategies	FST 240	3	
Supervisory Training for Firefighters	FST 265	3	
Emergency Medical Technology	EMT 174	6	
Internship Public Service	CED 110	6	
		51	

General Education Requirements		20
Core Curriculum Courses		51
TOTAL AAS Degree Requirements		71

## Fire Science Technology Certificate Program

Fire Fighter Level I		Units
Intro to Fire Protection	FST 101	3
Fundamentals of Fire Prevention	FST 106	3
Fire Operations I	FST 110	3
Introduction to Fire Suppression	FST 138	3
COOP Public Service	CED 110	3
		15
Fire Fighter Level II		Units
Fire Operations II	FST 111	3
Fire Service Hydraulics	FST 120	3
Hazardous Materials I	FST 150	3
Fire Apparatus & Equipment	FST 200	3
Rescue Practices	FST 220	3
		15
Fire Fighter Level III		Units
Hazardous Materials II	FST 160	3
Fire Fighting Tactics & Strategy	FST 240	3
Fire Investigation	FST 260	3
Supervisory Training for Fire Fighters	FST 265	3
COOP Public Service	CED 110	3

# Pre-Forestry

## Associate of General Studies

	First Semester	Units	
Freshman			
Composition	ENG 101	3	
Physical Education	HPE		
College Algebra	MAT 120/117	3	
Intro. Data Processing	CIS 172	3	
Humanities		3	
Intro to Geology (Physical)	GLG 101	4	
	Second Semester	Units	
Composition	ENG 102	3	
Physical Education	HPE	1	
Plane Trigonometry	MAT 124	3	
Fundamental Chemistry	CHM 130	4	
Humanities		3	
Social Science Elective		3	
Sophomore	First Semester	Units	
Principles of Macroeconomics	ECN 201	3	
Plant Biology	BIO 184	4	
Business Statistics	BUS 219	3	
Fundamentals of Speech	COM 102	3	
Elective or Finite Math	MAT 155	3	
	Second Semester	Units	
Principles of Microeconomics	ECN 202	3	
Animal Biology	BIO 190	4	
Controlled Elective		4	
Written Communications and Reports	ENG 109	3	
		Units	
Elective		3	
Analytical Geometry w/Calc or Business w/Calculus and Elective	MAT 261	5-6	
Total Units		67	

A student desiring entry into the Baccalaureate Program at Northern Arizona University must complete 66 units including the above required courses. Admission to the professional forestry program at NAU is limited. Contact with the School of Forestry must be made prior to February 15 to be an eligible candidate.

# History

## Associate of Arts

General Education Requirements*	Units
Composition	ENG 101
Composition	ENG 102
Laboratory Science	
Humanities/Fine Arts	9-12
Social Science	9-12
Foreign Language	8
(2nd Semester Proficiency)	
Physical Education	
College Algebra	MAT 120/117
	(or above)
	3
	45-51

Core Curriculum Courses	Units
History of the U.S. 1607-1877	HIS 110
History of the U.S. Since 1877	HIS 111
Survey of Western Civilization I	HIS 140
Survey of Western Civilization II	HIS 141
Survey of Western Civilization III	HIS 142
Recommended Electives*	4-0
	64-65

\*See the major area advisor for specific transfer curriculum to UA, ASU, or WNMU, or NAU.

# Hospitality Administration

## Certificate Program

Units
Introduction to the Hospitality Industry HAD 100 3

Introduction to Property Management	HAD 120	3	Hospitality Financial Management	HAD 250	3
Guest Services Management	HAD 210	3	Hospitality Automation	HAD 270	3
Hospitality Automation	HAD 270	3	Financial Accounting	BUS 201	3
Cooperative Education	CED 110	6	Business Statistics	BUS 219	3
English Composition	ENG 101	3	Principles of Macroeconomics	ECN 201	3
Business Math	BUS 104	3	Principles of Microeconomics	ECN 202	3
Financial Accounting	BUS 201	3	Computer Applications in Business	CIS 181	3
Principles of Microeconomics	ECN 202	3			
Computer Applications in Business	CIS 181	3			
					<u>33</u>
					<u>66</u>

Recommended Electives: Commercial Food Preparation Theory, HAD 240, 3 units, Advanced Commercial Food Preparation and Lab, HAD 241, 4 units

## Hospitality Administration Associate of Applied Science

General Education Requirements		Units
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120	3
Foreign Language	ENG 101 or higher	8
Lab Science		8
Geography	GEO 102, 104 or 105	3
Humanities	HUM 205 or 206, 101 or ART 101, 107 or 108	3
Physical Education		2
		<u>33</u>

Core Curriculum Courses		Units
Intro to the Hospitality Industry	HAD 100	3
Intro to Property Management	HAD 120	3
Guest Services Management	HAD 210	3
Hospitality Law	HAD 235	3
		<u>16</u>

Recommended Electives: Commercial Food Preparation Theory HAD 240, 3 units, Advanced Commercial Food Preparation and Lab HAD 241, 4 units.

## International Communications Certificate Program

International Communications Certificate: a program of study to prepare students in the use of Spanish English for business purposes, utilizing culturally appropriate problem-solving and planning skills in both languages and communicating accurately and effectively in the cultures of both the United States and Mexico. Course content geared to development of practical, employment-related language and cultural proficiencies.

General Education Requirements:	Units
ENG 101/107 with a grade of "C" or better.	3
Coursework of "C" or better or equivalent proficiency measured by college placement exams:	

BUS 104 or	
MAT 010	3
SPA 202	4
OED 103 or 113	3
RDG 021	3

<b>Required Courses:</b>		<b>Units</b>	<b>Electives in accordance with university transfer guidelines should be selected to complete 64 units. Substitutions among the three areas of emphasis are permitted with advisor's approval.</b>	
Humanities in Contemporary Life	HUM 101 or 207	3	Business Emphasis	Units
Heritage from Mexico	HUM 104	3	Financial Accounting	BUS 201 3
Cultural Values in the Forderlands Workplace	HUM 167	3	Managerial Accounting	BUS 202 3
Spanish Business Communications	SPA 267	3	Programming COBOL - Level I	CIS 173 4
Business English Communications	ENG/BUS/OED267	3	Foreign Language:	8-16
Effective Messages	LIN 180 or		German or Spanish 101,102, 201, 202 or equivalent proficiency demonstrated by placement exam.	
Fundamentals of Translation & Interpretation	SPA 290	3		
Word Processing	OED 213 (or more advanced)	3		
		21		20-26

## International Studies

### Associate of Arts

#### Transfer to NAU or UA General Education Requirements

Foreign language: 16 units or above or equivalent proficiency demonstrated by placement test; if proficient, substitute a third language or a computer language.

		<b>Units</b>
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Laboratory Science		8
Physical Education		1

17-25

#### Latin American Emphasis

Foreign Language:	Spanish 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam	8-16
Heritage from Mexico	HUM 104	3
History of Mexico I	HIS 229	3
History of Mexico II	HIS 230	3

17-25

		<b>Units</b>
Core Curriculum		
Introduction to International Relations	POS 230	3
Humanities	HUM 205	3
Humanities	HUM 206	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3

## Journalism

### Associate of Arts

	<b>First Semester Units</b>
Freshman	
Composition	ENG 101 3
Elective Physical Education	HPE 1

Elective Foreign Language		4	
Elective Lab Science or Math		3-4	
Elective Social/Behavioral Science		3	
<b>Second Semester</b>		<b>Units</b>	
Composition	ENG 102	3	
Elective Physical Education	HPE	1	
Elective Foreign Language		4	
Elective Lab Science or Math		3-4	
Mass Communications	JRN 101	3	
Elective Social/Behavioral Science		3	
<b>Sophomore</b>		<b>First Semester</b>	<b>Units</b>
Critical Reading and Writing	ENG 206	3	
Elective Foreign Language		4	
Basic Reporting	JRN 102	3	
Humanities/Fine Arts		3-4	
Elective Social/Behavioral Science		3	
		<b>Second Semester</b>	<b>Units</b>
Intermediate Reporting	JRN 103	3	
Elective Foreign Language		4	
Creative Writing	ENG 119	3	
Humanities/Fine Arts		3-4	
Elective Social/Behavioral Science		3	

## Pre-Law Associate of Arts

Colleges of Law usually have no specific pre-legal course requirements or preferred pre-law majors. In general, students interested in pursuing a legal career should have a strong background in the liberal arts, highly refined reading and writing skills, good analytical tools, a high college grade-point average and a high score on the Law School Admissions Test (LSAT). Students should select a major of interest to them such as mathematics, political science, economics, English, history, or business.

4	The following suggested program may improve the student's ability to pass the LSAT test to succeed in law school once admitted.
3-4	Mathematics (MAT 120/117 and above)
3	Composition (ENC 101, 102, 103 and 206)
	Economics (ECN 201 and 202)
	Political Science
	History
	Philosophy (PHI 111, 113, or 130)
	Speech (COM 102, 110, or 115)
	Criminal Law (AJS 200 and 201)
	Business Law (BUS 231 and 232)

These courses and other courses requiring essay tests and written assignments should be included in the student's program of study whenever possible.

## Liberal Arts Associate of Arts

General Education Requirements*	Units
Composition	ENG 101
Composition	ENG 102
Humanities/Fine Arts	9-12
Social Science	12
College Algebra (or above)	MAT 120/117
Laboratory Science	8
Foreign Language (2nd Semester Proficiency)	8
Physical Education	2

Recommended Electives\* 16-13

\*See the major area advisor for specific transfer curriculum to UA, ASU or NAU.

Students interested in obtaining a Bachelor of Arts Degree at the University of Arizona may take up to 72 units at Cochise College and then complete their program at the UA's Sierra Vista Center.

# Life Sciences

## Associate of Science

### (Biology, Botany, Ecology, Genetics, Zoology)

	First Semester	Units
Freshman		
Plant Biology, or Animal Biology	BIO 184	4
General Chemistry I	BIO 190	
*Humanities/Social Science Elective	CHM 151	4
College Algebra		3
English Composition	MAT 120/117	3
Physical Education	ENG 101	3
	HPE	1
		18

	Second Semester	Units
Animal Biology, or Plant Biology	BIO 190	4
General Chemistry II	BIO 184	
*Humanities/Social Science Elective	CHM 152	4
English Composition		3
Plane Trigonometry	ENG 102	3
	MAT 124 (or above)	3
Physical Education	HPE	1
		18

	First Semester	Units
Sophomore		
**Controlled Electives		12
*Humanities/Social Science		6
		18

	Second Semester	Units
**Controlled Electives		8
Analytical Geometry w/Cal	MAT 261 (or above)	5
		13

Total Units 67

\*See University Transfer Curriculum Guide for applicable courses.

\*\*Controlled Electives may be selected from the following:  
CHM 235-236 General Organic Chemistry I and II  
BIO 226 Ecology

CIS 172 Introduction to Data Processing

GEO 101 Physical Geography

BIO 205 Microbiology

PHY 111-112 General Physics I and II

PHY 230-231 Physics with Calculus

Any other science department approved course

Selection of Controlled Electives depends on University.  
See Area Advisor.

# Life Sciences

## Associate of Arts

### (Biology, Botany, Ecology, Genetics, Zoology)

Freshman	First Semester	Units
Animal Biology or Plant Biology	BIO 190	4
General Chemistry I	BIO 184	
College Algebra	CHM 151	4
	MAT 120/117 or above	3
English Composition	ENG 101	3
Social Science		3
Physical Education	HPE	1
		18

	Second Semester	Units
Animal Biology or Plant Biology	BIO 190	4
General Chemistry II	BIO 184	
English Composition	CHM 152	4
*Social Science	ENG 102	3
*Humanities		3
Physical Education	HPE	1
		18

Sophomore	First Semester	Units	Second Semester	Units
***Controlled electives		8	Machine Shop for Technicians	MAC 120
**Foreign Language		4	Technical Graphics II	DFT 113
*Social Science		3	Technical Math II	GTC 101
*Humanities		3	Written Communications & Reports	ENG 109
		18	Oxyacetylene Welding	WLD 105
	Second Semester	Units	Sophomore	First Semester
***Controlled Electives		8	Jig & Fixture Designing I	MAC 210
**Foreign Language		4	Manufacturing Processes I	GTC 105
*Humanities		3	Arc Welding	WLD 106
		15	Elective Social Science	
			Elective Humanities	
Total Units		69		

\*See University Transfer Curriculum Guide for applicable courses.  
 \*\*Second semester proficiency.  
 \*\*\*Controlled Electives may be selected from the following:  
 CHM 235-236 General Organic Chemistry I and II  
 PHY 111-112 General Physics I and II  
 BIO 226 Ecology  
 BIO 205 Microbiology  
 CIS 172 Introduction to Data Processing  
 GEO 101 Physical Geography  
 Any other science department approved course  
 Selection of Controlled Electives depends on University.  
 See Area Advisor.

## Machine Technology Associate of Applied Science

Freshman	First Semester	Units
Machine Shop for Technicians	MAC 110	4
Technical Graphics I	DFT 112	3
Technical Math I	GTC 100	3
Basic Metallurgy	MAC 130	3
Composition	ENG 101	3

Sophomore	First Semester	Units
Jig & Fixture Designing I	MAC 210	4
Manufacturing Processes I	GTC 105	3
Arc Welding	WLD 106	3
Elective Social Science		3
Elective Humanities		3
	Second Semester	Units
Jig & Fixture Designing II	MAC 220	4
Manufacturing Processes	GTC 106	3
*Electives		9

\*Electives 9 units: Co-op, Technology, Drafting, Welding, or Non-Technology classes as approved by advisor.

## Machine Technology Machine Shop Fundamentals Basic Certificate

First Semester	Units
Machine Shop for Technicians I	MAC 110
Technical Graphics I	DFT 112
Technical Math I	GTC 100
Basic Metallurgy	MAC 130

Second Semester	Units
Machine Shop for Technicians II	MAC 120
Technical Graphics II	DFT 113
Technical Math II	GTC 101
Oxyacetylene Welding	WLD 105

# Machine Technology

## Machinists Standard Technical Certificate

### Required Courses

		Units
Machine Shop for Technicians	MAC 110-120	8
Jig & Fixture Designing	MAC 210-220	8
Technical Graphics	DFT 112-113	6
Technical Math	GTC 100-101	6
Basic Metallurgy	MAC 130	3
Written Communications & Reports	ENG 109	3
Oxyacetylene Welding	WLD 105	3
Arc Welding	WLD 106	3
Manufacturing Processes I	GTC 105	3
		<hr/> 43

### Sophomore

College Algebra	
Humanities/Social Science	
Manufacturing Materials	
& Processes I	GTC 105
Drafting for Manufacturing	DFT 200
Welding	WLD 207
Physical Education	

### First Semester

MAT 120/117	3
	<hr/> 3
DFT 200	4
WLD 207	3
	1
	<hr/> 17

### Second Semester

MAT 124	3
	<hr/> 3
GTC 106	3
DFT 150	3
ELT 105	3
ELT 106	4
BUS 143	3
	<hr/> 3

# Manufacturing Technology

## Associate of Applied Science

	First Semester	Units
Freshman		
Elementary Algebra	MAT 020	3
Composition	ENG 101	3
Technical Graphics	DFT 112	3
Oxyacetylene Welding	WLD 105	3
Machine Shop for Technicians I	MAC 110	4
Physical Education		1
		<hr/> 17

### Second Semester

	Units
Intermediate Algebra	MAT 110
Composition or Written	ENG 102
Communications & Reports	ENG 109
Technical Graphics II	DFT 113
Arc Welding	WLD 106
Machine Shop for Technicians II	MAC 120
General Physics	PHY 111
	<hr/> 19

### \*Major Emphasis

#### Welding:

DFT 299
WLD 210
WLD 211
WLD 215

#### Drafting:

DFT 120
DFT 130
DFT 240
DFT 299

#### Machine Tech:

DFT 240
MAC 130
MAC 210
MAC 220

#### Electronics:

ELT 122
ELT 265

DFT 130  
DFT 230

Student may acquire a major emphasis by completing three additional courses in any one of the preceding categories.

Individuals completing the AAS degree requirements with a major emphasis in welding, drafting, or machine technology will also qualify for a certificate in those areas.

## Pre-Med Associate of Science

	First Semester	Units
Freshman		
Composition	ENG 101	3
Physical Education	HPE	1
General Chemistry I	CHM 151	4
Plant Biology	BIO 184	4
College Algebra	MAT 120/117	3
	Second Semester	Units
	ENG 102	3
	HPE	1
	CHM 152	4
	BIO 190	4
	MAT 124	3
		3
Sophomore	First Semester	Units
Science Electives*		8
Humanities/Fine Arts		3-4
Analytic Geometry with Calculus	MAT 261	5
	Second Semester	Units
Science Electives*		8
Humanities/Fine Arts		3-4
Social/Behavioral Science		3
Total Units		64-65

\*Science Electives may include: BIO 205 Microbiology, BIO 226, Ecology, CHM 235-236 General Organic Chemistry I and II, PHY 111-112, General Physics I and II.

Check transfer curriculum guide for the university to which you plan to transfer. The above courses prepare a student for entry into the Baccalaureate Program.

## Motor Transport Technology Certificate

	Units
Motor Transport Basic	MTT 101
Over the Road Operations	MTT 102
Vehicle Maintenance & Inspection	MTT 103
Freight & Truck Operation	MTT 104
	5.5
	16

## Nursing

Nursing Assistant, Certificate

Practical Nurse, Certificate

Associate Degree Nurse, Associate of Applied Sciences

Cochise College offers a program which is accredited by the National League of Nursing and approved by the Arizona State Board of Nursing. The program is based on the ladder concept which permits students to enter or exit from the program based upon their specific needs, based on space available and certain time restraints. Grades of C or better are required for all courses.

The nursing program prepares men and women to become Nurse Assistants, Licensed Practical Nurses or Registered Nurses. Students are prepared to perform those functions commonly associated with bedside nursing. Technical nursing skills are taught in the classroom and related clinical areas such as hospitals, clinics, public health agencies, doctors offices and schools. In addition, general education courses are provided for all students.

Entry into the Nursing Program requires prior admission. Advanced placement based upon prior educational programs is available. For admission procedures to the Nursing Program, contact the Nursing Division, ext. 216.

**Nurse Assistants:** Qualified nurse assistants are in constant need to function as members of the hospital or community health team. Primary functions for nurse assistants are to care for sub-acute patients and to assist other members of the team. The first semester of the nursing program fulfills and exceed the requirements for taking the Registration examination for Nursing Assistant from the Arizona State Board of Nursing. Students who are primarily interested in working as nursing assistants should investigate HLT 109, a shorter course which meets the requirements for the Registration examination.

**Practical Nurses:** Completion of the first two semesters of the Nursing curriculum qualifies men and women to write the State Board Test Pool Examination for Licensed Practical Nurses. LPN's function at a skilled level in the community under the supervision of a Registered Nurse or physician. Practical nurses give basic nursing care and assist other members of the health team.

**Associate Degree Nurse:** Completion of the four semester nursing curriculum qualifies men and women to write the State Board Test Pool Examination for Registered Nurses. RN's are prepared to give nursing care to individuals with common health problems. They function as members of the health team in the hospitals or community setting.

## Nursing

Freshman	First Semester	Units
Human Anatomy & Physiology I	BIO 201	4
Composition	ENG 101	3
Nursing I	NUR 122	8
Medication Math	NUR 121	1

16

After satisfactorily completing this semester, each student will receive a certificate and be eligible to apply for State Board Examination to become a Registered Nurse Aide.

	Second Semester	Units
Human Anatomy & Physiology II	BIO 202	4
Intro to Psychology	PSY 101	3
Nursing II	NUR 123	10
		17

First year total 33

Student is eligible to apply for State Board Examination to become a Practical Nurse.

	Third Semester	Units
Sophomore		
Microbiology	BIO 205	4
Anthropology or	ANT 125	3
Sociology	SOC 101	
Controlled Elective		3
Nursing III	NUR 232	9
		19

	Fourth Semester	Units
Fundamental Chemistry or		
General Chemistry I	CHM 130	4
English Composition	CHM 151	
Nursing IV	ENG 102	3
	NUR 233	9
		16

Second year total 35  
Program total 68

Student is eligible to apply for State Board Examination to become a Registered Nurse.

Acceptance into the Nursing Program does not guarantee successful completion of the program. Attendance at classes and clinical requires travel to both campuses and clinical

locations at Douglas, Bisbee, Benson and Sierra Vista. Experience in a clinical agency is essential to complete this program. Eligibility for placement in a clinical agency is decided by the faculty. Its decision is based on the mental and psychological status of the student, as well as performance in class and skills laboratory. Any possible legal impediment to licensure must be made known to the Nursing Division 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 Arizona State Board of Nursing or any other State Board of Nursing at either the Practical Nurse or Registered Nurse levels.

## Pre-Pharmacy Associate of Science

	First Semester	Units	
Freshman			
Composition	ENG 101	3	
General Chemistry I	CHM 151	4	
Elective Physical Education	HPE	1	
College Algebra	MAT 120/117	3	
General Physics	PHY 111	4	
Social/Behavioral Science		3	
			43-49
Composition	ENG 102	3	
General Chemistry II	CHM 152	4	
Elective Physical Education	HPE	1	
Trigonometry	MAT 124	3	
General Physics	PHY 112	4	
Social/Behavioral Science		3	
			22-20
Sophomore	First Semester	Units	
Analytic Geometry/Calculus	MAT 261	5	
Human Anatomy & Physiology I	BIO 201	4	
Elective Humanities/Fine Arts		3-4	
Fundamentals of Speech	COM 102	3	
Principles of Macroeconomics	ECN 201	3	

	Second Semester Units
Human Anatomy & Physiology II	BIO 202 4
Chemistry Elective	CHM 4
Elective Humanities/Fine Arts	3-4
Intro to Sociology	SOC 101 3
Introduction to Psychology	PSY 101 3

The above courses prepare a student for entry into the Baccalaureate Program.

## Physical Education Associate of Arts

General Education Requirements	Units
Composition	ENG 101 3
Composition	ENG 102 3
College Algebra	MAT 120/117 3
Humanities/Finc Arts*	9-12
Laboratory Science*	8
Foreign Language (Second Semester Proficiency)	8
Social Science*	9-12
(Recommended PSY 101, POS 220)	
	43-49

Core Curriculum Courses	Units
Physical Education Activity Courses	4-5
Orientation to Physical Education	HPE 180 3
First Aid & Safety, or	HPE 189
First Aid & CPR	HPE 188 1-3
Personal Health	HPE 187 3
Care & Prevention of	
Athletic Injuries	HPE 197 3
Coaching Theory	2-3
(HPE 192, 193, 194, or 195)	
Health and Physical Education Electives	6-0
	22-20

Recommended Health and Physical Education Electives		
Orientation to Recreation	HPE 181	3
Elementary School Physical Education	HPE 185	3
Sports Officiating	HPE 190	3
Theory of Coaching Baseball	HPE 193	3
Theory of Coaching Basketball	HPE 194	3
Theory of Coaching Volleyball	HPE 195	3
Individual Studies	HPE 299	3
School and Community Health	HPE 186	3

Second Semester Units		
Human Anatomy & Phys II	BIO 202	4
General Chemistry II	CHM 152	4
General Physics	PHY 112	4
Humanities/Fine Arts		3-4
Elective		3

Total Units 67-69

The above courses prepare a student for entry into the Baccalaureate Program.

\*See the major advisor for specific ASU, NAU, UA, or WNMU requirements.

## Pre-Physical Therapy Associate of General Studies

	First Semester	Units
Freshman		
Composition	ENG 101	3
Introduction to Psychology	PSY 101	3
Plant Biology I	BIO 184	4
College Algebra	MAT 120/117	3
Physical Education	HPE	1
Social/Behavioral Science		3
	Second Semester	Units
Composition	ENG 102	3
Animal Biology	BIO 190	4
Elective		3
Physical Education	HPE	1
Social/Behavioral Science		3
	First Semester	Units
Sophomore		
General Chemistry I	CHM 151	4
Human Anatomy & Physiology I	BIO 201	4
Elective		3
General Physics	PHY 111	4
Humanities/Fine Arts		3-4

## Political Science Associate of Arts

General Education Requirements*		
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Humanities/Fine Arts*		9-12
Laboratory Science*		8
Foreign Language (Second Semester Proficiency)		8
Social Science		9-12
Physical Education		2
		45-51
Core Curriculum Courses **		
Introduction to Political Science	POS 100	3
American National Government	POS 110	3
World Politics	POS 230	3
Comparative Politics	POS 240	3
Arizona Constitution	POS 221	1
(fulfills teaching certification requirements)		13

\*See the major area advisor for specific ASU, NAU, WNMU,

or UA requirements. NAU requires PSY 101 and 250 for International Relations and Public Administration Degrees.

\*\*May be used to fulfill Social Science General Education requirements.

## Psychology

### Associate of Arts, Associate of Science

General Education Requirements	AA	AS	
English Composition ENG 101, ENG 102	6	6	
Humanities*	8	12	
Laboratory Science*	8	8	
General Education Requirements	AA	AS	
Mathematics (MAT 120/117 or above)	3	11	
Foreign Language*	8	0	
(2nd Semester Proficiency)			
Physical Education	2	2	
Free Elective	11-12	7-8	
 Core Curriculum Courses			
Introduction to Psychology	PSY 101	3	3
Introduction to Psychological Research, Measurement and Statistics	PSY 250	4	4
Experimental Psychology	PSY 290	4	4
 Required Electives (Two of the Following)			
Social Psychology	PSY 210	3	3
Personality Theory & Research	PSY 230	4	4
Developmental Psychology	PSY 240	3	3
	64-65	64-65	

\*See Psychology Advisor for specific transfer requirements to UA, ASU, and NAU.

## Social Services

### Associate of General Studies

General Education Requirements*	Units
English Composition	ENG 101
English Composition	ENG 102
Laboratory Science	8
Mathematics (MAT 120/117 or above)*	3
Humanities/Fine Arts	8
Physical Education	2
Recommended Electives	3
Core Curriculum Courses*	Units
Introduction to Sociology	SOC 101
Social Problems	SOC 202
Introduction to Social Welfare	SOC 207
Marriage & the Family	SOC 210
Economics	ECN 201 or 202
American National Government	POS 110
Introduction to Psychology	PSY 101
Developmental Psychology	PSY 240
Psychological Statistics	PSY 250
Ethnic Groups & Minorities	SOC 160
Introduction to Philosophy	PHI 111
	64

\*See the major area advisor for specific transfer curriculum to UA, ASU or NAU.

## Social Services

### Associate of Applied Science

General Education Requirements*	Units
English Composition	ENG 101
English Composition	ENG 102
Mathematics/Science	6
Electives	6-3
Core Curriculum Courses*	Units
Ethnic Groups & Minorities	SOC 160
Introduction to Philosophy	PHI 111

Introduction to Psychology	PSY 101	3	Career and Life Planning	CPD 121	3
Introduction to Social Welfare	SOC 207	3	Determinants of Human Behavior	SSV 273	3
American National Government	POS 110	3	Elective		3
Introduction to Sociology	SOC 101	3			
Social Problems	SOC 202	3			15
Principles of Macroeconomics	ECN 201	3			
Principles of Microeconomics	ECN 202	3			
Interpersonal Communications	SSV 270	3	<b>Social Work</b>		
Communications in Small Groups	SSV 271	3	Personality Theories & Research	PSY 230	3
Social Services Internship I	CED 110	1-4	Marriage and the Family	SOC 210	3
Social Services Internship II	CED 110	1-4	Social Work Seminar	SSV 272	3
		32-36	Determinants of Human Behavior	SSV 273	3
Major Emphasis		15	Elective		3
Total		65-69			15

#### Recommended Electives

		Units		Units	
Criminal Law	AJS 200	3	<b>Rehabilitation</b>		
Psychology in Law Enforcement	AJS 254	3	Loss, Grief, and Dying	SSV 190	3
History		3	Substance Abuse	SSV 193	3
Social Psychology	PSY 210	3	Determinants of Human Behavior	SSV 273	3
Developmental Psychology	PSY 240		Elective		6
Human Anatomy & Physiology	BIO 201	4			
				15	

#### Major Emphasis

The student can choose one of the following Major Emphasis.

		Units
<b>Social Services in Corrections</b>		
The Criminal Justice System	AJS 101	3
Institutional Corrections	AJS 148	3
Determinants of Human Behavior	SSV 273	3
Public Speaking	COM 110	3
Substance Abuse	SSV 193	3
Elective		3
		18

<b>Guidance and Counseling</b>		
Personality and Adjustment	CPD 103	3
The Challenge of Parenting in our Modern World	CPD 105	3

## **Social Services Associate of Arts Degree**

		Units
<b>General Education Requirements</b>		
English Composition	ENG 101	3
English Composition	ENG 102	3
College Algebra	MAT 120/117	
Science*		8
Humanities*		9-11
Sociology	SOC 101	3
Psychology	PSY 101	3
Political Science	POS 110 or 220	3
Spanish	SPA 101 or 201	4
	SPA 102 or 202	4
Physical Education		2
		45-47

\*See specific university requirements for applicable courses.

<b>Major Emphasis: Arizona State University:</b>		<b>Units</b>	<b>Recommended Electives</b>		<b>12</b>
Social Work					
History	HIS 115	3			
Sociology	SOC 160	3			
	SOC 202	3			
	SOC 207	3			
<b>Recommended Electives</b>		9			
		<u>21</u>			

SPA 101/102 (8 units) satisfies Humanities requirements.

<b>Major Emphasis: University of Arizona:</b>		<b>Units</b>	<b>Recommended Electives</b>		<b>20</b>
Criminal Justice Administration					
The Criminal Justice System	AJS 101	3	Sociology	SOC 160	3
Finite Math	MAT 155	3		SOC 202	3
Calculus for Business	MAT 256	3		SOC 207	3
Business	CIS 201	3	Economics	ECN 201	3
	BUS 172	3		ECN 202	3
	BUS 219	3	Anthropology	ANT 125	3
Speech	COM 110 or 102	3	Social Services	SSV 190	3
		<u>21</u>		SSV 193	3
				SSV 273	3

<b>Major Emphasis: University of Arizona:</b>		<b>Units</b>	<b>Recommended Electives</b>		<b>Units</b>
Child Development and Family Relations					
Speech	COM 110 or 102	3	Social Problems	SOC 202	3
Recommended Electives		18	or Ethnic Groups & Min.	SOC 160	
		<u>21</u>	or Development of Culture	ANT 102	

SPA 101/102 (8 units) satisfies Humanities requirement.

<b>Major Emphasis: University of Arizona:</b>		<b>Units</b>	<b>Recommended Electives</b>		<b>30</b>
Rehabilitation					
Human Anatomy & Physiology	BIO 201	4	Social Problems	SOC 202	3
	BIO 202	4	or Ethnic Groups & Min.	SOC 160	

### **Major Emphasis: Northern Arizona University:** **Gerontology**

<b>Major Emphasis: Northern Arizona University:</b>		<b>Units</b>
<b>Gerontology</b>		
Human Anatomy & Physiology	BIO 201	4
	BIO 202	4
<b>Recommended Electives</b>		12

<b>Major Emphasis: University of Arizona:</b>		<b>Units</b>	<b>Recommended Electives</b>		<b>20</b>
Criminal Justice Administration					
The Criminal Justice System	AJS 101	3	Sociology	SOC 160	3
Finite Math	MAT 155	3		SOC 202	3
Calculus for Business	MAT 256	3		SOC 207	3
Business	CIS 201	3	Economics	ECN 201	3
	BUS 172	3		ECN 202	3
	BUS 219	3	Anthropology	ANT 125	3
Speech	COM 110 or 102	3	Social Services	SSV 190	3
		<u>21</u>		SSV 193	3
				SSV 273	3

### **Social Services** **Certificate Program**

<b>Social Services</b>		<b>Units</b>
<b>Certificate Program</b>		
Social Problems	SOC 202	3
or Ethnic Groups & Min.	SOC 160	
or Development of Culture	ANT 102	
Intro to Psychology	PSY 101	3
Intro to Sociology	SOC 101	3
Intro to Social Welfare	SOC 207	3
Composition	ENG 101	3

Five (5) courses selected from one of the Social Services AAS Degree Program Major Emphases.

# Spanish Associate of Arts

General Education Requirements	Units
ENG 101, 102	6
Humanities	8-9
Mathematics (MAT 120/117 or above)	3
Laboratory Science	8
Social Science	9
Foreign Language (SPA 101, 102)	8
	<hr/> 44-45

Required Courses:	SPA 201, 202	Units
Recommended Electives:		12

ART 107, 108, ANT 102, 125, 135, 186, HIS 110, 111, 140, 141, JRN 101, 102, COM 102, THE 103, 110, MUS 101, 102, ENG 104, PHI 111, 130, SOC 101, 202.

## Supervisory Management Certificate

Program Prerequisite: Sponsorship by a governmental agency. Current supervisory or management position or potential for appointment to a supervisory/management position.

	Units
Management Skills	PAD 101
The Manager and Systems	2
Relationships	PAD 102
The Manager and the Work Group	PAD 103
Composition*	ENG 101
MAT*	Any level
Recommended Electives*	<hr/> 15

Reading minimum of 11.5 grade level in accordance with standardized test scores.

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

## Certified Public Manager Certificate

### Program Prerequisites:

1. supervisory/management position
2. sponsorship by a governmental agency
3. completion of SMC program, or a two year college degree which includes nine credits hours (or ninety clock hours of training) in management to include performance evaluation, affirmative action, and related topics.

	Units
Leadership and Management Systems Approach to Public Management	PAD 201
The Decision-Making Process and Case Method Analysis	PAD 202
Composition, or Written Reports*	ENG 102
Recommended Electives*	ENG 109
	2-3
	<hr/> 15-16

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

	Units
Recommended Electives:	
Introduction to Sociology	SOC 101
Social Problems	SOC 202
Introduction to Social Welfare	SOC 207
Introduction to Psychology	PSY 101
American National Government	POS 110
	3
	3
	3
	3

National and Arizona Constitution	POS 220	3	Second Semester Units
Any Administration of Justice course related to current or future job assignment.			General Physics PHY 112 4
Any Social Service course related to current or future job assignment.			Science Elective* 4
			Analytic Geometry/Calculus MAT 261 5
			Microbiology BIO 205 4
			Total Units
			67-69

Introduction to Data Processing	CIS 172	3
Computers Applications	CIS 181	3
Principles of Macroeconomics or Principles of Microeconomics	ECN 201	3
	ECN 202	3

\*Science Elective may be selected from:  
 BIO 226 Ecology  
 CHM 235-236 General Organic Chemistry I and II  
 CIS 172 Introduction to Data Processing

\*Check with Office of Student Affairs for information on WICHE scholarship.

## \*Pre-Veterinary Associate of Science

	First Semester	Units
Freshman		
Composition	ENG 101	3
General Chemistry I	CHM 151	4
College Algebra	MAT 120/117	3
Plant Biology	BIO 184	4
Social/Behavioral Science		3

	Second Semester Units	
Physical Education	HPE	1
Composition	ENG 102	3
General Chemistry II	CHM 152	4
Plane Trigonometry	MAT 124	3
Animal Biology	BIO 190	4
Humanities/Fine Arts		3

	First Semester	Units
Sophomore		
General Physics	PHY 111	4
Science Elective*		4
Humanities/Fine Arts		3-4
Principles of Macroeconomics	ECN 201	3
Physical Education	HPE	1

## Welding Certificate Program

	Units
Written Communications & Reports	ENG 109 3
Technical Mathematics I	GTC 100 3
Technical Mathematics II	GTC 101 3
Manufacturing Materials & Processes I	GTC 105 3
Manufacturing Materials & Processes II	GTC 106 3
Blueprint Interpretation & Basic Drawing	DFT 100 4
Oxyacetylene Welding	WLD 105 3
Arc Welding	WLD 106 3
MIG and TIG Welding*	WLD 207 3
Pipe and Plate Welding*	WLD 210 3

\*Offered at Sierra Vista Campus only.

# Welding Technology

## Associate of Science Degree

Freshman  
 Composition  
 Technical Graphics  
 Manufacturing Materials and Processes I  
 College Algebra  
 Oxyacetylene Welding  
 Physical Education

First Semester Units  
 ENG 101 3  
 DFT 112 3  
 GTC 105 3  
 MAT 120/117 3  
 WLD 105 3  
 HPE 1

Composition  
 Technical Graphics II  
 Manufacturing Materials and Processes II  
 Plane Trigonometry  
 Arc Welding  
 Physical Education

Second Semester Units  
 ENG 102 3  
 DFT 113 3  
 GTC 106 3  
 MAT 124 3  
 WLD 106 3  
 HPE 1

Sophomore  
 MIG and TIG Welding\*  
 Pipe and Plate Welding\*  
 Electives Lab Science  
 Humanities/Fine Arts  
 Social/Behavioral Science

First Semester Units  
 WLD 207 3  
 WLD 210 3  
 4  
 3-4  
 3

Pipe Fitting and Welding  
 Welding Design and Fabrication  
 Electives Lab Science  
 Humanities/Fine Arts  
 Social/Behavioral Science

Second Semester Units  
 WLD 211 3  
 WLD 215 3  
 4  
 3-4  
 3

\*Offered at Sierra Vista Campus only.

# Welding Technology

## Associate of Applied Science Degree

General Education Requirements:	Units	
Composition	ENG 101	3
Composition	ENG 102	3
Intermediate Algebra	MAT 110	3
Social Science/Humanities		3
General Education Electives		6
		18

Core Curriculum:	Units	
Technical Graphics I	DFT 112	3
Technical Graphics II	DFT 113	3
Mfg. Mat. & Processes I	GTC 105	3
Mfg. Mat. & Processes II	GTC 106	3
Oxyacetylene Welding	WLD 105	3
Arc Welding	WLD 106	3
Pipe and Plate Welding	WLD 210	3
MIG and TIG Welding	WLD 207	3
Welding Design	WLD 215	3
Pipe Fitting	WLD 211	3
Metallurgy	MAC 130	3
Pipe Layout and Fitting	WLD 217	3
Computer App. in Business	CIS 181	3
		39
Electives*		9
		66

### \*Recommended Electives:

Machine Shop for Technicians I	MAC 110	4
Machine Shop for Technicians II	MAC 120	4
Basic Metallurgy	MAC 130	3
Jig and Fixture Design	MAC 210	4
Illustration	DFT 170	3

\*Offered at Sierra Vista Campus only.

# Arizona Department of Corrections

The following programs have been designed for the Arizona Department of Corrections in Douglas.

## Building Maintenance Certificate

	Units
Painting--Exterior and Interior	GTC 121
Air Conditioning Maintenance	GTC 122
Electrical Maintenance and Repair	GTC 123
Carpentry Maintenance and Repair	GTC 124
Plumbing Maintenance and Repair	GTC 125
Maintenance Management	GTC 126
Blueprint Reading and Estimating	GTC 127

## Business Certificate

	Units
Core Courses	
Survey of American Business	BUS 109
Bookkeeping and Financial Mgmt	BUS 146
Keyboarding	OED 113
Business Math	BUS 104
Grammar, Usage and Punctuation	ENG 111
Report Writing	ENG 109
	18

	Units
Office Education Emphasis	
Word Processing	OED 213
Records Management	OED 206
General Office Procedures	OED 106
Leadership and Supervision	BUS 127
Business Communications	OED 167
	15

	Units
Business Management Emphasis	
Principles of Management	BUS 143
Small Business Management	BUS 283
Principles of Marketing	BUS 145
Computer Applications	CIS 181
Salesmanship, or	BUS 144
Human Resources Management	BUS 123
	15

## General Interest Courses

Basic Drafting
Consumer Education
Real Estate
Introduction to Data Processing

## Business Machines Repair Certificate

	Units
Part #1 - Typewriter Repair	
IBM Selectric I & II Repair	OMR 100
Electronic Calculator Repair	OMR 102
Electronic Typewriter Repair	OMR 104
Electronic Memory	
Typewriter Repair	OMR 200
	4
	3
	3
	4
	4

## Part #2 - Office Machine and Photocopier Repair

	Units
Dictating Machine Repair	OMR 106
Basic Photocopier Repair	OMR 202
Advanced Photocopier Repair	OMR 204
Advanced Troubleshooting	
and Shop Operations	OMR 208
	3
	4
	4
	4

## Part #3 - Microcomputer Repair

	Units
Basic Microcomputer Repair	OMR 205
Advanced Microcomputer Repair	OMR 206
Microcomputer Peripherals Repair	OMR 207
	3
	4
	4

# Consumer Electronics Repair Certificate

		Units	
Radio Theory and Repair	CER 100	3	
Audio Tape Recorder Repair	CER 102	3	
Television Theory and Repair	CER 104	4	
Video Cassette Player/Recorder Repair	CER 200	4	
Compact Disc Player Repair	CER 202	3	
Microwave Oven Theory & Repair	CER 204	4	
Power Amplifiers	CER 205	3	
Advanced Television Repair	CER 206	4	
		28	

# General Electronics Technician Certificate

		Units	
Basic Electronic Circuits	GET 103	3	
Direct Current Circuit Diag.	GET 104	3	
Alt. Current Circuit Diag.	GET 108	4	
Mathematics for Electronics	GET 110	3	
Semiconductor Device Diag. and Repair	GET 123	4	
Elect. Syst. Diagnostics and Repair	GET 240	6	
		23	

# Horticulture Certificate

		Units	
Basic Horticulture	HRT 101	3	
Landscape Plant Material	HRT 110	3	
Landscape Construction and Maintenance	HRT 111	3	
Pest Control	HRT 120	3	
Landscape Design	HRT 201	3	
		15	

# Masonry Certificate

		Units
Blueprint Interpretation and Basic Drafting	DFT 100	3
Technical Mathematics I	GTC 100	3
Masonry I	GTC 110	3
Masonry II	GTC 111	3
Masonry III	GTC 112	3
Concrete Construction and Finish	GTC 120	3
Estimating Construction	GTC 130	3
		21

# Principles of Technology Certificate

		Units
Core Courses		
General Technical Mathematics	GTC 004	1
Technical Mathematics	GTC 100	1
Technical Mathematics	GTC 101	2

# Principles of Technology Certificate

		Units
Principles of Technology I	GTC 131	6
Principles of Technology II	GTC 132	6
Principles of Technology III	GTC 133	6
	Total	22

# Course Descriptions

Note: \*Indicates Lab Fees

## Administration of Justice

### AJS 101 The Criminal Justice System/3 Units

Prerequisites: None.

A critical examination of the major elements of the criminal justice system: police, courts, corrections with system analysis emphasized throughout, stressing the structure, functions and interdependence of each component. Topical areas include the investigative process, arrest, prosecution, defense, grand jury vs. petit jury, judges, probation and parole, sentencing and correction process, with a special section examining the unique characteristics of the juvenile justice system.

3 hours lecture.

### AJS 105 Police Science/3 Units

Prerequisite: None.

A survey of the history of police science in Europe and the United States. Preview medieval to modern law enforcement, philosophies, and techniques. Offers biographical sketches of leaders in law enforcement, their theories on crime and delinquency. Includes a brief overview of the criminal justice system, criminal law, police organization and organized crime in America.

3 hours lecture.

### AJS 109 Prisoners' Rights/1 Unit

Prerequisite: 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.

### AJS 111 Correctional Institutions/3 Units

Prerequisite: None.

An examination of correctional institutions with an emphasis on personnel and security measures, care and treatment programs and institutional planning. Includes an overview of the criminal justice system, inmate subcultures and organized crime in correctional institutions. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy).

3 hours lecture.

### AJS 112 Corrections as a System/3 Units

Prerequisite: None.

A critical examination of corrections as a system including the philosophy and history of correctional services, institutional sub-systems, probation concepts and parole operations. Additional emphasis on the interdependence of corrections with both law enforcement and the judiciary, correctional employee responsibilities, behavior modification, supervisory control techniques and rehabilitation in both confined and field settings. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

3 hours lecture.

### AJS 113 Crisis Intervention/1 Unit

Prerequisite: None.

A practical study of conflict resolution techniques including assertive communication, force, safety procedures and referrals. Emphasis upon appropriate use by police and correctional officers. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

1 hour lecture.

**AJS 114 Arrest, Search and Seizure/1 Unit**

Prerequisite: None.

A study of the procedural applications of current arrest, search and seizure statutes within correctional institutions.

1 hour lecture.

**AJS 115 Theories of Criminal Behavior/1 Unit**

Prerequisite: None.

An introduction to theories of human behavior and crime with emphasis upon biological, sociological and psychological approaches.

1 hour lecture.

**AJS 116 Criminal Evidence/1 Unit**

Prerequisite: None.

A practical study of the legal aspects of criminal investigation and the presentation of relevant evidence in a manner that precludes suppression.

1 hour lecture.

**AJS 117 Arizona Criminal Code/1 Unit**

Prerequisite: None.

A practical study of substantive provisions of the Arizona Criminal Code with emphasis upon those areas which have proven most troublesome to the law enforcement community.

1 hour lecture.

**AJS 118 Communications in Criminal Justice/1 Unit**

Prerequisite: 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 with the courtroom. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

1 hour lecture.

**AJS 119 Firearms/1 Unit**

Prerequisite: None.

A practical approach of 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.

**AJS 120 Firearms Certification/1 Unit**

Prerequisite: None.

Training and practical application in the use of firearms. Qualifications in the use of the .38 caliber revolver, .223 caliber rifle, and the 12 gauge shotgun. (Restricted to Law Enforcement Personnel.)

1 hour lecture.

**AJS 121 Rangemaster Certification/3 Units**

Prerequisite: 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 hour lecture.

**AJS 122 Police Patrol Functions/3 Units**

Prerequisite: None.

A study of the history and theory of patrol; duties and responsibilities of the patrol division; communications, development of observational powers; care and use of: protective weapons, patrol vehicles, 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 125 Private Security, Principles and Practices/3 Units**

Prerequisite: None.

An introductory course in private security designed to present the history, nature and scope of private security in modern society; the basic principles of physical security, internal loss prevention, defensive systems, fire prevention and safety; the security function in the corporate structure; operations and career opportunities exemplified in such specific areas as retail, hospital, cargo and computer security; and security services, contract and proprietary.

3 hours lecture.

**AJS 130 Juvenile Procedures/3 Units**

Prerequisite: ENG 101 recommended.

A study of the juvenile justice system with emphasis on the causes of and treatment strategies for juvenile delinquency. Additional topics include the role of law enforcement agencies and personnel, juvenile case disposition and juvenile corrections.

3 hours lecture.

**AJS 156 Criminology/3 Units**

Prerequisite: ENG 101, Reading 11.5 grade level or higher recommended, SOC 101 or PSY 101 preferred.

An introduction to criminal and delinquent behavior; crime statistics gathering; types of crime and criminals; traditional, white collar, and organized crime. Theories of criminal behavior, influence or non-influence of home, school, community, church, age, race and sex.

3 hours lecture.

**AJS 159 Correctional Case Work Techniques/3 Units**

Prerequisite: None.

A critical examination of the theory and application of specific correctional casework techniques and treatment with emphasis upon team concepts, diagnostic concepts,

counseling, criminal personality and practical application.

3 hours lecture.

**AJS 161 Identification of Gangs/1 Unit**

Prerequisite: None.

A practical study of the history, philosophy and identification of organized gangs and revolutionary groups in the United States prison system.

1 hour lecture.

**AJS 162 Organization and Impact of Gangs/1 Unit**

Prerequisite: None.

An analysis of the structure and development of gang organization, including the impact of gangs on the prison environment and the outside community.

1 hour lecture.

**AJS 163 Special Populations I/1 Unit**

Prerequisite: None.

A practical introduction to the recognition of non-psychotic and psychotic behaviors including personality disorders, substance abuse and suicide. Emphasis upon appropriate correctional staff responses and the identification of community agencies that can provide assistance.

1 hour lecture.

**AJS 164 Special Populations II/1 Unit**

Prerequisite: None.

A practical study of the problems of illegal aliens, physically disabled, mentally retarded and elderly inmates, including the impact of culture and life experiences on one's perception. Emphasis on problems of particular interest to criminal justice practitioners.

1 hour lecture.

**AJS 165 Basic Management Skills/1 Unit**

Prerequisite: None.

An overview of the entire management process in criminal justice agencies with emphasis upon the fundamental skills of basic management, motivation, leadership, communication, decision making and community relations.

1 hour lecture.

**AJS 167 Management by Objectives/1 Unit**

Prerequisite: None.

An overview of management by objectives (MBO) as it pertains to criminal justice agencies, with emphasis on the MBO implementation process.

1 hour lecture.

**AJS 170 Parole Supervision/3 Units**

Prerequisite: None.

A practical introduction to community relations, caseload management, basic counseling, stress management, defensive driving, and crisis/conflict management for the parole officer.

3 hours lecture.

**AJS 171 Victim Assistance/1 Unit**

Prerequisite: None.

An overview of victims' issues emphasizing strategies used to reduce the trauma associated with crime. Includes methods of counseling, referral, and intervention.

1 hour lecture.

**AJS 184 Correctional Supervision/3 Units**

Prerequisite: None.

An overview of basic supervision for correctional supervisors. Emphasis on the theory and practical application of personnel practices, employee discipline and motivation, trust team building and one-minute-manager principles. (Identical to PAD 102.)

3 hours lecture.

**AJS 185 Correctional Supervision II/3 Units**

Prerequisite: AJS 184.

A practical introduction to leadership, writing/preparation of reports, legal issues, budgetary management, personnel issues and problem solving techniques for correctional supervisors and managers.

3 hours lecture.

**AJS 186 Correctional Administration/3 Units**

Prerequisite: None.

An introduction to military, format-participative and leadership models of management, as well as management by objectives. Modern management techniques, middle and line management in correctional institutions, probation and parole are emphasized. Includes a brief overview of the history of punishment and the evolution of correctional facilities.

3 hours lecture.

**AJS 187 Criminal Justice Management Problems/1 Unit**

Prerequisite: None.

A review of the common management problems in criminal justice agencies including conflict management, employee relations, fiscal affairs and time management. Includes a discussion of the process of organizational change and development.

1 hour lecture.

**AJS 190 Police Reserve Academy I/10 Units**

Prerequisite: Student employment as a reserve officer by a recognized law enforcement agency.

A limited policy academy for reserve officers. Successful course completion awards certification as a limited authority police reserve.

9 hours lecture, 3 hours laboratory.

**AJS 192 Critical Issues in Penology/.5-1 Unit**

Prerequisite: None.

A revolving seminar/forum emphasizing current areas of critical concern to corrections personnel. May be repeated for Cochise College credit.

.5 to 1 hour lecture.

**AJS 193 Hazard Communication  
(Right-to-Know)/.5 Unit**

Prerequisite: None.

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.

.5 hours lecture.

**AJS 194 Hazard Communications  
(Community Right-to-Know)/.5 Unit**

Prerequisite: None.

A study of the Federal Regulations cited in Section 301, Title III, Superfund Amendments and Reauthorization Act (SARA) of 1986, also referred to as the Emergency Planning and Community Right-to-Know Act of 1986.

.5 hours lecture.

**AJS 200 Criminal Law I (Substantive)/3 Units**

Prerequisite: AJS 101, ENG 101, Reading 11.5 grade level or higher.

A general overview of criminal procedure, the court system, arrest, search and seizure with emphasis upon substantive criminal law, the various elements of particular crimes as set forth generally in common law and particularly as applied to Arizona Revised Statute, Criminal Code, Title 13.

3 hours lecture.

**AJS 201 Criminal Law II (Procedural)/3 Units**

Prerequisite: AJS 101, AJS 200 (preferred), ENG 101, Reading 11.5 grade level or higher.

A study of procedural law as it relates to arrest and arrest warrants; search: with and without a warrant; obtaining an arrest or search warrant; the meaning of probable cause and its significance to the police officer; the Exclusionary Rule; search incidental to arrest; consent searches; evidence in plain view; search and seizure of vehicles without a warrant; admissions and confessions; stop and frisk; and preparation of a case for court.

3 hours lecture.

**AJS 205 Community Corrections/3 Units**

Prerequisite: AJS 101, AJS 112, ENG 101, Reading 11.5 grade level or higher.

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 215 Penology/3 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Administration of Justice. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

### **AJS 235 Criminal Investigation/3 Units**

Prerequisites: AJS 101, 122, ENG 101, Reading 11.5 grade level or higher recommended.

An introduction to the elements of felony crime investigation; methods of preliminary and follow-up investigation; interviewing; interrogation of witnesses and suspects (subject to legal aspects); sources of information: witnesses, informants and agencies; methods of criminal operation in various crimes: arson, burglary, homicide, sex crimes, robbery and various other crimes.

3 hour lecture.

### **AJS 236 Forensic Science/3 Units**

Prerequisite: AJS 101, 235 required; ENG 101, Reading 11.5 grade level or higher.

A study of the scientific method of crime scene search. Methods of recognition, collection, recording, marking or tagging for identification, packaging and transporting to the crime laboratory of physical objects such as weapons, clothing, physiological fluids, hair, fingerprints. Fingerprints: latent and visible, patterns, lifting and preserving methods, casting of impressions: shoe, tire, tool marks. Students will locate, dust, lift latent fingerprints, make a plaster cast, and investigate a mock crime scene for physical evidence.

3 hours lecture.

### **AJS 240 Police-Community Relations/3 Units**

Prerequisite: AJS 101, SOC 101 recommended, ENG 101, Reading 11.5 grade level or higher.

A study of the evolving role of the police; need for positive police-community relations; misuse of police authority; public attitude toward police; police isolation; relations with news

media; police-public relations programs; police-community relations programs; crime prevention programs.

3 hours lecture.

### **AJS 254 Psychology in Law Enforcement/3 Units**

Prerequisite: AJS 101, PSY 101, ENG 101, Reading 11.5 grade level or higher recommended.

A study of the changing role of police, attitude toward human behavior, normal personality conflicts, defense mechanisms, abnormal behavior, personality disorders, neuroses, psychoses, psychopathic, deviant, drug dependency, paranoia, violent, suicidal behavior. Behavioral aspects of disasters, riots, riot control and legal aspects of abnormal behavior.

3 hours lecture.

### **AJS 265 Critical Issues in Criminal Justice/5.1 Unit**

Prerequisite: None.

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

.5-1 hour lecture.

### **AJS 266 Hazardous Material Incident**

#### **“First Responder”/3 Units**

Prerequisite: None.

A course 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; and the 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 in incompatibles.

3 hours lecture.

**AJS 267 Hazardous Waste Site Workers' Health and Safety/3 Units**

Prerequisite: None.

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

3 hours lecture.

**AJS 290 Instructor Skill Development/3 Units**

Prerequisite: 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. (Identical to EDU 290)

3 hours lecture.

**AJS 291 Law Enforcement Instructor Certification I 1 Unit**

Prerequisite: None.

A study of adult learner characteristics, learning theories, the learning environment, and the role and liabilities of criminal justice trainers. Emphasis upon application of basic instructional concepts. (AJS 291, 292, and 293 combined are identical to AJS 290).

1 hour lecture.

**AJS 292 Law Enforcement Instructor Certification II/1 Unit**

Prerequisite: None.

A practical application of criminal justice instructional

techniques emphasizing training needs, writing course objectives, developing lesson plans, and student evaluation. (AJS 291, 292, and 293 combined are identical to AJS 290).

1 hour lecture.

**AJS 293 Law Enforcement Instructor Certification III/1 Unit**

Prerequisite: None.

An overview of the characteristics of effective instruction including comparison of various instructional methods and testing/evaluation techniques, use of instructional media and evaluation of criminal justice training programs. (AJS 291, 292, and 293 combined are identical to AJS 290).

1 hour lecture.

**AJS 294 Correctional Instructor Certification**

**1.5 Unit**

Prerequisite: None.

Designed to certify Arizona Department of Corrections Subject Matter Experts (SME) to teach Academy and In-service staff training courses. Prepares SME's to use approved curriculum materials and effective teaching techniques.

1.5 hour lecture.

**AJS 295 Police Reserve Academy II/10 Units**

Prerequisite: Student employment as a reserve officer by a recognized law enforcement agency and successful completion of AJS 190.

An advanced police academy for reserve officers. Successful course completion awards certification as a full-authority police reserve.

9 hours lecture, 3 hours lab.

# **Agriculture**

## **AGR 101 Principles of Veterinary Sciences/3 Units**

Prerequisite: 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 Units**

Prerequisite: 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 103 Introduction to Animal and Disease**

### **Process/3 Units**

Prerequisite: None.

A course to familiarize the student with the normal animal, including the anatomical description, the physiological function, and the structural differences of the simple cell compared to the complex organs of the body. The instruction will link the normal information specifically to the disease process and serve as an introduction to the scientific basis of disease.

3 hours lecture.

## **AGR 104 Principles of Agronomy/3 Units**

Prerequisite: None.

Principles of field crop production with special emphasis on origin, distribution, cultural practices and improvements.

3 hours lecture.

## **AGR 105 Range Management I/3 Units**

Prerequisite: None.

A study of the history of rangeland use, the influences 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 106 Animal Diseases and Sanitation/3 Units**

Prerequisite: None.

A course dealing with diseases which affect common domestic animal including definition, symptoms, diagnosis, prognosis, treatment and communicability to both man and animals, sanitation and its application to prevention of these diseases and the health of both man and animals.

3 hours lecture.

## **AGR 107\* Farrier Science/3 Units**

Prerequisite: None.

A study of the basic principles of farrier science, including an introduction to the physiology and anatomy of the horses' legs & hooves, horseshoeing, diagnosis of minor hoof & leg problems & proper methods for correcting stride & alignment.

1 hour lecture, 3 hours laboratory.

## **AGR 108 Introduction to Beekeeping/3 Units**

Prerequisite: None.

A study of beekeeping including physiology and anatomy, hive and equipment preparation, disease control, and beekeeping management and production.

3 hours lecture.

**AGR 138\* Team Roping/3 Units**

Prerequisite: Basic riding experience and interest in roping.

An opportunity for students to practice for pleasure and for later competition in rodeo team roping activities.

2 hours lecture, 3 hours laboratory.

**AGR 139 Western Horsemanship/3 Units**

Prerequisite: 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 care for the general well-being of the animal.

2 hours lecture, 3 hours laboratory.

**AGS 140\* Rodeo Skills/3 Units**

Prerequisite: None-however, some prior knowledge of rodeo would be helpful.

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 Units**

Prerequisite: 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 care for the general well-being of the animal.

May be repeated for Cochise College credit.

2 hours lecture, 3 hours laboratory.

**AGR 207 Range Plants/3 Units**

Prerequisite: 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 Units**

Prerequisite: None.

Fundamental principles as applied to animal, dairy, and poultry science and the marketing and distribution of animal products.

3 hours lecture.

**AGR 209 Auxiliary Engine Operation & Repair****3 Units**

Prerequisite: None.

The operation, servicing, adjusting, care and repair of small gas engines of various types and models.

1 hour lecture, 3 hours laboratory.

**AGR 210\* General Welding I/3 Units**

Prerequisite: 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 Units**

Prerequisite: None.

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 Units**

Prerequisite: AGR 210.

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 213\* Agriculture Alloy & Repair Welding 3 Units**

Prerequisite: AGR 210, 212, or permission of instructor.

Techniques of operating arc welding and oxyacetylene equipment in the welding and repairing of alloy metals with emphasis on the techniques required to satisfactorily repair alloy metals.

2 hours lecture, 3 hours laboratory.

**AGR 214 Soils & Fertilizers/3 Units**

Prerequisite: None.

Fundamental properties of soils, their relation to plant growth and soil amendment.

3 hours lecture.

**AGR 215 Home Gardening/3 Units**

Prerequisite: None.

The study of the care and maintenance of trees, shrubs, hedges, and flowers for those students who want to sharpen their practical application in growing vegetable and flower gardens.

3 hours lecture.

**AGR 224 Field Experience in Agriculture & Natural Resources/1-6 Units**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience

involving the combine efforts of educators and employers to accomplish career objectives in Agriculture & Natural Resources. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**AGR 230 Animal Feeding/3 Units**

Prerequisite: None.

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 Units**

Prerequisite: None.

An introduction to the types, breeds, and management of horses with emphasis on feeding, breeding, and daily care.

3 hours lecture.

**AGR 242 Livestock Judging/3 Units**

Prerequisite: None.

Selection of animals by type, production, and pedigree, practice judging, and selection of livestock.

3 hours lecture.

**AGR 243 Livestock Production & Management 3 Units**

Prerequisite: None.

Livestock production and management will teach the managerial skills necessary in the production, feeding, and the care of livestock on farms and ranches. The economics of the livestock industry will also be emphasized.

3 hours lecture.

## **AGR 250\* Project Welding/3 Units**

Prerequisite: AGR 210 or AGR 212 or permission of instructor.

Individual projects for students with demonstrated welding skills with use of the arc welding or 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 Units**

Prerequisite: Permission of division chair and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member, with contract for individual study agreed upon by the student, the instructor and the division chair prior to initiation of the study.

# **Anthropology**

## **ANT 100 Faces of Culture/3 Units**

Prerequisite: None.

An introductory anthropology telecourse embracing cultures from all continents illustrating social patterns and human adaptations to the environment. Topics include the nature of culture, how cultures are studied, language and communication, marriage and the family, social stratification, religion and magic, cultural change, acculturation and child rearing, the arts, and patterns of subsistence, kinship and descent. Cochise College elective credit unless otherwise designated in degree programs. Limited to students having access to Desert Cable.

3 hours lecture.

## **ANT 101 Origin and Antiquity of Man/3 Units**

Prerequisite: None.

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 Units**

Prerequisite: None.

A theoretical and practical introduction to cultural anthropology designed to provide insight into cultural forces which affect man's way of life. Topics include the study of material culture, technology, social, political and economic systems, religion, and language.

3 hours lecture.

## **ANT 110 Exploring Archaeology/3 Units**

Prerequisite: None.

A nontechnical 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 136\* Archaeological Excavation/4 Units**

Prerequisite: None.

Practical experience through scientific excavation of an archaeological site session in the field and laboratory.

4 hours field; 2 hours laboratory.

## **ANT 137\* Archaeological Excavation/4 Units**

Prerequisite: ANT 136.

Directed study of a specific problem through scientific excavation of an archaeological site in conjunction with ANT 136.

4 hours field; 2 hours laboratory.

## **ANT 138\* Archaeological Site Survey/3 Units**

Prerequisite: None.

An introduction to identifying, locating, and recording archaeological sites, with emphasis on gaining practical experience in documenting archaeological remains. Students participate in exploring areas in Southern Cochise County. 1.5 hours lecture, 4.5 hours laboratory.

**ANT 140\* Rock Art of the American Indian/3 Units**  
Prerequisite: 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. 1 hour lecture, 3 hours laboratory.

**ANT 190 The Border: From Heroic Past to Present Controversies/3 Units**  
Prerequisite: None.

An introduction to the anthropology, history, and economic development of the United States-Mexico border, emphasizing the acquisition of knowledge relevant to public and business policy concerns.

3 hours lecture.

**ANT 192 Special Topics in Anthropology/.5-1 Unit**  
Prerequisite: 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.

.5 to 1 hour lecture.

**ANT 226 Non-Literate Societies of the World/3 Units**  
Prerequisite: None.

The study of selected non-literate people and their way of life, with major attention to such groups as tribes, chiefdoms, pastoral and peasant societies, and primitive states.

3 hours lecture.

**ANT 235 Introduction to Archaeology/3 Units**  
Prerequisite: None.

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 Culture of North America/3 Units**  
Prerequisite: None.

A survey of prehistoric North American native cultures, including basic anthropological, archaeological and ethnological theory methods and concepts. Focus is upon such cultures as the Clovis, Hohokam, Anasazi, Mississippi, Natchez and Aleut.

3 hours lecture.

**ANT 286 Historic Indian Tribes of North America 3 Units**  
Prerequisite: None.

A survey of historical North American native cultures including basic anthropological, historical and ethnological theory, methods and concepts. Focus is upon such cultures as the Apache, Pueblo, Pima-Papago, Shoshonean, as well as those of the Northeast Coast, the Great Plains and the Northeast. The status of contemporary tribes is also addressed.

3 hours lecture.

**ANT 287 Archaeology of the Southwest/3 Units**  
Prerequisite: None.

A study of the prehistoric people of the American Southwest from the late Pleistocene to the Spanish conquest. The course includes discussions of local archaeological cultures emphasizing the process for cultural development within key regions.

3 hours lecture.

## **ANT 299 Individual Studies/1-4 Units**

**Prerequisite:** Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# **Art**

**Note:** All studio courses except ART 101 - Introduction to Art - 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 nontransfer credit.

Note: \*indicates lab fees.

## **ART 101\* Introduction to Art/3 Units**

**Prerequisite:** None.

An introduction of art elements and principles and materials used in art courses and a study of the development of concepts, materials, techniques and processes.

2 hours lecture, 4 hours studio.

## **ART 103\* Basic Design/3 Units**

**Prerequisite:** 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 105\* Art in the Elementary School/3 Units**

**Prerequisite:** None.

An introduction to materials used in elementary art class; a study of a child's artistic development through lectures, slides, films, and appropriate art experience for teacher's aides. Will not fulfill art education requirement for teacher's certification.

3 hours lecture.

## **ART 106\* Basic Drawing/3 Units**

**Prerequisite:** None.

This is an elementary course in a 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.

2 hours lecture, 4 hours laboratory.

## **ART 107 Survey of World Art/3 Units**

**Prerequisite:** None.

A survey presentation of the art and architecture of western civilizations through the Gothic Era, including prehistoric and primitive cultures of the world.

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

3 hours lecture.

## **ART 108 Survey of World Art/3 Units**

**Prerequisite:** None.

A survey presentation of the art and architecture of western civilizations from the Renaissance through the twentieth century.

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

3 hours lecture.

**ART 130\* Painting for Personal Development I****3 Units**

Prerequisite: None.

Introduction to techniques of water-color, 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.

1 hour lecture, 3 hours studio.

**ART 131\* Painting for Personal Development II****3 Units**

Prerequisite: ART 130.

Development of those skills and techniques introduced in ART 130 with special emphasis on student projects and preparation of work for exhibition. May be repeated for credit. Not intended for transfer to a four-year institution.

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

1 hour lecture, 3 hours studio.

**ART 192\* Special Topics in Art/.5-4 Units**

Prerequisite: 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 need and interest. May be repeated for Cochise College credit.

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

.5-4 hours lecture/studio.

**ART 230\* Color and Design/3 Units**

Prerequisite: ART 103 or permission of instructor.

Further investigation 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.

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

2 hours lecture, 4 hours studio.

**ART 231\* Three Dimensional Design/Sculpture****3 Units**

Prerequisite: ART 103 or permission of instructor.

A studio course with an inquiry into the use of volume, mass, color and textural relationships as they exist in actual space.

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

2 hours lecture, 4 hours studio.

**ART 245\* Beginning Figure Drawing/3 Units**

Prerequisite: ART 106 or permission of instructor.

Drawing from the model and other subjects to develop pictorial and perceptual skills with an emphasis on the human figure in its environment.

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

2 hours lecture, 4 hours studio.

**ART 265\* Beginning Commercial Design/3 Units**

Prerequisite: ART 103 or permission of instructor.

A study of principles of commercial design and techniques of advertising layout, and their practical application with a concern for the tools and materials used in advertising.

2 hours lecture, 4 hours studio.

**ART 270\* Ceramics I/3 Units**

Prerequisite: ART 103, ART 231 or permission of instructor.

An introduction to clay, glaze and kiln processes and wheelthrown techniques with 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 275\* Ceramics II/3 Units**

Prerequisite: ART 103, ART 231, and ART 270 or permission of instructor.

A more advanced course than ART 270, Ceramics I. Students will need to have a basic knowledge of handbuilt and wheelthrown techniques with various clay bodies and, a basic knowledge of glazes, their application and kiln loading and firing processes. Students should have taken ART 270, Ceramics I at Cochise College.

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

2 hour lecture, 4 hours studio.

**ART 280\* Beginning Painting I/3 Units**

Prerequisite: ART 103, ART 106 or permission of instructor.

A studio course in beginning oil and/or acrylic painting techniques with emphasis on color theory and color mixing. Preparation of painting surfaces is also introduced.

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

2 hours lecture, 4 hours studio.

**ART 281\* Painting II/3 Units**

Prerequisite ART 103 or 106, and 280, or permission of instructor.

An intermediate course in painting with an emphasis on

developing individual expressive and pictorial skills in oil and/or acrylic media.

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 Units**

Prerequisite: ART 103 or permission of instructor.

An introduction to the use and function of the camera and black and white darkroom technique.

2 hours lecture, 4 hours laboratory.

**ART 286\* Intermediate Photography/3 Units**

Prerequisite: ART 285 or permission of instructor.

Second semester of a one-year sequence. Advanced black and white techniques. Introduction to color. Current trends.

2 hours lecture, 4 hours laboratory.

**ART 290\* Sculpture/3 Units**

Prerequisite: ART 103, ART 231, or permission of instructor.

An introduction to traditional and contemporary sculptural media, techniques and concepts, with student involvement from raw material to 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 Units**

Prerequisite: 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 only unless otherwise designated in degree programs.

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

.5 hour to 4 hours lecture/studio.

### **ART 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair and instructor.

Complete 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 division chair prior to initiation of the study. May be repeated for credit.

## **Aviation Technology**

### **AVN 101 Stage One Ground School/5 Units**

Prerequisite: Concurrent enrollment or prior completion of AVN 102.

A comprehensive course leading to completion of F.A.A. Private Pilot Certification requirements and preparation for introduction to Commercial Pilot Certification requirements.

5 hours lecture.

### **AVN 102 Stage Two Ground School/5 Units**

Prerequisite: None.

A comprehensive study of aviation meteorology.

### **AVN 103 Stage Three Ground School/5 Units**

Prerequisites: Completion of AVN 102 with a grade of 'C' or better or possession of a Private Pilot Certificate.

A comprehensive course leading to completion of the requirements for Commercial Pilot Certification.

### **AVN 104 F & G Private Pilot Test Preparation Course/4 Units**

An intensive closely supervised ground and flight training

course to introduce the student pilot to the requirements for the FAA Private Pilot Certificate.

63 hours lecture, 15 laboratory hours.

### **AVN 106 Commercial Test Course Airplane/2 Units**

An intensive closely supervised Flight and Ground Course to prepare experienced private pilots and military or former military aviators for the FAA Commercial Pilot Airplane Certification Flight Test.

### **AVN 111 Stage One Flight Laboratory/6 Units**

Prerequisite: Concurrent registration in AVN 101 and 102.

A comprehensive course leading to completion of the elementary knowledge, skills and experience requirements leading to Commercial Pilot Certification.

### **AVN 112 Stage Two Flight Laboratory/3 Units**

Prerequisites: Completion of AVN 111 with a grade of 'C' or better or possession of a Private Pilot Certificate. Admission to a laboratory section.

An intermediate step towards completion of the requirement for the Commercial Pilot Certificate.

### **AVN 113 Stage Three Flight Laboratory/3 Units**

Prerequisite: Completion of AVN 111 and 112 with minimum grade of 'C'. Admission to a laboratory section.

A continuation of the development of the requirements for the Commercial Pilot Certificate.

### **AVN 120 Solo Flight Preparation/2 Units**

Prerequisite: AVN 101

A course designed to prepare the student to complete the F.A.A. pre-solo flight and knowledge requirements.

2 hours lecture and individual instruction.

**AVN 121 Cross Country Navigation/2 Units**

Prerequisite: AVN 120

A course designed to prepare the student to complete the F.A.A. pre-solo cross-country flight and knowledge requirements.

2 hours lecture and individual instruction.

**AVN 122 Private Pilot Certification Completion****2 Units**

Prerequisite: AVN 121

A course designed to prepare the student to complete the F.A.A. pre-certification flight and knowledge requirements.

2 hours lecture and individual instruction.

**AVN 200 Introduction to Aviation Operations****Management/3 Units**

Prerequisite: None.

An introduction to basic management principles as they apply to aviation-oriented businesses.

3 hours lecture.

**AVN 201 Instrument Flight Navigation and Air Traffic Control Procedures/4 Units**

Prerequisite: AVN 204

A course designed to prepare the student to meet the F.A.A. instrument flight navigation and air traffic control procedures, flight and knowledge requirements.

4 hours lecture and individual instruction.

**AVN 202 Instrument Flight Cross Country Procedures & Practical Test Preparation/1.5 Units**

Prerequisite: AVN 201

A course designed to prepare the student to complete the F.A.A. practical test certification requirements.

1.5 hours lecture and individual instruction.

**AVN 204 Stage Four Ground School/5 Units**

Prerequisite: Completion of AVN 101, 102 and 103 Ground Schools with minimum grades of 'C' or possession of Commercial Pilot Certificate, or a Private Certificate with 200 hours flight time. AVN 102 Ground School must be taken prior to or concurrently with AVN 204 Ground School.

A comprehensive study of the requirements for an Instrument Pilot rating.

**AVN 206 Commercial Test Course Airplane/8 Units**

Prerequisite: Private Pilot Certificate or Military Pilot experience.

An intensive closely supervised Flight and Ground Course to prepare experienced private pilots and military or former military aviators for the FAA Commercial Pilot Airplane Certification Flight Test.

127 hours lecture, 79 hours laboratory.

**AVN 208 Multi-Engine Class Rating Ground School/1 Unit**

Prerequisite: 5 hours in a "complex" airplane.

A comprehensive course leading to completion of the requirements for a Multi-Engine Land Airplane Class Rating.

**AVN 214 Stage Four Commercial Pilot/5 Units**

Prerequisite: Completion of AVN 101, 102, 103, 204, 111, 112 and 113 with minimum grades of C or possession of a Commercial Pilot Certificate.

Completion of the Instrument Pilot Airplane rating requirements.

**AVN 215 Stage Five Commercial Pilot/1 Unit**

Prerequisite: Completion of AVN 214

Completion of the F.A.A. Commercial Pilot Certification requirements.

1 hour lecture.

**AVN 218 Multi-Engine Class Rating Flight****Course/2 Units**

Prerequisite: AVN 208 or cc enrollment, five hours solo in "complex" airplane.

A comprehensive course leading to completion of the requirements for a Multi-Engine Land Airplane Class Rating.

**AVN 220 Flight Instructor-Airplane Ground****School/5 Units**

Prerequisite: Possession of a Commercial Pilot-Airplane Certificate with an Instrument Rating.

A comprehensive course leading to completion of the requirements for Flight Instructor Airplane Certification.

**AVN 221 Flight Instructor-Airplane Flight****Laboratory/3 Units**

Prerequisite: Possession of a Commercial Pilot-Airplane Certificate with an Instrument Rating. Concurrent enrollment or prior completion of AVN 220.

A comprehensive course leading to completion of the requirements for Flight Instructor-Airplane Certification.

**AVN 225 Fundamentals of Aviation Instruction****3 Units**

Prerequisite: AVN 106 and AVN 103 and concurrent enrollment in AVN 220 or permission of instructor.

A study of learning and teaching as it relates to conveying aeronautical knowledge and skills to students.

3 hours lecture.

**AVN 230 Multi-Engine Airplane Flight Instructor Ground School/2 Units**

Prerequisite: Possession of a Flight Instructor-Airplane Certificate and a Multi-Engine Land Airplane Rating.

A comprehensive course leading to completion of the requirements for Multi-Engine Flight Instructor Certification.

**AVN 231 Multi-Engine Airplane Flight Instructor****Flight Laboratory/2 Units**

Prerequisite: Admission to a laboratory section.

Possession of a Flight Instructor-Airplane Certificate and a Multi-Engine Land Airplane Class Rating. Concurrent enrollment or prior completion of AVN 230.

A comprehensive course leading to completion of the requirements for Multi-Engine Instructor Certification.

**AVN 240 Instrument Flight Instructor-Airplane****Ground School/3 Units**

Prerequisite: Possession of an Airplane Flight Instructor Certificate and Instrument rating.

A comprehensive course leading to completion of the requirements for certification as an Instrument Flight Instructor-Airplane.

**AVN 241 Instrument Flight Instructor-Airplane****Flight Laboratory/3 Units**

Prerequisite: Admission to a laboratory. Possession of an Airplane Flight Instructor certificate and an Instrument Rating. Concurrent enrollment or prior completion of AVN 240.

A comprehensive course leading to completion of the requirements for Instrument Flight Instructor-Airplane certification.

**AVN 245 Air Transportation/3 Units**

Prerequisite: None.

A survey of the development and operation of the air transportation system including air carrier regulation, deregulation, economics, and organization.

3 hours lecture.

**AVN 247 Aviation Law/3 Units**

Prerequisite: 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.

### **AVN 250 Airline Transport Pilot Rating Ground School/3 Units**

Prerequisite: Possession of a Commercial Pilot Certificate with an instrument rating.

A course leading to completion of the requirements for Airline Transport Pilot Certification.

### **AVN 251 Airline Transport Pilot Rating Flight Laboratory**

Credit determined by number of hours of instruction required.

Prerequisite: Possession of a Commercial Pilot Certificate with an Instrument Rating. Total flight hours requirement as per FAR Part 61 and a current Class I Medical Certificate.

A comprehensive course leading to completion of the requirements for an Airline Transport Pilot Rating.

### **AVN 294 Field Experience in Aviation/1-6 Units**

Prerequisite: 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 Aviation. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

### **AVN 299 G and/or F Individual Studies Ground School and/or Flight Laboratory**

Credits to be determined by coursework and hours under contract agreement by student and instructor assigned with division chair's approval.

Courses designed by contract to provide recognition and give credit for extra-curricular projects of merit.

## **Aviation Maintenance Technology**

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

### **AMT 150\* Phase I 400 Hours/18 Units**

Prerequisite: None.

A comprehensive study of general subjects required by the F.A.A. as a prerequisite to the Airframe and Powerplant courses embracing: aero math, aircraft drawing, basic physics, basic electricity, fluid lines, and fittings, material and processes, cleaning and corrosion control, ground operations and servicing, maintenance publications, mechanic privileges and limitations, maintenance forms and records and weight and balance.

50% Lecture; 50% Laboratory.

### **AMT 160\* Phase II 384 hours/17 Units**

Prerequisites: Phase I.

A comprehensive study of aircraft structures with emphasis on structural repairs and finishing techniques on metal and fabric covered aircraft.

50% Lecture; 50% Laboratory.

### **AMT 260\* Phase III 384 Hours/17 Units**

Prerequisites: Phases I and II.

A study of aircraft systems, including electrical, hydraulics, landing gear, environmental control, ice and rain protection, fire protection, and fuel systems.

50% Lecture; 50% Laboratory.

### **AMT 270\* Phase IV 384 Hours/17 Units**

Prerequisites: Phase I.

A continuation of aircraft powerplants and related systems, including propeller, fuel, ignition, lubrication, electrical and cooling.

50% Lecture; 50% Laboratory.

### **AMT 275\* Phase V 384 Hours/17 Units**

Prerequisites: Phases I and IV.

An introduction of aircraft powerplant theory and maintenance on reciprocating and turbine engines.

50% Lecture; 50% Laboratory.

### **AMT 280\* Helicopter Maintenance and Inspection Fundamentals/4 Units**

Prerequisite: Completion of AVN 150, 160, 260 or have a F.A.A. Airframe 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 285 Phase VI/1-6 Units**

Prerequisite: AVN 150 and/or 160, and/or 260, and/or 270, and/or 275 or permission of instructor.

This course, a proficiency course, is designed to upgrade a student's theoretical and physical proficiency in aviation subjects to level prescribed and to make-up missed hours in Phase I through V. Instructor will evaluate students on an individual basis to assess their needs, their assigned subjects, hours, and units as required.

### **AMT 290\* Airframe and Powerplant Upgrade 6 Units**

A review of the total A & P program curriculum designed for the military aircraft mechanic who has 30 or more months experience. Completion of the 90 hours of lecture-discussion for 6 units of credit (3 units airframe, 3 units powerplant) qualifies student to take FAA written, oral and practical examinations.

70% Lecture; 30% Laboratory.

### **AMT 295\* Practicum in Aviation Maintenance Technology Upgrade/6 Units**

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. Course not open to A & P students.

4 hours lecture, 6 hours laboratory.

## **Yuma Program**

### **AMT 148 General Aeronautics & Applications/3 Units**

Prerequisite: None.

A study of the "General" mechanic subjects designated by the F.A.A. This course includes ground operations and servicing, mathematics, basic physics, basic electricity, fluid lines and fittings, and aircraft drawings.

2.5 hours lecture, 1.5 hours laboratory.

### **AMT 149 General Aeronautics & Applications/3 Units**

Prerequisite: None.

A study of the "General" mechanic subjects designated by the F.A.A. This course includes weight and balance, maintenance publications, mechanics privileges and limitations, maintenance forms and records, cleaning and control, and materials and processes.

2.5 hours lecture, 1.5 hours laboratory.

### **AMT 151 Basic Airframe Mechanics/3 Units**

Prerequisite: None.

A study of the airframe mechanic subjects designated by the F.A.A. This course includes airframe inspection, sheet-metal structures and cabin atmosphere system and controls.

2.5 hours lecture, 1.5 laboratory.

**AMT 152 Basic Airframe Mechanics/3 Units**

Prerequisite: None.

A study of airframe mechanic subjects required by the F.A.A. This course includes aircraft electrical systems, hydraulic and pneumatic power systems.

2.5 hours lecture, 1.5 hours laboratory.

**AMT 153 Basic Aircraft Powerplant Mechanics 3 Units**

Prerequisite: None.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of reciprocating engine theory and applications.

2.5 hours lecture, 1.5 hours laboratory.

**AMT 154 Basic Aircraft Powerplant Mechanic 3 Units**

Prerequisite: None.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of turbine engine theory, applications, and engine inspection methods.

2.5 hours lecture, 1.5 hours laboratory.

**AMT 211 Advanced Airframe Mechanics/3 Units**

Prerequisite: AVN 151 and AVN 152 or permission of instructor.

A study of the airframe mechanic subjects required by the F.A.A. This course includes assembly and rigging, wood structures, fabric covering, and aircraft finishes.

2.5 hours lecture, 1.5 hours laboratory.

**AMT 212 Advanced Airframe Mechanics/3 Units**

Prerequisite: AVN 151 and AVN 152 or permission of instructor.

A study of the airframe mechanic subjects required by the F.A.A. This course includes ice and rain control,

communications and navigation systems, instrument systems, landing gear, position and warning systems, fuel systems and welding.

2.5 hours lecture, 1.5 hours laboratory.

**AMT 216 Advanced Aircraft Powerplant Mechanics/3 Units**

Prerequisite: AVN 153 and AVN 154 or permission of instructor.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of fuel metering systems, lubricating systems, engine fuel systems, induction systems, engine cooling systems, and engine exhaust systems.

2.5 hours lecture, 1.5 hours laboratory.

**AMT 217 Advanced Aircraft Powerplant Mechanics/3 Units**

Prerequisite: AVN 153 and AVN 154 or permission of instructor.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of ignition systems, engine electrical system, propellers, and engine fire protection systems.

2.5 hours lecture, 1.5 hours laboratory.

## **Avionics Technology**

**AVT 127 Avionics Fundamentals/3 Units**

Prerequisite: ELT 106.

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

3 hours lecture.

### **AVT 250\* Navigation Systems/4 Units**

Prerequisite: ELT 245.

An introduction to aircraft navigation systems with emphasis on the theory and systems analysis of modern electronic equipment.

3 hours lecture, 3 hours laboratory.

### **AVT 253\* Flight Control Systems/4 Units**

Prerequisite: ELT 265. Corequisite: ELT 270.

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

3 hours lecture, 3 hours laboratory.

### **AVT 257\* Aircraft Radar and Pulse Systems 4 Units**

Prerequisite: ELT 231

A study of radar principles and application, microwave principles, signal processing and display systems.

3 hours lecture, 3 hours laboratory.

## **Biological Sciences**

Note: \*Indicates Lab Fees

### **BIO 098 Special Topics in the Biological Science**

**.5-1 Unit**

Prerequisite: None.

A rotating forum/seminar emphasizing biological science topics of current regional significance which will vary with scientific advance and changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

.5-1 hour lecture.

### **BIO 101\* General Biology (non-majors): Selected Topics/4 Units**

Prerequisite: None.

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 102\* General Biology (non-majors): Additional Topics/4 Units**

Prerequisite: None.

Biological topics not covered in BIO 101. Review methods used by biologists to make discoveries and evaluate scientific data. Includes major principles of biology as illustrated by the animal and plant kingdoms, speciation, and ecology. Not open to majors in the biological sciences or the pre-professional curricula.

3 hours lecture, 3 hours laboratory.

### **BIO 160\* Introduction to Human Anatomy and Physiology/4 Units**

Prerequisite: None.

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 lab science requirement.

3 hours lecture, 3 hours laboratory.

**BIO 183\* Marine Biology/4 Units**

Prerequisite: Strong performance in high school biology or BIO 101.

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.

For biology majors, science requirements, and other interested students.

3 hours lecture, 1.5 hours laboratory; and a 4-day field lab.

**BIO 184\* Plant Biology/4 Units**

Prerequisite: None.

Basic course in botany for students of plant or animal science. An introduction to the principles of botany as illustrated by flowering plants, with emphasis on anatomy and physiology.

3 hours lecture, 3 hours laboratory.

**BIO 190\* Animal Biology/4 Units**

Prerequisite: Strong performance in high school biology or BIO 101.

Principles of animal structure and function, including characteristics and evolution of organisms, environmental relations, behavior, metabolism; and an evolutionary survey of the animal kingdom. For biology and preprofessional majors and other interested students.

3 hours lecture, 3 hours laboratory.

**BIO 191\* General Zoology I/4 Units**

Prerequisite: None.

An introduction to animal life including cell structure and function; animal-like members of the kingdom Protista, a survey of the major phyla of the animal kingdom including structure, function, life cycles and classification; principles

of taxonomy, ecology; effect of humans on the environment. Includes behavioral studies on living organisms and dissections of preserved phylum and class representatives. Offered in fall only.

2 hours lecture, 6 hours laboratory.

**BIO 192\* General Zoology II/4 Units**

Prerequisite: BIO 101 or BIO 184 or BIO 191.

An introduction to the vertebrates including how they arose; the structure and function of the "typical" vertebrate organ systems and their variations among the vertebrates; introductions to embryology, genetics, principles of evolution. Offered spring only.

2 hours lecture, 6 hours laboratory.

**BIO 201\* Human Anatomy and Physiology I/4 Units**

Prerequisite: Either one year high school Biology (C or better) taken in last five years or BIO 101 or BIO 184 or BIO 191 or permission of instructor.

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

3 hours lecture, 3 hours laboratory. Discussion 1 hour (optional).

**BIO 202\* Human Anatomy and Physiology II/4 Units**

Prerequisite: 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. Offered spring only.

3 hours lecture, 3 hours laboratory. Discussion 1 hour (optional).

**BIO 205\* Microbiology/4 Units**

Prerequisite: Completion of a semester of a college biological science is highly recommended.

A survey of microbial life and fundamental biological types of all microorganisms other than bacteria; control of microorganisms and disease, and other aspects of applied microbiology. Offered spring semester only.

3 hours lecture, 3 hours laboratory.

### **BIO 226\* Ecology/4 Units**

Prerequisite: MAT 020 and one semester of a college level biological science.

An introduction to ecological concepts and methods in biology including: ecological niche, species, diversity, population biology, ecosystem, 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.

### **BIO 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to the initiation of the study. May be repeated for credit.

## **Botany**

See Biological Sciences.

## **Business Administration**

### **BUS 104 Business Math (Programmed)/3 Units**

Prerequisite: MAT 010 or equivalent.

The fundamentals of business mathematics leading to the ability to communicate with the number language of the business world.

3 hours lecture and laboratory.

### **BUS 105 Technical Writing/1 Unit**

Prerequisite: None.

An overview of the technical aspects of developing written reports to include available resources, technical exposition, style, and computer-assisted development.

1 hour lecture, 1 hour laboratory.

### **BUS 109 Survey of American Business/3 Units**

Prerequisite: None.

Fundamental characteristics and functions of modern business, with emphasis on career opportunities.

3 hours lecture.

### **BUS 121 Taxation Principles and Procedures/3 Units**

Prerequisite: BUS 201 or permission of the instructor.

Tax laws, accounting procedures and preparation of required United States and Arizona Income Tax returns as they apply to individuals and businesses.

3 hours lecture.

### **BUS 123 Human Resources Management/3 Units**

Prerequisite: None.

A study of policies and techniques pertaining to personnel management and human relations as applied to employee selection, placement, training, motivation, promotion, evaluation and supervision. Employer and employee social responsibilities introduced.

3 hours lecture.

### **BUS 124 Military Organizations and Staff**

**Functions/3 Units**

Prerequisite: None.

A functional study of the development of U.S. defense policy; the organization, role and mission of the Department of Defense, Departments of the Army, Air Force and Navy; the organization and functions of the general and special

staff at the Army division level; and the organization and operations of combat support groups.

3 hours lecture.

### **BUS 125 Management and Organizational Behavior/3 Units**

Prerequisite: None.

Study of group behavior, inter-personal relationships and inter-group relationships in the organization, conceptual tools for analyzing behavior and managing group processes of conflict, communication and task accomplishment.

3 hours lecture.

### **BUS 126 Exploring Your Potential as a Manager/3 Units**

Prerequisite: None.

A course to assist women in evaluating their aptitudes, capabilities and values, and to relate this evaluation to possible career choices in the business world.

3 hours lecture.

### **BUS 127 Leadership and Supervision/3 Units**

Prerequisite: BUS 123 or permission of instructor.

Study in depth of the supervision and leadership functions in management. Case studies emphasized.

3 hours lecture.

### **BUS 128 Special Problems in Management/3 Units**

Prerequisite: None.

An introduction to problems unique to women choosing business as careers, and to prepare women to deal effectively as managers.

3 hours lecture.

### **BUS 132 Bank Loss Prevention/1 Unit**

Prerequisite: None.

An American Institute of Banking (AIB) course, intended primarily for bank tellers, focuses on check cashing, check

swindles, bank holdups, and security procedures.

Concentrated workshop of 16 contact hours or as a 5 session seminar. 1 hour lecture.

### **BUS 133 Selling Bank Services/1 Unit**

Prerequisite: None.

An American Institute of Banking (AIB) course for bank tellers and new-account personnel on how to recognize and meet bank customer needs: checking accounts, savings services, loans to individuals, safe deposit boxes, travelers checks, and cross-selling.

Concentrated workshop of 16 contact hours or as a 5 session seminar. 1 hour lecture.

### **BUS 134 Bank Management/3 Units**

Prerequisite: None.

A study of new trends in the philosophy and practice of management, with particular emphasis on their application in banking, the case study method utilized extensively.

3 hours lecture.

### **BUS 135 Principles of Bank Operations/3 Units**

Prerequisite: None.

The fundamentals of bank functions in a descriptive fashion so that the beginning banker may view his chosen profession in a broad and operational perspective.

3 hours lecture.

### **BUS 137 Business, Money and Banking/3 Units**

Prerequisite: ECN 201.

The practical aspects of money & banking & the basic monetary theory needed by the banking student: economic stabilization, types of spending, the role of gold, limitations of central bank exchange, & their repercussion on the banking industry in affecting yield curves & the structuring of portfolios.

3 hours lecture.

**BUS 138 Real Estate Finance/3 Units**

Prerequisite: None.

Real Estate risk and financing, including the source, availability, cost and use of mortgage money.

3 hours lecture.

**BUS 139 Law and Banking/3 Units**

Prerequisite: None.

An introduction to basic American Law, presenting the rules of law which underlie banking: jurisprudence, the court system and civil procedure, contracts, quasicontracts, property, torts and crimes agencies, partnerships, corporations, sales of personal property, commercial paper, bank deposits and collections, documents of title, and secured transactions, with emphasis on the Uniform Commercial Code and on commercial paper & banking transactions involving legal significance.

3 hours lecture.

**BUS 142 Insurance/3 Units**

Prerequisite: None.

Principles and practices of insurance, including coverage available, buying methods, procedures for settling claims, analysis of contracts and forms of insurance purchases.

3 hour lecture.

**BUS 143 Principles of Management/3 Units**

Prerequisite: None.

Managerial principles with emphasis on planning, organizing, motivating, and controlling for effective business decisions.

3 hours lecture.

**BUS 144 Salesmanship/3 Units**

Prerequisite: None.

Career opportunities in sales work, practical & psychological factors in selling, development of a desirable sales personality and correct techniques in conducting sales campaigns, include student participation in practical sales demonstrations.

3 hours lecture.

**BUS 145 Principles of Marketing/3 Units**

Prerequisite: None.

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 Bookkeeping/3 Units**

Prerequisite: BUS 104 or permission of the instructor

The Basic Accounting Cycle: Business transactions, journalizing, posting and financial statements, cash control and banking, payroll preparation, credit and receivable control, inventory control, sources of funds, budgeting and ration analysis.

3 hours lecture, 1 hour laboratory.

**BUS 147 Labor Relations/3 Units**

Prerequisites: BUS 123, BUS 143 or permission of the instructor.

A presentation of the history of the labor movement in the United States; union structure, the collective bargaining process, and a review of labor legislation and summation of current and future problems and trends in the labor field.

3 hours lecture.

**BUS 148 Advertising/3 Units**

Prerequisite: BUS 145 or permission of instructor.

Consideration of planning, financing, and managing a campaign; selection of advertising media, displaying, and publicity; studying of color and balance in its application to good merchandising.

3 hours lecture.

**BUS 149 Merchandising Management/3 Units**

Prerequisite: None.

The organization and operation of retail outlets, trends and

concepts retailing both goods & services, solutions for buying, selling, stocking, servicing and controlling in retail outlets.

3 hours lecture.

### **BUS 150 Introduction to Business Ethics/3 Units**

Prerequisite: ENG 101

An introductory course in the application of moral philosophy to contemporary ethical and moral problems in business.

3 hours lecture.

### **BUS 151 Occupational Safety and Health Act of 1971 (OSHA)/3 Units**

Prerequisite: None.

Comprehensive, single source safety and health standards as contained within the Act.

3 hours lecture.

### **BUS 153 Instructional Media: Use & Development**

**3 Units**

Prerequisite: None.

A course designed to introduce students in Teacher-Aide program to use typewriter, audiovisual equipment, production of instructional media and duplication processed as applied in elementary school; also clerical duties such as attendance reports, money collection, ordering materials, & record keeping.

3 hours lecture.

### **BUS 154 Credit Union Basics/3 Units**

Prerequisite: None.

Understanding credit unions, operations & organization of the credit union, credit principles, collection procedures and public relations.

3 hours lecture.

### **BUS 155 Credit Union Management/3 Units**

Prerequisite: BUS 154 or permission of instructor.

Overview of Credit Union movement; managerial problems; organization, administration and development; responsibilities of officials; Federal regulations.

3 hours lecture.

### **BUS 156 Principles of Finance/3 Units**

Prerequisite: BUS 146 or BUS 201 or permission of instructor.

An introduction to the world of finance dealing with the relationship of money in our economy and an in-depth study of the role and techniques of financial management within the firm.

3 hours lecture.

### **BUS 157\* Survey of Accounting Software**

**Applications/1 Unit**

Prerequisite: BUS 146 or BUS 201

A survey of accounting software packages used for solving financial accounting problems with the aid of the microcomputer. This class may be repeated for credit.

1 hour lecture, 1 hour lab.

### **BUS 160 Job and Family Success Skills/3 Units**

Prerequisite: None.

A study of problem areas workers may encounter in obtaining and maintaining their employment including job seeking skills, dressing for success, decision making strategies, self-esteem, job stress, nutrition, communication skills and coping with stress as a working parent. (Same as CPD 160).

3 hours lecture.

### **BUS 167 Business Communications/3 Units**

Prerequisite: ENG 101 or permission of the instructor.

A study of the strategies and processes of writing in the business world, including purpose and audience, with emphasis on the generation of both internal and external documents. Students will learn to prepare text appropriate

in usage, syntax, and diction to a business environment.  
Same as OED 167 and ENG 167.

3 hours lecture.

**BUS 168 Customer Relations in the Work Place/1 Unit**  
Prerequisite: None.

An exploration of the ways human beings relate to one another using 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 180\* Computerized Accounting /3 Units**  
Prerequisite: BUS 146 or BUS 201.

Course includes the use of automated accounting software to complete general ledger, accounts payable, accounts receivable and payroll reports.

3 hours lecture.

**BUS 192 Applications in Management Development .5 Units**  
Prerequisite: None.

A study of a variety of topics such as the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.

.5 hour lecture.

**BUS 201 Financial Accounting/3 Units**  
Prerequisite: MAT 020 or BUS 104 or equivalent.

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 Units**  
Prerequisite: BUS 201, CIS 181.

An introductory course in accounting concept methods and techniques used by managers to support financial and operating decision-making within an organization.

3 hours lecture, 2 hours laboratory.

**BUS 203 Introduction to Fund Accounting/3 Units**  
Prerequisite: BUS 201

An introductory course in the accounting principles and procedures used in federal, state, county & city governments and other not-for-profit organizations.

3 hours lecture, 2 hours laboratory.

**BUS 210 Intermediate Accounting/3 Units**  
Prerequisite: BUS 202.

A comprehensive course in gathering, recording, & using the financial data of a business; accounting treatment of assets, including related principles of profit determination.

3 hours lecture, 1 hour laboratory.

**BUS 211 Intermediate Accounting/3 Units**  
Prerequisite: BUS 210.

A continuation of BUS 210. Accounting treatment of liabilities and capital accounts and the analysis of financial statements.

3 hours lecture, 1 hour laboratory.

**BUS 214 Auditing Techniques/3 Units**  
Prerequisite: BUS 211 or permission of instructor

The quantitative opinion formulation process of the professional auditor that includes the auditor's reports, professional standards and internal and operational auditing.

**BUS 219 Business Statistics/3 Units**  
Prerequisite: MAT 120.

Introductory topics of business statistics such as data

presentation, data summarization, probability, probability distributions, sampling distributions, elementary decision-making, estimation of population means, testing of hypotheses, analysis of variance and regressive analysis. (Although not required, MAT 110 Intermediate Algebra helpful.)

3 hours lecture.

### **BUS 220 Business Statistics/3 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Business Administration. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

### **BUS 228 Personal Financial Planning and Investments/3 Units**

Prerequisites: BUS 146, BUS 201 or permission of instructor

An introduction to the principles and techniques of personal financial planning, including preparation of personal financial statements; budgeting; goal setting; investing; determining insurance needs; tax, retirement, & estate planning. A strong emphasis will be placed on investment techniques & selection.

3 hours lecture.

### **BUS 229 Investment Analysis/3 Units**

Prerequisite: BUS 228 or permission of instructor.

A case study approach to fundamental and technical analysis

of stocks, bonds and options.

3 hours lecture

### **BUS 231 Business Law/3 Units**

Prerequisite: Sophomore Standing.

A presentation of law as part of the American society with an emphasis on judicial procedures, business transactions, contracts, torts, personal and real property, administrative, criminal, and consumer law.

3 hours lecture.

### **BUS 232 Business Law/3 Units**

Prerequisite: Sophomore standing and completion of BUS 231 or permission of instructor.

A presentation of the laws pertaining to sales, commercial paper, creditor's rights and secured transactions, agency & employment, partnerships & special ventures, & corporations.

3 hours lecture.

### **BUS 233 The Legal Environment of Business/3 Units**

Prerequisite: None.

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

3 hours lecture.

### **BUS 236 Analyzing Financial Statements/3 Units**

Prerequisite: BUS 201 or permission of instructor.

The characteristics and analysis of financial statements, with emphasis on their utilization in banking. Covers the balance sheet, the profit and loss statement, and analysis of earning potential. An American Institute of Banking Course.

3 hours lecture.

### **BUS 240 Principles of Real Estate I/3 Units**

Prerequisite: None.

A course on 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 foreclosure, & use and valuation. 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 Units**

Prerequisite: BUS 240 or permission of instructor

An advanced course in real estate including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics, and professional relationships, real estate code and the commissioners' rules, investment, property management and government restriction.

3 hours lecture.

### **BUS 245 Seminar: Trends and Practices in Marketing and Management/3 Units**

Prerequisite: Sophomore level or permission of instructor.

Applying problem-solving and decision-making techniques to practical business situations based on current reading in marketing and management. Designed to blend and apply current business theories and practices to meet class and individual needs.

3 hours lecture.

### **BUS 282 Management Information Systems/3 Units**

Prerequisite: CIS 172, comparable work experience, or permission of the instructor.

A study of the management sciences involved in meeting the informational needs of business, industry, governmental and educational agencies; a study of the 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 Units**

Prerequisites: BUS 143, 145, 201, 202 and CIS 181.

This course is recommended for the last semester of the Associate of Applied Science degree in Middle Management.

Analysis of the practical problems of organizing and managing a successful small business, practical problems in marketing, research, financial analysis & control, budgeting, management, and organization for small businesses are emphasized with the aid of the microcomputer.

3 hours lecture, 1 hour lab.

### **BUS 284 Installment Credit I/3 Units**

Prerequisite: BUS 201 or a working knowledge of banking terminology or permission of the instructor.

Techniques of installment lending with emphasis on credit evaluation, open end and direct credit, legal aspects of installment credit.

3 hours lecture.

### **BUS 285 Installment Credit II/3 Units**

Prerequisite: BUS 284 or permission of the instructor.

Techniques of installment credit with emphasis on rate structure and yield analysis, organizing and managing installment credit departments, and marketing bank services.

3 hours lecture.

### **BUS 290 Introduction to Industrial Engineering**

**3 Units**

Prerequisite: None.

Taught in Spanish, a basic introduction to the methods and practice of Industrial Engineering for business managers and students. The course emphasizes fundamental principles of work organization and job design in an industrial setting. Practical aspects of application to Twin Plant Industries along the U.S. Mexican Border will be highlighted.

3 hours lecture.

## **BUS 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# **Chemistry**

Note: \*indicates Lab Fees

## **CHM 100\* Preparation for Chemistry/4 Units**

Prerequisite: MAT 020 or equivalent.

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 Units**

Prerequisite: MAT 020 or equivalent.

A one-semester course introducing fundamentals of general chemistry with emphasis 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 & Biochemistry 4 Units**

Prerequisite: 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 151-152\* General Chemistry I & II/4 Units**

Prerequisite: MAT 110 or equivalent; CHM 151 is prerequisite for CHM 152.

Introduction to the general principles of chemistry with emphasis on quantitative relationships including properties of matter, chemical bonding and structure, equilibria, oxidation-reduction, kinetics, and aspects of organic & biochemistry.

3 hours lecture, 3 hours laboratory.

## **CHM 235-236\* General Organic Chemistry I & II 4 Units**

Prerequisite: CHM 152, CHM 235 is a prerequisite for CHM 236.

An introduction to the chemical compounds of carbon, structural formulae, nomenclature, special configurations of molecules, synthesis and the relation between different classes of organic compounds.

3 hours lecture, 3 hour laboratory.

## **CHM 299 Individual Studies/1-4 Units**

Prerequisite: Approval of division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# **Civil Engineering Technology**

## **CET 100 Engineering Survey I/3 Units**

Prerequisite: 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 & positioning man-made structures.

2 hours lecture, 4 hours laboratory.

## **CET 101 Engineering Surveys II/3 Units**

Prerequisites: CET 100 Engineering Survey I.

Advantages, disadvantages & restrictions 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 102 Fundamentals of Speech/3 Units**

Prerequisite: None.

A study of the communication process as it relates to all communication (one-to-one conversations, small group discussions, and larger group speaking situations), with an emphasis on communicating to 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 actuation.

3 hours lecture, discussion and speech delivery.

### **COM 110 Public Speaking/3 Units**

Prerequisite: COM 102, a high school speech course or permission of the 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 with practical application and an analysis of various types of speeches with practice in researching, constructing and delivering speeches of each type. Includes a study of the basics in parliamentary procedure & public discussion with practice in participating in and leading parliamentary meetings.

3 hours lecture, discussion and presentation of speeches.

### **COM 115 Argumentation and Debate/3 Units**

Prerequisite: 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 270 Interpersonal Communications/3 Units**

Prerequisite: Sophomore standing or permission of the instructor.

A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communication skills and techniques for one-on-one professional communication.

3 hours lecture (Identical with SSV 270).

### **COM 271 Communications in Small Groups/3 Units**

Prerequisite: SSV 270 or COM 270 and permission of the instructor.

A continuation of COM 270 and SSV 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes. (Identical with SSV 271).

3 hours lecture.

## **Computer Information Systems**

### **CIS100 The New Literacy: An Introduction to Computers/3 Units (Telecourse)**

Prerequisite: None.

A survey of electronic data processing, computer hardware and software systems, and current developments in information processing. The student will receive terminology familiarization and examine computer applications to a wide range of organizational settings and social environments in preparation for understanding and utilizing computers in their personal and professional life.

Cochise College elective credit unless otherwise designated in degree programs.

3 hours lecture.

**CIS 101 Computer Literacy for Administrative Personnel/1 Unit**  
Prerequisite: None.

An exploration of the integration of the computer into the office environment including computer hardware, software capabilities and limitations.

1 hour lecture.

**CIS 102 Computer Literacy for Professionals/1 Unit**  
Prerequisite: None.

The integration of the computer as a tool to solve problems encountered by organizational professionals.

1 hour lecture.

**CIS 103 Computer Literacy for Executives and Managers/1 Unit**  
Prerequisite: None.

How to manage the automated office including analyzing needs and matching specific requirements with computer capabilities.

1 hour lecture.

**CIS 110 Computer Math/3 Units**  
Prerequisite: MAT 020.

A study of the mathematics used in computer programming including problem solving techniques, numbering systems, linear programming, and Boolean algebra concepts.

3 hours lecture.

**CIS 113\* Computer Keyboarding/Data Entry/3 Units**  
Prerequisite: None.

Specifically designed for (but not limited to) students with no

prior knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop keyboard speed and accuracy.

Same as OED 113.

3 hours lecture.

**CIS 115 Automation for Communicators I/3 Units**  
Prerequisite: None.

Automated computer techniques for individuals with communications background including an overview of computer software and hardware techniques, systems analysis and design, program preparation techniques, and application software availability. Hands-on experience will acquaint students with state-of-the-art computer concepts.

3 hours lecture.

**CIS 116 Learning to Use the Microcomputer/3 Units**  
Prerequisite: None.

A study of the uses of the microcomputer in business today. Emphasis will be placed on how microcomputers work, using the operating system, common software applications, & office networking.

3 hours lecture.

**CIS 131\* Teachers and the Apple/3 Units**  
Prerequisite: None.

Designed for teachers, an introduction to and interaction with the Apple IIe computer. Includes: simple basic programming, terminology and commands; low resolution graphics; animation; word processing; Logo language & commands; & management of computers as an instructional and administrative tool.

3 hours lecture.

**CIS 132\* Appleworks for Teachers/3 Units**

Prerequisite: None.

Designed for teachers, an introduction and practical application in the use of an integrated software program, Appleworks. The three applications include word processing, databases and spreadsheets.

3 hours lecture.

**CIS 133\* Terrapin LOGO for Teachers/3 Units**

Prerequisite: None.

Designed for teachers, an introduction to Terrapin LOGO on the Apple IIe computer. Applications include basic turtle commands for graphics, turtle activities & procedures, introduction to music, introduction to the word and list language, and techniques for integrating LOGO into the classroom.

3 hours lecture.

**CIS 140 Telecommunications Techniques/3 Units**

Prerequisite: None.

A study of the methods of telecommunications. Topics include transmission techniques, telephonic systems, satellite communication systems, local and wide area networks, software and hardware considerations, and telecommunications applications.

3 hours lecture.

**CIS 171\* Introduction to Programming Using PASCAL/4 Units**

Prerequisite: MAT 020, CIS 172 or permission of instructor. A non-mathematical study of the fundamentals of computer programming to include program design, inculpating, debugging, testing, problem definition and program development using the PASCAL programming language.

3 hours lecture, 3 hours laboratory.

**CIS 172\* Introduction to Data Processing/3 Units**

Prerequisite: None.

An overview of the data processing field, general practices & aims of business, data processing systems & terminology, data collection, report preparation, functions of data processing units, flow charts, systems design concepts. Students receive practice in writing computer programs in either BASIC or Pascal languages.

3 hours lecture.

**CIS 173\* Programming-COBOL Level I/4 Units**

Prerequisite: CIS 171 or permission of the instructor.

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. A minimum of six operational programs are required.

3 hours lecture, 3 hours laboratory.

**CIS 174\* Programming-FORTRAN/4 Units**

Prerequisite: CIS 171

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 175\* BASIC Computer Programming/3 Units**

Prerequisite: CIS 171 or permission of the instructor.

An introduction to computers & BASIC language with emphasis on the concepts, writing and execution of computer programs. Includes processing data and development of algorithms for computer problem solving.

2 hours lecture, 3 hours laboratory.

**CIS 176\* Programming-RPG/4 Units**

Prerequisite: MAT 020 & CIS 171 or permission of the instructor.

An initial course in Report Program Generator (RPG) II. Students will learn to develop typical business application programs including: RPG II syntax specifications, problem manipulation, magnetic tape and disk storage, and a variety of file access methods.

3 hours lecture, 3 hours laboratory.

**CIS 178 Introduction to ADA for Managers/1 Unit**

Prerequisite: None.

The study of the ADA programming language from a manager's viewpoint, including the history of ADA's development, software development methodologies, the software life cycle with ADA, overview of the ADA language, & the support environment provided by ADA are reviewed.

1 hour lecture.

**CIS 181\* Computer Applications for Business/3 Units**

Prerequisite: None.

A course in the use of management information software for microcomputers. Applications include spreadsheets, databases, word processing, graphics and the computer's operating system. No programming experience is necessary.

3 hours lecture.

**CIS 192\* Military & Defense Application in CIS/.5 Units**

Prerequisite: None.

Automation in the military-and defense-related industries requires a variety of computer applications, from clerical functions to management-support functions, each needing an expertise in a particular software product to perform the required function. This course is a series of courses developed and offered to meet these needs, each individual offering in response to a specific need identified by a military unit or a defense-related industry and approved by the Vice

President for Instruction.

.5 hour lecture/laboratory.

**CIS 193\* Current Computer Applications Modules****1 Units**

Prerequisite: None.

One unit modules designed for personal/professional improvement. Principles and practices 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.

**CIS 193A Beginning Quattro Pro****CIS 193B Intermediate Quattro Pro****CIS 193C Advanced Quattro Pro****CIS 193D Quattro Pro Macros****CIS 193E Beginning Lotus 1-2-3****CIS 193F Intermediate Lotus 1-2-3****CIS 193G Advanced Lotus 1-2-3****CIS 193H Lotus 1-2-3 Macros****CIS 193I Beginning dBase III Plus****CIS 193J Intermediate dBase III Plus****CIS 193K Advanced dBase III Plus****CIS 193L Beginning Xenix Operating System****CIS 193M Intermediate Xenix Operating System****CIS 193N Advanced Xenix Operating System**

1 hour lecture/laboratory.

**CIS 207\* Introduction to Desk-top Publishing/3 Units**

Prerequisite: None; word processing or computer course experience helpful.

Principles and practice of creative printed materials of diverse size and complexity using the Ventura system of desk-top publishing with emphasis on the practical aspects of production.

3 hours lecture.

**CIS 208\* Advanced Desk-Top Publishing/3 Units**

Prerequisite: CIS 207

Advanced techniques and practice to create printed materials of diverse size and complexity using the Ventura desk-top publishing system. Emphasis will be on improving and enhancing visual appearance of printed materials.

3 hours lecture.

**CIS 215 Automation for Communications II/3 Units**

Prerequisite: Automation for Communicators I (CIS 115) or permission of instructor.

A technical course in computer technology for individuals with communications background including networking, computer security, operating systems, computer simulations and artificial intelligence.

3 hours lecture.

**CIS 220\* Assembler Programming/4 Units**

Prerequisite: CIS 171, CIS 110.

A detailed study of the 8088/8086 Assembly Programming language that converts individual instructions written in symbolic form into machine language. Computer organization, architecture data structures, input-output and operation considerations. Students will write a minimum of eight operational programs.

3 hours lecture, 3 hours laboratory.

**CIS 222 Computer Architecture/3 Units**

Prerequisite: CIS 220

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 224 Comparative Programming Languages/3 Units**

Prerequisite: None.

A course in fundamental programming language concepts, constructs & structures as they apply to modern programming languages. Topics will include: elements of a programming language, syntax and semantics, and imperative, object-oriented, functional, logical and concurrent programming.

3 hours lecture.

**CIS 225\* C Programming/4 Units**

Prerequisite: CIS 171 or permission of instructor.

A beginning course in the programming language "C", one of the popular languages used in developing and refining computer operating systems.

3 hours lecture, 3 hours laboratory.

**CIS 226\* Advanced C Programming/4 Units**

Prerequisite: CIS 225 or permission of instructor.

An advanced course in the "C" programming language. Topics will include: arrays/pointers, unions, stacks, queues, lists, trees, searching and sorting, and file handling.

3 hours lecture, 3 hours laboratory.

**CIS 227\* Object-Oriented Programming with C++ 4 Units**

Prerequisite: CIS 225 and 226 or permission of instructor.

Course in C++ programming language and object-oriented programming. Topics will include: Compatibility of C++ and C, C++ data types, free store, overloading, type-safe linkage, C++ class, class member functions, class derivation, data abstraction, object-oriented programming and C++, and the C++ I/O library.

3 hours lecture, 3 hours laboratory.

**CIS 230 Data Communications/3 Units**

Prerequisite: CIS 173.

A study of the fundamentals of electronically transmitting information from one location to another, with emphasis on how data communications relate to data and word processing systems.

3 hours lecture.

**CIS 231 Networks and Switching Systems/3 Units**

Prerequisite: None.

A study of new wideband systems available to connect CRT's, terminals, facsimile machines, printers, electronic mail devices, personal/host computers, data view sets, word and data processing units, etc., to a common transmission system loop within a corporation or government agency.

3 hours lecture.

**CIS 232\* The Apple Computer/Advanced Graphics/3 Units**

Prerequisite: CIS 131

Designed for teachers, an introduction to high-resolution graphics, fundamental high-resolution commands, special effects with high-resolution graphics, creation of a computer story using text and graphics, techniques for integrating computer graphics into the classroom.

3 hours lecture.

**CIS 233 Digital/Analog Transmission Systems/3 Units**

Prerequisite: CIS 140.

A study of the existing transmission systems used by business and government for voice and data transfer including public telephone systems, special carriers and value-added networks, analysis of an organization's communications systems including telephony and data capabilities, and elementary design of PABX, local area networks and appropriate protocols.

3 hours lecture.

**CIS 234\* Local Area Networks/4 Units**

Prerequisite: CIS 172

The Local Area Network (LAN) is moving more and more to the forefront of tools that support office automation. This course is presented as an introduction to the functions and characteristics of LANs. The student will study LAN configurations and equipment.

3 hours lecture, 3 hours laboratory.

**CIS 235 Telecommunications and Broadcasting**

**3 Units**

Prerequisite: CIS 140

The study of telecommunications as it relates to the broadcast industry, including a historical perspective of the broadcast industry; current practices & media as they relate to corporate, governmental and educational uses; an outlook for the future; and structure and functions of the Federal Communications Commission and allied agencies.

3 hours lecture.

**CIS 240\* Software Engineering & Documentation**

**4 Units**

Prerequisite: CIS 171 or permission of instructor.

A study of the practices used to manage the process of designing, developing, and maintaining software. The student will learn to apply software engineering principles to produce cost effective software. Techniques needed to manage software development, software documentation, and software testing will be included.

3 hours lecture, 3 hours laboratory.

**CIS 250\* Data Base Management/4 Units**

Prerequisite: CIS 171.

A study of the management of data in business organizations with emphasis on learning the underlying technology and techniques of developing computer data bases.

3 hours lecture, 3 hour laboratory.

**CIS 260\* Fundamentals of Operating Systems/3 Units**

Prerequisite: CIS 171 and CIS 220.

A study of computer operating systems which monitor and control all internal input/output and processing operations.

3 hours lecture, 1 hour laboratory.

**CIS 270 Information Systems Analysis & Design/3 Units**

Prerequisite: CIS 172.

A study of structured methods used to analyze existing information systems. Techniques used to improve or design better systems are examined.

3 hours lecture.

**CIS 271\* Advanced PASCAL/4 Units**

Prerequisite: CIS 171, CIS 110.

An advanced study of PASCAL to include arrays, records and sets, recursion and dynamic data.

3 hours lecture, 3 hours laboratory.

**CIS 273\* Programming-COBOL II/4 Units**

Prerequisite: CIS 173 or permission of the instructor.

An advanced study of the COBOL language. Includes advanced techniques in the design of a computer program, control, and validation methods using magnetic devices, table organization and random and sequential file processing.

3 hours lecture, 3 hours laboratory.

**CIS 275\* Programming-BASIC Level II/4 Units**

Prerequisite: CIS 175 and 110 or permission of the instructor.

An advanced study of BASIC language for microcomputers which focuses on the application of BASIC to solve problems. Includes microcomputer operating systems & their interaction with the BASIC language, data input & validation, file creation and updating, report design & preparation, data management, microcomputer data base management systems, computer graphics for input and output and

microcomputer communications.

3 hours lecture, 3 hours laboratory.

**CIS 276\* ADA Programming/4 Units**

Prerequisite: CIS 171 or permission of instructor.

A beginning course in programming utilizing the ADA language, the language designed by and for the Department of Defense.

3 hours lecture, 3 hours laboratory.

**CIS 277\* Advanced ADA Programming/4 Units**

Prerequisite: CIS 276 or permission of instructor.

An advanced course in the ADA programming language, the language designed for and to be utilized by the Department of Defense and by contractors working for the Department of Defense.

3 hours lecture, 3 hours laboratory.

**CIS 278\* Introduction to LISP/4 Units**

Prerequisite: CIS 171 or permission of instructor.

A non-mathematical study of the fundamentals of the LISP programming language and its application to artificial intelligence, to include problem definition, program design, program development and testing.

3 hours lecture, 3 hours laboratory.

**CIS 279\* Computer Operations-Level I/3 Units**

Prerequisite: CIS 172.

A general overview of computer center operations. Emphasis is given to the tasks associated with data entry, data control, peripheral equipment operation, console operation, data storage, retrieval and job scheduling.

3 hours lecture, 1 hour laboratory.

**CIS 281\* Advanced Computer Applications/3 Units**

Prerequisite: CIS 181 or permission of instructor.

Advanced topics in computer applications software for management and office usage. Applications include integrated software, computerized project management techniques, and advanced data base software from the user's point of view.

3 hours lecture.

**CIS 284\* Service and Maintenance of Personal****Computers/3 Units**

Prerequisite: CIS 172 or Permission of Instructor

Designed to provide basic, introductory information on computer servicing, enabling the average PC user to diagnose, repair, and prevent simple problems. Simple and complicated service problems and preventative maintenance will be covered. Some of the topics included will be disk drives, maintenance of heads and drive mechanism, servicing printers, changing RAM chips, and use of documentation and test equipment.

2 hours lecture, 3 hours laboratory.

**CIS 294 Field Experience in Computer Information****Systems/1-6 Units**

Prerequisite: Sophomore standing in a declared major & 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 Computer Information Systems. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **Consumer Electronics Repair**

The following courses, CER 100, 102, 104, 200, 202, 204, 205 and 206 were designed specifically for the Arizona Department of Corrections in Douglas.

**CER 100 Radio Theory and Repair/3 Units**

Prerequisite: General Electronic Technician Certificate

A course designed to teach the student 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 Units**

Prerequisite: CER 100 Radio Theory and Repair

A course designed to make the student proficient in repairing audio tape recorder/player equipment. The student will 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 instructions.

**CER 104 Television Theory and Repair/4 Units**

Prerequisite CER 100 Radio Theory and Repair

A course designed to teach the student 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 & supplies to facilitate repairs of television receivers.

4 hours lecture plus individualized laboratory instruction.

**CER 200 Video Cassette Recorder Repair/4 Units**

Prerequisite: CER 104 Television Theory and Repair

A course designed to make the student proficient in video cassette recorder repair. The student will 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 Units**

Prerequisite: CER 102 Audio Tape Recorder Repair

A course designed to make the student proficient in compact disc player repair. The student will learn sound recording and playback using optical laser technology, and 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 Units**

Prerequisite: General Electronics Technician Certificate

A course designed to make the student proficient in microwave oven repair. The student will learn 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 Units**

Prerequisite: CER 100 Radio Theory and Repair

A course designed to teach the student advanced power amplifier theory such as integrated amplifiers, integrated stereo systems, graphic equalizers and high power amplifiers. The student will 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 instruction.

### **CER 206 Advanced Television Repair/4 Unit.**

Prerequisite: CER 104 Television Theory and Repair

A course designed to teach the student advanced television receiver theory picture-in-picture, projection and high definition televisions. The student will 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.

## **Consumerism**

### **CSN 110 Consumer Education/3 Units**

Prerequisite: None.

A course designed to create an awareness of the problems facing the modern consumer: government and business relations, contracts, money, banking and credit, saving and investing; health services, and specific major purchases made by the consumer.

3 hours lecture.

### **CSN 120 Consumers and the Marketplace/3 Units**

Prerequisite: CSN 110.

An analysis of consumer products and the features which affect purchasing decisions; a development of the remedies available to the consumer for defective or marginally acceptable products; and a presentation of current ways that the consumer is affecting the marketplace.

3 hours lecture.

### **CSN 130 Consumers and Their Health/3 Units**

Prerequisite: None.

Reading and discussions on various topics related to individuals health care needs. Focus on consumer approach to selecting & establishing health care services for maintenance of health. Available resources, services, and alternative health care options.

3 hours lecture.

## **CSN 210 Consumers & Their Environment/3 Units**

**Prerequisite:** Sophomore standing & completion of CSN 110.

An analysis of the various factors in housing and the basic elements (air, water, etc.) necessary to sustain life which have an impact on the physical and emotional well-being of the individual.

3 hours lecture.

## **CSN 220 Consumers & Their Government/3 Units**

**Prerequisite:** Sophomore standing & completion of CSN 110.

An informed approach to maximizing the individuals participation in benefit programs; to minimize tax impact and other limitations on the consumer's rights imposed by government; an exploration of ways to effectuate change in the system through explanation of concerted political or individual action.

3 hours lecture.

## **Cooperative Education**

### **CED 110 Internship in Cooperative Education 1-16 Units**

**Prerequisite:** Prior approval of Cooperative Education Coordinator.

Provides students with internship experiences in various career areas meeting individual goals and objectives. Students may complete internships in Hospitality and Recreation, Personal Services, Marketing and Distribution, Public Service, Manufacturing, Electronics, Drafting and others depending on students career fields. Students may earn up to sixteen (16) elective units for CED 110.

### **CED 120 Seminar in Cooperative Education/1 Unit**

**Prerequisite:** Permission of Co-op Coordinator. Concurrent enrollment in CED 110 unless excused by coordinator.

Basic processes and concepts of the world of work; job application, job responsibilities, human relations, career areas and supervisory development.

## **CED 124 Work Experience in Cooperative Education/1-4 Units**

**Prerequisite:** Prior approval of Cooperative Education Program Coordinator or Faculty Advisor.

A supervised cooperative work experience in Cooperative Education allowing students to apply entry-level skills gained in the classroom in a real world-of-work situation. Variable credit is available by special arrangement. May be taken four times for a maximum of 16 credit hours.

## **CED 224 Field Experience in Cooperative Education/1-6 Units**

**Prerequisite:** 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 the student's chosen occupation. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **Corrections Training Academy**

### **COR 275 Corrections Training Academy/12 Units**

**Prerequisite:** Employment with Arizona Department of Corrections (DOC).

A survey of the correctional field with emphasis on the acquisition of knowledge, skills, and attitudes necessary for successful employment.

11 hours lecture, 1 hour laboratory.

### **COR01 275 Corrections Training Academy/3 Units**

**Prerequisite:** Employment with Department of Corrections.

Acquisition of knowledge, skills, and attitudes necessary for successful employment.

3 hours lecture.

# **Counseling and Personal Development**

## **CPD 010 Building Self-Esteem/1 Unit**

Prerequisite: 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 communications skills needed for improving self-confidence.

1 hour lecture.

## **CPD 100\* The Growing Years (Telecourse)/3 Units**

A telecourse presentation of child growth & development from prenatal through adolescent years, with emphasis upon physical and intellectual growth and learning sequences including socialization, language and personality development. Cochise College elective credit only unless otherwise designated in degree programs (Identical with HEC 100).

Limited to students having access to Desert Cable.

3 hours lecture.

## **CPD 101 College Seminar/1 Unit**

Prerequisite: None.

A course designed to promote academic success and to instill individual confidence. Students, traditional & non-traditional, will have an opportunity to become familiar with a campus-wide support system. Students are given an opportunity to discover personal strengths, values, goals and aspirations in relation to their past and to consider all available options in achieving future goals.

1 hour lecture.

## **CPD 103 Personality and Adjustment/3 Units**

Prerequisite: None.

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

## **CPD 105 Challenge of Parenting/3 Units**

Prerequisite: 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 (Identical to HEC 105).

3 hours lecture.

## **CPD 107 Stress Management/2 Units**

Prerequisite: None.

A review of the various physiological and psychological approaches to stress with emphasis upon personal options and methodologies for coping with anxiety and stress.

2 hours lecture.

## **CPD 121 Career and Life Planning/3 Units**

Prerequisite: None.

An exploration of career opportunities to assist students in deciding on and planning for their chosen careers.

3 hours lecture.

## **CPD 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# Drafting

Note: \*Indicates Lab Fees

## DFT 100 Blueprint Interpretation and Basic Drafting/3 Units

Prerequisite: None.

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

2 hours lecture, 4 hours laboratory.

## DFT 112\* Technical Graphics I/3 Units

Prerequisite: None.

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

2 hours lecture, 4 hours laboratory.

## DFT 113\* Technical Graphics II/3 Units

Prerequisite: DFT 112.

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

2 hours lecture, 4 hours laboratory.

## DFT 120\* Spatial Relationships/3 Units

Prerequisite: DFT 112 or concurrent with.

Solution of points, lines and planes, single-curved, double-curved and warped surfaces, emphasis upon mechanical, civil and mining engineering application.

2 hours lecture, 4 hours laboratory.

## DFT 130\* Drafting for Electronics/3 Units

Prerequisite: DFT 112 or concurrent with.

A study of drafting in the electrical and electronic industry including components and their symbols, schematic and logic diagrams, printed circuit board layout and tape-up, silkscreen, detail and assembly drawings of P.C. boards.

2 hours lecture, 4 hours laboratory.

## DFT 150\* Computer-Aided Drafting/3 Units

Prerequisite: DFT 112, 113 or concurrent with 130.

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 Units

Prerequisite: DFT 112 or permission of instructor.

A study of illustration & rendering techniques used to describe three-dimensional objects with special emphasis placed on graphic construction and the depiction of shade, shadow, & texture to assist the student in graphic communication.

2 hours lecture, 4 hours laboratory.

## DFT 200\* Drafting for Manufacturing/4 Units

Prerequisite: DFT 112, GTC 101.

A study of fabrication procedures, machine elements, and the influence of manufacturing on design, including precision dimensioning and tolerancing, detail and assembly drawings, engineering change orders.

2 hours lecture, 6 hours laboratory.

## DFT 210 Topographical Design & Drafting/4 Units

Prerequisite: None.

A combination of basic surveying and topographical drafting including mapping, subdivision design, profiling, contouring, sectioning, area calculations, horizontal & vertical curve analysis.

2 hours lecture, 6 hours laboratory.

**DFT 220 Construction Drafting/3 Units**

Prerequisite: DFT 100 or DFT 112.

Principles and applications of architectural & structural details as they apply to the residential and structural building industry.

2 hours lecture, 4 hours laboratory.

**DFT 221 Advanced Construction Drafting/3 Units**

Prerequisite: DFT 220

Principles and applications of architectural and structural details as they apply to residential and small commercial buildings with emphasis on climate control and plumbing requirements and heavy emphasis on use of AIA standards and application of codes as they apply to commercial buildings.

2 hours lecture, 4 hours laboratory.

**DFT 224 Field Experience in Drafting**

Prerequisite: Sophomore standing in a declared major & 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 drafting. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**DFT 230\* Electro-Mechanical Design/3 Units**

Prerequisite: DFT 112 and DFT 130.

A study of electronic packaging and enclosures including chassis, cabinets, control panels, cable and wiring diagrams.

2 hours lecture, 4 hours laboratory.

**DFT 240\* Tool Design/4 Units**

Prerequisite: DFT 120 & GTC 101, or permission of the instructor.

A study of standardized tooling components materials including jigs and fixtures, gages, punch and die sets with emphasis

on design of the various tooling elements.

2 hours lecture, 6 hours laboratory.

**DFT 250\* Computer Aided Drafting/3 Units**

Prerequisite: DFT 113 and 112 or concurrent with DFT 130.

A course to introduce the computer as a drafting tool with multi-view, pictorial and electronic drawings made using computer graphics techniques.

2 hours lecture, 4 hours laboratory.

## Economics

**ECN 201 Principles of Macroeconomics/3 Units**

Prerequisite: None.

A view of the economy at the highest level of aggregation. A study of aggregate supply and demand, gross national product, national income, employment, inflation, banking, and monetary versus fiscal policy with emphasis on household, business, and government sectors.

3 hours lecture.

**ECN 202 Principles of Microeconomics/3 Units**

Prerequisite: None.

A study of individual market interactions. An inquiry into the elasticity of supply and demand, the production function, consumer choice, price theory, utility, and cost behavior as applied to households and businesses under competition, monopoly, and oligopoly market situations.

3 hours lecture.

**ECN 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# **Education**

## **EDU 200 The Community College/3 Units**

Prerequisite: Instructor 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 Units**

Prerequisite: ENG 101.

An overview of the education profession and the United States Educational System with emphasis upon educational history, current issues & the roles & responsibilities of the teacher.

3 hours lecture.

## **EDU 211 Teacher Competency Test Preparation Reading/.5 Unit**

Prerequisite: Sophomore standing in the pre-education program or permission of instructor.

Preparation for the sophomore pre-education major to take the reading portion of the Pre-Professional Skills Test (PPST), as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential reading skills and test-taking techniques tailored to individual student needs.

## **EDU 212 Teacher Competency Test Preparation Mathematics/.5 Units**

Prerequisite: Sophomore standing in the pre-education program, MAT 110 or permission of instructor.

Preparation for the sophomore pre-education major to take

the mathematics portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential mathematics skills and test-taking techniques tailored to individual student needs.

## **EDU 213 Teacher Competency Test Preparation English/.5 Unit**

Prerequisite: Sophomore standing in the pre-education, ENG 101 and 102, or permission of instructor.

Preparation for the sophomore pre-education major to take the English portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential writing skills tailored to individual student needs.

## **EDU 290 Instructor Skill Development/3 Units**

Prerequisite: None.

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 Units**

Prerequisite: MAT 020 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. For non-electronics majors.

3 hours lecture.

**ELT 101 Beginning Digital Electronics/3 Units**

Prerequisite: None.

A beginning course in digital electronics for students planning to enter the electronics field.

3 hours lecture.

**ELT 105\* Introduction to DC Circuits/3 Units**

Prerequisite: ELT 110 or MAT 110.

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 Units**

Prerequisite: ELT 105 (ELT 105 may be taken concurrently.)

An introduction to alternating current passive circuits, & the application of trigonometry and vectors to circuit solutions.

3 hours lecture, 3 hours laboratory.

**ELT 107\* Basic Computer Programming/3 Units**

Prerequisite: Intermediate Algebra.

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 Units**

Prerequisite: One year of high school algebra or equivalent.

A review of arithmetic and the study of algebraic principles necessary to analyze electronic circuitry and provide a firm background for advanced studies. Topics include fractions, decimals, fundamental concepts of algebra, scientific notation, graphing, linear equations and the solution of DC electric circuits.

3 hours lecture.

**ELT 120 Advanced Mathematics for Electronics****3 Units**

Prerequisite: 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 Units**

Prerequisite: ELT 106 and ELT 110 or MAT 110.

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 Units**

Prerequisite: 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 Units**

Prerequisite: 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 electronics. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**ELT 231\* Pulse Circuits/4 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: ELT 122.

A study of the characteristics of differential and operational amplifiers, applications, and analysis of practical op amp circuits, photoconductive and photovoltaic devices, unijunction transistors, silicon controlled rectifiers, and selected materials covering other electronic devices.

3 hours lecture, 3 hours laboratory.

**ELT 245\* Communication Electronics I/4 Units**

Prerequisite: ELT 120, 122, 125 (ELT 120 may be taken concurrently.)

The application of qualitative and quantitative theoretical concepts to practical communications circuits AM and FM receiver systems, voltage and power amplifiers, feedback, oscillators, resonance, filters, coupling, frequency synthesizers and phaselock techniques are studied.

3 hours lecture, 3 hours laboratory.

**ELT 247\* Communication Electronics II/4 Units**

Prerequisite: ELT 245.

A continuation of Communication 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 260\* Avionics I/4 Units**

Prerequisite: ELT 233, 243, and 245.

Analysis and troubleshooting of analog and digital electronic systems with the opportunity for students to apply basic theoretical concepts to practical circuits and complex electronic systems. Emphasis on schematic diagram reading and the use of test equipment in systems analysis.

3 hours lecture, 3 hours laboratory.

**ELT 265\* Microprocessors & Microcomputers**

4 Units

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: 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/6 Units**

Prerequisite: None.

The Emergency Medical Technology course is structured to provide the student with preparation for vocational work as an ambulance attendant and is required by the Arizona Department of Health Services for certification. Students wishing certification must complete ten hours 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, and the basic legal responsibilities, anatomy and physiology, triage, assessment, CPR, and life-support system.

5 hours lecture.

## **EMT 176\* Emergency Medical Technology**

### **Refresher/2 Units**

Prerequisite: EMT 174 or equivalent.

A refresher course required by the Arizona Corporation Commission every 2 years to maintain and update the handling of the sick and injured by first response personnel.

2 hours lecture.

# **English**

ENG 104, ENG 210, ENG 220, 221, ENG 222, ENG 224, 225, ENG 226, 227, fulfill three to six hours of the humanities and fine arts requirements for the AA and AS degrees.

## **ENG 001 Study Skills/1 Unit**

Prerequisite: None.

A review of basic techniques for success in college, including practical exercises in listening to lectures, concentration, time management, note-taking, test-taking, textbook analysis and review, outlining, summarizing, writing essay questions, using the library and the microcomputer to study spelling and vocabulary.

1 hour lecture.

## **ENG 002 Basic English for Vocations/1 Unit**

Prerequisite: Permission of Instructor

A course taken in conjunction with ESL 034, ENG 020 or ENG 022 designed to introduce the student to the vocabulary & study skills important for success in a specific vocational field.

Specific areas in which modules are currently available include office communications, administration of justice, drafting, aviation (both for pilots and for airframe and powerplant). Modules in other fields will be developed as demand warrants.

1 hour lecture.

## **ENG 004 Spelling Improvement/1 Unit**

Prerequisite: 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 & vowel blends. Included in the Reading Improvement Block or taught individually by student contract through the Student Development Center.

1 hour lecture.

**ENG 010 English Fundamentals/3 Units**

Prerequisite: Appropriate placement test score and/or recommendation of former English/ESL instructor.

An intensive review of grammar, spelling, vocabulary, and other fundamentals, with emphasis on writing paragraphs & short essays. Non-transferable.

3 hours lecture.

**ENG 011 Written Military Communications and Reports/1 Unit**

Development of the skills of written communications and reports with emphasis on accuracy, brevity and clarity. Assignments will consist of military reports and correspondence normally written by junior officers.

1 hour lecture.

**ENG 019 Transitional Reading/3-4 Units**

Prerequisite: ESL 034 or placement test score

A course designed for ESL students beginning regular college classes and for lower level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test. (Identical with RDG 019).

3 hours lecture, 1-2 hours laboratory.

**ENG 020 Reading Fundamentals/3 Units**

Prerequisite: 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. Designed to be taught three hours weekly, with ENG 001 Study Skills and ENG 004 Spelling Improvement, as the basic skills block for all freshmen testing below grade level 11.5 on the Nelson-Denny placement test.

3 hours lecture.

**ENG 022 Individualized Reading/3 Units**

Prerequisite: 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.

**ENG 100 Intermediate Writing/3 Units**

Prerequisite: Appropriate placement test scores or a grade of C in ENG 010.

A review of vocabulary, spelling, and sentence construction, with emphasis on writing and revising paragraphs and short essays using expository patterns.

3 hours lecture.

**ENG 101 Composition/3 Units**

Prerequisite: ENG 100 with grade of "C" or better or appropriate placement test score.

A review of usage and syntax, study of and practice in the process of writing, methods of organization, expository patterns, & the documented paper based on library resources.

3 hours lecture.

**ENG 102 Composition/3 Units**

Prerequisite: ENG 101 or its equivalent with a grade of C or better.

A continuation of ENG 101 with emphasis on techniques involved in writing argument, persuasion, and literacy analysis.

3 hours lecture.

**ENG 103 Advanced Composition/3 Units**

Prerequisite: ENG 101 or ENG 102 or permission of the instructor.

An introduction to writing critically about literature with analysis of various literary genre. Credit for ENG 104 will not be granted if the student has taken ENG 103.

3 hours lecture.

**ENG 104 Introduction to Literature/3 Units**

Prerequisite: ENG 102 or permission of instructor.

A study of literary genre: drama, poetry, fiction, criticism. Emphasis on writing critically about literature. Credit for ENG 104 not granted if the student has taken ENG 103.

3 hours lecture.

**ENG 106 Intermediate Writing for Foreign Students/3 Units**

Prerequisite: Placement by the English Immersion staff based on a series of tests. The student will need a score of between 55-75 on the Michigan Test, 5-6.9 on the Nelson Reading Test, and 2+ to 3- on the writing sample.

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 Units**

Prerequisite: ENG 106 or ENG 100, or recommendation from placement testing.

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.

**ENG 108 English Composition for Foreign Students II/3 Units**

Prerequisite: 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 & Reports/3 Units**

Prerequisite: ENG 101 or permission of the instructor.

Development of the skills of effective written communications and reports with emphasis on clarity and accuracy; assignments individualized by occupational discipline.

3 hours lecture.

**ENG 111 Grammar, Usage & Punctuation/3 Units**

Prerequisite: ENG 010, or 101 or permission of the instructor.

A general review of modern English punctuation, grammatical structure, and modern American English usage.

3 hours lecture.

**ENG 112 Children's Literature/3 Units**

Prerequisite: None.

A survey of literary materials available for children from their very early years through their teens exploring the means through which children may enjoy literature, selection tools available for adults, use of reference materials and audio-visuals.

3 hours lecture.

**ENG 114 The Research Paper/1 Unit**

Prerequisite: ENG 020 or its equivalent.

A study of the research methods with emphasis on bibliography, note-taking and footnoting, organizing materials and developing research topics. Three hours a week for five weeks or one hour a week for fifteen weeks.

**ENG 115 The Genealogy of English Words/3 Units**

Prerequisite: None.

A course to increase the student's command of modern English with emphasis on words derived from Latin which considers etymological meanings, modern meanings and the semantic and phonetic changes involved.

3 hours lecture.

**ENG 116 Genealogy of English Words/3 Units**

Prerequisite: None.

A course to assist the student to increase his command of modern English emphasizing words derived from Greek. ENG 115 not a prerequisite to 116.

3 hours lecture.

**ENG 119 Creative Writing/3 Units**

Prerequisite: ENG 101 or permission of the instructor.

An introduction to creative writers and writing using narrative prose, poetry, short stories and student work to model and critique.

3 hours lecture.

**ENG 167 Business English Communications/3 Units**

Prerequisite: ENG 101, ENG 111 or permission of the instructor.

A study of business compositions prepared in a business organization, typical internal and external communication (letters, memos, and reports) with emphasis on applying English fundamentals, usage, syntax and methods of organization.

3 hours lecture.

**ENG 192 Special Topics in Language and Literature/.5-1 Unit**

Prerequisite: None.

A rotating forum/seminar emphasizing linguistic develop-

ment and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. One half hour to one hour lecture. Cochise College elective credit only unless otherwise designated in degree programs.

.5-1 hour lecture.

**ENG 206 Critical Reading & Writing/3 Units**

Prerequisite: ENG 101 and 102 or placement test score of grade level 12.1 on Nelson-Denny Test.

A study of reading and composition as an analytical, interpretative process requiring the student to make rational judgements based on valid criteria concerning content and style emphasizing non-fiction essays, news articles and complete books.

3 hours lecture.

**ENG 209 Introduction to Poetry/3 Units**

Prerequisite: ENG 101 or equivalent or permission of instructor.

A survey of selected traditional, modern, and contemporary poetry designed to promote a sensitive reading, appreciation, and understanding of poetry with emphasis on the ordering of language by which poetry brings into being patterns of thought and feeling which release meaning.

3 hours lecture.

**ENG 210 The Bible as Literature/3 Units**

Prerequisite: None.

A study of the Bible as a work of literature emphasizing historical development, types of literature, allusions, and impact upon later writers and the literary expression of cultural values.

3 hours lecture.

**ENG 219 Advanced Creative Writing/3 Units**

Prerequisite: ENG 119, its equivalent, or permission of instructor.

The second semester of creative writing sequence beginning with ENG 119. Advanced projects in prose and poetry. Exposure, through lectures, to the best American, British, and Continental literature.

3 hours lecture.

**ENG 220 British Literature I/3 Units**

Prerequisite: ENG 101.

A survey of the major authors from the beginnings to the eighteenth century. Need not be taken in sequence.

3 hours lecture.

**ENG 221 British Literature II/3 Units**

Prerequisite: ENG 101

A survey of major authors from the beginning of the eighteenth century to the present. Need not be taken in sequence.

3 hours lecture.

**ENG 222 Introduction to Shakespeare/3 Units**

Prerequisite: Six units of freshman English.

An introduction to the major comedies, histories, and tragedies of Shakespeare.

3 hours lecture.

**ENG 224 American Literature I/3 Units**

Prerequisite: ENG 101.

A survey of major American authors from the colonial period to 1860, including the works of Hawthorne, Poe, Melville, and Emerson.

3 hours lecture.

**ENG 225 American Literature II/3 Units**

Prerequisite: ENG 101.

A survey of major American authors from 1860 to present. Including works of Whitman, Twain, Frost and Faulkner.

3 hours lecture.

**ENG 226 World Literature/3 Units**

Prerequisite: Six units of freshman English or permission of instructor.

A study of some of the master works of literature through the Renaissance, including selections by Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes and Shakespeare.

3 hours lecture.

**ENG 227 World Literature/3 Units**

Prerequisite: Six units of freshman English 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, Mann. ENG 226 is not a prerequisite to ENG 227.

3 hours lecture.

**ENG 228 Mythology and Folklore/3 Units**

Prerequisite: ENG 101 or permission of the instructor.

A survey of beliefs and customs from ancient Greece to the present with emphasis on folk beliefs, legends, myths and folk tales from various cultures.

3 hours lecture.

**ENG 265 Major American Writers/3 Units**

Prerequisite: ENG 102

An exploration of selected works by major American authors from the last century to the present.

3 hours lecture.

## **ENG 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

3 hours lecture.

## **ESL 014 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing or grade of 'C' or better from ESL 013.

Practice in spoken English & a study of English pronunciation, grammar, and usage.

3 hours lecture.

## **ESL 024\* Speaking and Understanding English I 3-4 Units**

Prerequisite: Recommendation from placement testing.

This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

3-4 hours lecture.

## **ESL 025\* Speaking and Understanding English I 3-4 Units**

Prerequisite: Recommendation from placement testing.

This course is designed as a study of basic grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

3-4 hours lecture.

## **ESL 026\* Speaking and Understanding English I 6-8 Units**

Prerequisite: Recommendation from placement testing.

A study of beginning grammar, vocabulary and listening comprehension with controlled conversation with language laboratory reinforcement of aural/oral patterns provided.

# **English As A Second Language**

## **ESL 009 Adult Basic Reading for ESL/3 Units**

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 and English phonetics, and how to read print and to form words into basic English sentences.

3 hours lecture.

## **ESL 011 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing.

Practice in spoken English & a study of English pronunciation, grammar, and usage.

3 hours lecture.

## **ESL 012 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing or a grade of C or better from ESL 011.

Practice in spoken English & a study of English pronunciation, grammar and usage.

3 hours lecture.

## **ESL 013 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing or a grade of C or better from ESL 012.

Practice in spoken English & a study of English pronunciation, grammar, and usage.

## **ESL 027\* Speaking and Understanding English I 6-8 Units**

Prerequisite: Recommendation from placement testing.

A study of basic grammar, vocabulary and listening comprehension with controlled conversation, language lab reinforcement of aural/oral patterns.

## **ESL 028 Reading English I/3-4 Units**

Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test & Nelson Reading Test.

An introduction to basic reading skills with an emphasis on structural reinforcement, vocabulary development, and comprehension for students whose native language is not English.

## **ESL 029 Elementary Writing Skills/3-4 Units**

Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test and a writing sample.

An introduction to written sentence patterns and paragraph development in English.

## **ESL 030 Read and Write English II/3-4 Units**

Prerequisite: ESL 028 or recommendation from placement test.

A continuation of reading and writing skills for non-native speakers of English, with short readings in a variety of content areas designed to improve fundamental reading skills and develop vocabulary. Continued study of paragraph writing emphasizing academic rhetorical form on topics that describe common student experiences.

3 hours lecture/2 hours individualized instruction.

## **ESL 031\* Speaking and Understanding English 3-4 Units**

Prerequisite: ESL 027 or recommendation from testing.

An intense, rapid review of English grammar and expansion of listening comprehension with conversation and language laboratory reinforcement of aural/oral structures.

## **ESL 032 Reading English III/3-4 Units**

Prerequisite: ESL 030 or recommendation from placement testing.

An intermediate level reading course for English as a second language students, designed to increase vocabulary and reading ability through the mastery of a series of reading skills applied to academically-related reading selections of one to two pages in length.

3 hours lecture, 2 hours individualized instruction.

## **ESL 033 Paragraph Writing/3-4 Units**

Prerequisite: ESL 029 or recommendation from testing.

A continuation of sentence writing, Level I with emphasis on topic sentences, methods of paragraph development, cognitive skills and logical organization.

## **ESL 034 Reading English IV/3-4 Units**

Prerequisite: ESL 032 or recommendation from placement testing.

A course designed to improve reading comprehension, expand vocabulary, develop basic reading skills, and teach basic study skills for students whose native language is not English.

3 hours lecture, 2 hours individualized instruction.

## **ESL 035\* Speaking and Understanding English III 3-4 Units**

Prerequisite: ESL 031 or recommendation from testing.

A review of basic English grammatical structures and a presentation of more advanced structures with speaking practice designed to aid the student of English as a Second Language to express himself in a more natural manner.

**ESL 040\* Using and Reading English I/6-8 Units**

Prerequisite: None.

Designed for students with little or no knowledge of English. Students will practice the sounds of English, study the structure of English as used in simple sentences and questions, and learn an elementary vocabulary.

**ESL 041\* Lab for Using & Reading English I/2 Units**

Prerequisite: ESL 040 (concurrently or permission from instructor)

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

**ESL 042\* Using and Reading English II/6-8 Units**

Prerequisite: Using and Reading English I or placement by the English Immersion staff.

A continuation of Using and Reading English I. The course covers grammar, reading, vocabulary, and listening exercises at the low-intermediate level with communicative activities more advanced than ESL 040.

**ESL 043\* Lab for Using & Reading English II/2 Units**

Prerequisite: ESL 042 (concurrently or permission from instructor)

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

**ESL 044\* Using and Reading English III/6-8 Units**

Prerequisite: Using and Reading English II or placement by the English Immersion Program staff.

A continuation of Using and Reading English II. Covers grammar, reading, vocabulary, & listening exercises at the high intermediate level, with more advanced activities than the ESL 042.

**ESL 045\* Lab for Using and Reading English III**

**2 Units**

Prerequisite: ESL 044 (concurrently or permission of instructor)

A course to give students practice using English in simulated situations such as dialogue practice, conversations, role-playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

**ESL 046\* Using and Reading English IV/6-8 Units**

Prerequisite: Using and Reading English III or placement by the English Immersion Program staff.

A continuation of Using and Reading English III covering grammar, reading, vocabulary, and listening comprehension at the advanced level. The communicative activities at this level are the most advanced, and student completing this level should be able to take regular courses at Cochise College.

**ESL 047\* Lab for Using and Reading English IV**

**2 Units**

Prerequisite: ESL 046 (concurrently or permission of instructor)

A course to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

## **Environmental Studies**

**EVS 101 General Environmental Studies/3 Units**

Prerequisite: None.

A general study of man's impact upon the environment, its pollution problems, and possible solutions to current dilemmas related to population and basic ecological principles.

3 hours lecture.

## **EVS 110 Wilderness Problems/3 Units**

Prerequisite: None.

Focuses upon the philosophy of the wilderness movement, the Wilderness Act of 1964, the Endangered Species Act, the Environmental Policy Act, and the current U.S. Wilderness system with special emphasis on Cochise County.

3 hours lecture.

## **EVS 111 Wildland Ecology/3 Units**

Prerequisite: None.

A seven-day field course designed to familiarize the student with Southwestern ecosystems, their floral & fauna components, and their conservation through direct experience and scientific observation including study of field journal methods, measurements, and management objectives on-site in the outdoors. Students must furnish their own sleeping bag, backpack, food and personal hygiene needs.

1 hours lecture, 3 hours laboratory.

# **Fire Science**

## **FST 101 Introduction to Fire Science/3 Units**

Prerequisite: None.

A study of the historical and scientific background of the fire protection field, its development in American history, its expanding future role with examination of industrial, governmental and private fire protection organizations; modern methods in fire prevention and protection; and student introduction to the employment and promotional opportunities presently available in the fire protection field.

3 hours lecture.

## **FST 106 Fundamentals of Fire Prevention/3 Units**

Prerequisite: None.

A survey of the basic principles of fire prevention with special emphasis on the interpretation and enforcement of fire regulations and hazards dealing with ordinary and special occupancies,

supplemented with special problems & field trips.

3 hours lecture.

## **FST 110 Fire Operations I/3 Units**

Prerequisite: None.

Introduction to the operations & individual skills involved in the extinguishment of fire including study of fire operations with an actual hands-on approach to the use of different equipment.

3 hours lecture.

## **FST 111 Fire Operations II/3 Units**

Prerequisite: FST 110.

A continuation of FST 110 with additional emphasis placed on community fire defense systems, use of ropes, hoses, ladders, and breathing apparatus in fire service and review of problems in fire extinguishment, ventilation, salvage and overhaul utilizing classroom and field exercises.

3 hours lecture.

## **FST 120 Fire Service Hydraulics/3 Units**

Prerequisite: FST 110 and 111

A review of basic math, hydraulic laws and formulas as applied to the fire service; application of formulas & mental calculations to hydraulic problems, water supply problems and underwriters requirements and pumper.

3 hours lecture.

## **FST 130 Introduction to Fire Suppression/3 Units**

Prerequisite: None.

A course stressing the characteristics and behavior of fire, fire hazard properties of ordinary materials, extinguishing agents, fire suppression organization and equipment, basic fire fighting tactics, and public relations as affected by fire suppression.

3 hours lecture.

## **ST 150 Hazardous Materials I/3 Units**

Prerequisite: None.

A review of the fundamentals of chemistry used in fire service, types of chemicals and processes, laws at Federal, state and local levels pertaining to use, storage and transportation of chemicals.

3 hours lecture.

## **FST 160 Hazardous Materials II/3 Units**

Prerequisite: FST 150.

A second semester review of fundamentals of chemistry used in fire science including hazards of radio-actives, precautions to observe in fighting fires involving hazardous materials, and laboratory demonstrations in incompatibles.

3 hours lecture.

## **FST 200 Fire Apparatus and Equipment/3 Units**

Prerequisite: FST 101 and FST 106.

A course designed to instruct students in the selection, care, construction, operation and maintenance of fire department equipment, investigating basic principles of equipment, trouble-shooting and testing.

3 hours lecture.

## **FST 220 Rescue Practices/3 Units**

Prerequisite: None.

A course on life-saving practices pertaining to the fire company emphasizing resuscitator squads, rescue equipment, the Fire Department's role in Civil Defense and other disaster facts, chemicals and diseases that affect breathing, and breathing apparatus.

3 hours lecture.

## **FST 224 Field Experience in Fire Science**

### **Technology/1-6 Units**

Prerequisite: Sophomore standing in a declared major & 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 fire science technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **FST 240 Fire Fighting Tactics and Strategy/3 Units**

Prerequisite: FST 130.

A course in the art of using manpower, equipment, and apparatus on the fire ground including practical methods of how to attack, control, and extinguish structural, oil & other types of fires.

3 hours lecture.

## **FST 260 Fire Investigation/3 Units**

Prerequisite: Current employment with a fire department or permission of instructor.

An introduction to fire cause determination (accidental, suspicious, & incendiary) including arson & incendiary with related procedures for handling each situation.

3 hours lecture.

## **FST 265 Supervisory Training for Firefighters 3 Units**

Prerequisite: All FST level I & II course requirements.

Administrative methods applied to the fire service, departmental organization, and personnel management. Includes selection procedures, employee discipline, performance evaluations, elements of supervision, labor relations, fire service planning & relationships with other city departments.

3 hours lecture.

# **Food And Nutrition**

## **FON 101 Nutrition/3 Units**

Prerequisite: None.

A study of the basic nutritional principles & their application to the normal diet, health & cultural patterns. Some emphasis will be placed upon diet modification in common health disorders, i.e., obesity, diabetes mellitus & cardiovascular disease.

3 hours lecture.

# **French**

## **FRE 101 Elementary French/4 Units**

Prerequisite: None.

An introduction to conversation, comprehension of the spoken language, pronunciation, grammar, reading and composition and stress on language use and vocabulary development.

3 hours lecture, 2 hours laboratory.

## **FRE 102 Elementary French/4 Units**

Prerequisite: FRE 101 or permission of instructor based on demonstrated competence.

A continuation of FRE 101 with further development of conversation, grammar, reading and composition and stress on language use and vocabulary development.

3 hours lecture, 2 hours laboratory.

## **FRE 201 Intermediate French/4 Units**

Prerequisite: FRE 102 or three years of high school French with a grade of C or equivalent competency as demonstrated by placement examination.

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.

## **FRE 202 Intermediate French/4 Units**

Prerequisite: FRE 201 or equivalent competency as demonstrated by placement examination.

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 Units**

Prerequisite: None.

A course designed to develop student proficiency in diagnosing basic electronic circuits, defective components, & 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 Units**

Prerequisite: 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 Units**

Prerequisite: 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 &**

**Repair/4 Units**

Prerequisite: 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 Units**

Prerequisite: 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**

Note: \*Indicates Lab Fees.

## **GTC 001 Home Maintenance/3 Units**

Prerequisite: None.

A "do it yourself" home maintenance course covering use of common hand and power tools for routine electrical, carpentry, plumbing repairs. May be repeated for AA credit.

1 hour lecture, 3 hours laboratory.

## **GTC 002 General Technical Math I/1 Unit**

Prerequisite: Math placement test scores below requirements for successful completion of MAT 010 & 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 Unit**

Prerequisite: 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 Unit**

Prerequisite: 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/1 Unit**

Prerequisite: Referral from faculty or college counselor to SDC Director concerning "a special needs student."

Tutorial for pre-vocational students functioning below grade level 8. 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 Unit**

Prerequisite: 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 Unit**

Prerequisite: 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, & prime factorization. Completion

of the GTC 007/008/009 sequence is equivalent to MAT 010.

1 hour lecture.

**GTC 008 General Technical Math V/1 Unit**

Prerequisite: 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 010.

1 hour lecture.

**GTC 009 General Technical Math VI/1 Unit**

Prerequisite: 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 010.

1 hour lecture.

**GTC 012\* General Automotive Mechanics I  
3 Units**

Prerequisite: 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.

1 hour lecture, 4 hour laboratory.

**GTC 014\* Know Your Automobile/3 Units**

Prerequisite: None.

A course to develop entry level automechanic skills: basics of engine operation, powertrain operation, use of tools, care

and selection of tires, use of jack, changing tires, lubrication system service, checking fluid levels, cooling system and minor service, repacking wheel bearings, fuel system theory and very minor service, basics of electricity, basics of battery, starter, and changing system theory, ignition system service, diagnosis-what to do if the car won't start, selecting a used car.

3 hours lecture.

### **GTC 016\*Basic Auto Refrigeration/3 Units**

Prerequisite: 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 Units**

Prerequisite: GTC 016.

Advanced techniques of testing, trouble-shooting and repair of automotive air conditioner.

1 hour lecture, 4 hours laboratory.

### **GTC 018\*Commercial Refrigeration/3 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: MAT 110 or equivalent knowledge of basic hand tools.

Design, installation and operation of residential solar energy systems including 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 100 Technical Mathematics I/3 Units**

Prerequisite: 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 Units**

Prerequisite: GTC 100 or permission of instructor.

A continuation of GTC 100 which emphasizes application of trigonometry to practical problems in industry, including use of logarithms and calculators to solve problems related to screw threads, gears, and technical problems in engineering.

3 hours lecture.

### **GTC 105 Manufacturing Materials & Processes I**

**3 Units**

Prerequisite: None.

Manufacturing materials, operations, procedures, & processes with emphasis on their relationship to drafting & design.

3 hours lecture.

## **GTC 106 Manufacturing Materials & Processes II 3 Units**

Prerequisite: None.

Manufacturing processes involving finished parts including machining processes and automated manufacturing techniques as they apply to drafting and design.

3 hours lecture.

The following courses GTC 110, GTC 111, GTC 112, GTC 120, GTC 121, GTC 122, GTC 123, GTC 124, GTC 125, GTC 126, GTC 127, GTC 130, GTC 131, GTC 132, GTC 133, GTC 134 were designed specifically for the Arizona Department of Corrections in Douglas.

## **GTC 110 Masonry I/3 Units**

Prerequisite: MAT 005 and 010 or equivalent.

An examination of the masonry profession with an emphasis upon the use of masonry tools and the techniques of laying brick and block.

## **GTC 111 Masonry II/3 Units**

Prerequisite: GTC 110.

A continuation of Masonry I, with emphasis upon the decorative and design possibilities of brick and block & 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 Units**

Prerequisite: 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 120 Concrete Construction & Finish/3 Units**

Prerequisite: 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: Exterior and Interior/3 Units**

Prerequisite: None.

Student preparation for proficiency in patching, repainting, and maintaining painted surfaces in 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 Air Conditioning Maintenance/3 Units**

Prerequisite: None.

A course to provide the student with proficiency in inspecting trouble-shooting, repairing and maintaining air conditioning & 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 Maintenance & Repair/3 Units**

Prerequisite: 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 Maintenance & Repair/3 Units**

Prerequisite: 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.

**GTC 125 Plumbing Maintenance & Repair/3 Units**

Prerequisite: None.

A course to provide the student with proficiency in the maintaining, trouble-shooting, repairing, and replacing of liquid supply and waste removal or drainage systems.

**GTC 126 Maintenance Management/3 Units**

Prerequisite: 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.

**GTC 127 Blueprint Reading & Estimating/3 Units**

Prerequisite: None.

A course to provide the student with proficiency in reading & 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 130 Estimating Construction/3 Units**

Prerequisite: 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 Units**

Prerequisite: 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 lab and/or individualized instruction.

**GTC 132 Principles of Technology II/6 Units**

Prerequisite: 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 lab and/or individualized instruction.

**GTC 133 Principles of Technology III/6 Units**

Prerequisite: 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 lab and/or individualized instruction.

## Geography

**GEO 101 Physical Geography/4 Units**

Prerequisite: None.

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 the mineral resources used by man.

3 hours lecture, 3 hours laboratory.

## **GEO 102 Cultural Geography/3 Units**

Prerequisite: None.

A study of the cultural regions of the world and the important world geographical characteristics.

3 hours lecture.

## **GEO 104 Political Geography/3 Units**

Prerequisite: None.

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 Units**

Prerequisite: None.

A survey of the world's economics, 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.

# **Geology**

Note: \*Indicates lab fees

## **GLG 101\* Introduction to Geology I (Physical)**

**4 Units**

Prerequisite: None.

Principles of physical geology for both general-interest students and those who plan to major in geology. Includes materials of interest on recent trends in earth science and the environmental science.

3 hours lecture, 3 hours laboratory.

## **GLG 102\* Introduction to Geology II (Historical)**

**4 Units**

Prerequisite: GLG 101 recommended but not required.

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, archeology, or the biological sciences.

3 hours lecture, 3 hours laboratory.

## **GLG 192 Special Topics in Geology/.5-1 Unit**

Prerequisite: None.

A rotating forum/seminar emphasizing geological topics of current regional significance; topics to vary in accordance with scientific advances and 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.

.5 hour lecture/laboratory

## **GLG 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# **German**

## **GER 001 Conversational German/3 Units**

Prerequisite: None.

Essentials of German conversation in every day 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 of a proficiency examination.

3 hours lecture.

## **GER 101 Elementary German/4 Units**

Prerequisite: None.

An introduction to the German language through conversation, reading & composition; emphasis on grammar, pronunciation, and listening vocabulary.

1 hours lecture, 1 hour laboratory.

## **GER 102 Elementary German/4 Units**

Prerequisite: GER 101 or permission based on demonstrated competence.

Continuation of grammar, conversation and comprehension with emphasis on proper pronunciation and usage.

1 hours lecture, 1 hour laboratory.

## **GER 201 Intermediate German/4 Units**

Prerequisite: GER 102 or ability to pass corresponding examination.

An intermediate course in speaking, writing, understanding and reading German. Integration and utilization of new structures, with emphasis on longer non-technical essays & analysis of short stories and socially pertinent texts.

1 hours lecture, 1 hour laboratory.

## **GER 202 Intermediate German/4 Units**

Prerequisite: GER 201 or ability to pass corresponding examination.

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 Physical Education**

### **HPE 105 Coed Low Intensity Aerobic Exercise/1 Unit**

Prerequisite: None.

A practical introduction to low intensity aerobic exercise with emphasis upon the acquisition of basic skills and movements, as well as the improvement and maintenance of individual fitness. Recommended for the poorly conditioned, novice student.

1 hour lecture, 1 hour laboratory.

### **HPE 106 Coed Aerobic Exercise/1 Unit**

Prerequisite: None.

A practical introduction to 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 107 Aqua Aerobics/1 Unit**

Prerequisite: 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 110 Coed Body Conditioning/1 Unit**

Prerequisite: 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 111 Coed Body Dynamics/1 Unit**

Prerequisite: 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 112 Coed Weight Training/1 Unit**

Prerequisite: 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 113 Coed Athletic Conditioning & Training**

**2 Units**

Prerequisite: None.

A practical introduction to fitness activities conducive to the development of strength, flexibility, endurance & cardiovascular fitness. Designed to enhance athletic performance of the athlete.

1 hour lecture, 1 hour laboratory.

## **HPE 114 Lifelong Wellness/1 Unit**

Prerequisite: 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.

1 hour lecture, 1 hour laboratory.

## **HPE 115 Personal Fitness I/2 Units**

Prerequisite: 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 cardiorespiratory 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 Units**

Prerequisite: HPE 115 or permission of instructor

A continuation of the theory and skills of lifetime fitness introduced in HPE 115 Personal Fitness. Student fitness profiles are developed & utilized to determine an individualized exercise program in the Exercise Physiology Lab.

2-4 hours laboratory.

## **HPE 120 Basic Coed Judo/1 Unit**

Prerequisite: None.

An introduction to the fundamental theory & skills of judo, with emphasis upon practical application of basic judo techniques.

1 hour lecture, 1 hour laboratory.

## **HPE 121 Intermediate Coed Judo/1 Unit**

Prerequisite: HPE 120 or permission of instructor.

A study of intermediate judo with emphasis upon acquisition of intermediate-level skills and techniques. Introduction of selected elements of advanced judo.

1 hour lecture, 1 hour laboratory.

## **HPE 122 Beginning Coed Karate/1 Unit**

Prerequisite: 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 Coed Karate/1 Unit**

Prerequisite: 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 Unit**

Prerequisite: 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 Coed Hiking/1 Unit**

Prerequisite: 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, & the importance of physical conditioning.

1 hour lecture, 1 hour laboratory.

**HPE 126 Coed Backpacking/1 Unit**

Prerequisite: HPE 125 or its equivalent or permission of instructor.

A study of back-country hiking and camping designed to develop skills in wilderness living and travel. Emphasis on developing a wilderness philosophy and an awareness of the individual's ability to live in the back country. Students must furnish boots, packs, sleeping bags and shelter.

1 hour lecture, 1 hour laboratory.

**HPE 130 Beginning Coed Swimming/1 Unit**

Prerequisite: 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 thirty yards.

1 hour lecture, 1 hour laboratory.

**HPE 131 Intermediate Coed Swimming/1 Unit**

Prerequisite: 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 Coed Swimming and Water Sports/1 Unit**

Prerequisite: 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 Coed Life Saving & Water Safety/1 Unit**

Prerequisite: 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 completors.

1 hour lecture, 1 hour lab.

**HPE 134 Water Safety Instructor/2 Units**

Prerequisite: Current Red Cross Advanced Life Saving Certification, competency in swimming strokes & 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\* Coed Skin and Scuba Diving/2 Units**

Prerequisite: Students must be comfortable in the water.

A basic introduction to fundamental skin diving and scuba diving techniques. PADI International Life-time Open Water Certification achieved upon the successful course completion.

1 hour lecture, 3 hours laboratory.

**HPE 140 Coed Archery/1 Unit**

Prerequisite: None.

A practical introduction to archery with emphasis upon the acquisition of the basic skills and knowledge of archery and an appreciation for the sport as a lifelong leisure activity.

Demonstrate an appreciation for the competitive archer's skills.

**HPE 141 Coed Badminton/1 Unit**

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational badminton as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 142 Coed Basketball/1 Unit**

Prerequisite: 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 Coed Bowling/1 Unit**

Prerequisite: 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 Coed Bowling/1 Unit**

Prerequisite: HPE 143 or permission of instructor.

A practical introduction to the advanced skills & knowledge of bowling with emphasis on the acquisition of a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 145 Beginning Coed Golf/1 Unit**

Prerequisite: 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 Coed Golf/1 Unit**

Prerequisite: 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 147 Beginning Coed Handball/1 Unit**

Prerequisite: None.

A practical introduction to handball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in handball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 148 Beginning Coed Racquetball/1 Unit**

Prerequisite: 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 149 Coed Soccer/1 Unit**

Prerequisite: None.

A practical introduction to the basic skills, rules & strategies necessary to participate in recreational soccer, with emphasis upon the value and benefits of soccer as a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 150 Coed Softball/1 Unit**

Prerequisite: 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 Coed Beginning Tennis/1 Unit**

Prerequisite: 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 Coed Intermediate Tennis/1 Unit**

Prerequisite: 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 Coed Volleyball/1 Unit**

Prerequisite: None.

A practical introduction to the basic skills, rules & strategies of recreational volleyball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture, 1 hour laboratory.

**HPE 160 Country Swing Dance/1 Unit**

Prerequisite: None.

A practical introduction to the various steps involved in country swing dancing with emphasis upon acquisition of recreational proficiency.

1 hour lecture, 1 hour laboratory.

**HPE 161 Mexican Folk Dance/1 Unit**

Prerequisite: None.

An introduction to the basic skills and movements necessary for the performance of several Mexican folk dances.

1 hour lecture, 1 hour laboratory.

**HPE 162 Beginning Modern Coed Dance/1 Unit**

Prerequisite: None.

An introduction to modern dance with emphasis upon acquisition of the basic movements and skills inherent in expressive dance routines. The student will also develop an appreciation for the beauty of expressive modern dance.

1 hour lecture, 1 hour laboratory.

**HPE 163 Intermediate Modern Coed Dance/1 Unit**

Prerequisite: HPE 162 or permission of instructor.

A practical introduction to modern dance with emphasis upon advanced movements and skills inherent in expressive dance routines. The student shall also acquire an appreciation for the beauty of expressive modern dance.

1 hour lecture, 1 hour laboratory.

**HPE 164 Coed Modern Square Dancing/1 Unit**

Prerequisite: None.

An introduction to modern square dancing with emphasis upon basic movements, sequences, calls, and elementary round dances.

1 hour lecture, 1 hour laboratory.

**HPE 170 Varsity Baseball/1 Unit**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 171 Varsity Men's Basketball/1 Unit**

Prerequisite: None.

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 Unit**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 173 Varsity Volleyball/1 Unit**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture, 3 hours laboratory.

**HPE 175 Cheerleading/1 Unit**

Prerequisite: Permission of instructor and tryouts.

An applied study of cheerleading emphasizing individual and group physical exercises, stunts, dances, routines, and chants with demonstration of these skills at school rallies & games.

1 hour lecture, 1 hour laboratory.

**HPE 180 Orientation to Physical Education/3 Units**

Prerequisite: 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 Units**

Prerequisite: None.

A comprehensive introduction to the basic foundations of recreation. An examination of career opportunities in the field of recreation.

3 hours lecture.

**HPE 183 Cardiopulmonary Resuscitation and****Elements of First Aid/.5 Unit**

Prerequisite: None.

A basic course in CPR and first aid for the first responders. Upon completion of the course, the student will be certifiable by the American Heart Association in CPR.

.5 hour lecture.

**HPE 185 Elementary School Physical Education****3 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: None.

A survey of human adaptation emphasizing study of birth, growth and development, drugs, disease, life style, marriage and parenthood, quality life and death.

3 hours lecture.

**HPE 188 First Aid and CPR/1 Unit**

Prerequisite: None.

A study of first aid and cardiopulmonary resuscitation skills for first responders in an emergency. American Red Cross First Aid and CPR certification awarded upon successful course completion.

1 hour lecture.

**HPE 189 First Aid and Safety/3 Units**

Prerequisite: None.

A study of first aid & 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 Units**

Prerequisite: None.

An overview of officiating skills in several sports including baseball, basketball, football & volleyball. Emphasis upon the acquisition of skills & 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 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units**

Prerequisite: None.

A theoretical and practical study of common athletic injuries including appraisal, treatment, prevention, psychological implications, and legal issues.

3 hours lecture.

## **PE 224 Field Experience in Recreation**

### **Occupations/1-6 Units**

Prerequisite: Sophomore standing in a declared major & prior approval of Cooperative Education Program Coordinator.

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, or more than 6 units in a given semester.

## **IPE 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair and instructor. Completion of a research problem or an outlined course of study under the direction of a faculty member with contract or the individual study agreed upon by the student, the instructor and the division chair prior to initiation of the study.

# **Health Technology**

## **HLT 109 Nursing Assistant One/3 Units**

State Certificate of Achievement

Prerequisite: None.

A course to prepare and certify the basic level of nursing assistant to meet the criteria of Medicare 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 on the needs of the geriatric patient.

2 hours lecture, 3 hours clinical

## **HLT 110\* Nursing Assistant/6 Units**

A course designed to prepare the student to assume the role of nursing assistant in a health care institution. The student will learn the concepts of communications, patient safety, anatomy and physiology, growth & development, the nursing process and specific patient care skills to prepare for the health care

provider role. The student will learn to recognize and meet basic physical, psychosocial and cultural needs of patient/clients, emphasizing the needs of the geriatric patient.

4 hours lecture: 6 hours skill laboratory.

## **HLT 111\* Nursing Assistant/6 Units**

Prerequisite: HLT 110 unless taken concurrently.

A course designed to prepare the student to assume the role of nursing assistant in a health care institution. The student will learn the concepts of communication, patient safety, anatomy and physiology, growth and development, the nursing process, and specific patient care skills to prepare for the health care provider role. The student will learn to recognize and meet basic physical, psychosocial and cultural needs of patient/clients, emphasizing the needs of the geriatric patient.

4 hours lecture, 6 hours skill laboratory.

## **HLT 114 Home Health Assistant/3 Units**

Prerequisite: 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. Adaption of existing skills and those new skills such as food preparation, asepsis in the house and good communication skills necessary for giving safe care in the home are included.

2 hours lecture, 3 hours clinical.

## **HLT 120 Introduction to Pharmacy Technology**

### **2 Units**

Prerequisite: None.

Overview of the allied health professions with an emphasis on the role of pharmacy support personnel including pharmacy law, medical terminology and pharmaceutical abbreviations with an emphasis on the root, prefixes and suffixes needed to build a medical vocabulary.

2 hours lecture.

**HLT 130 Sterile Products/4 Units**

Prerequisite: Pharmaceutical Calculations; Pharmacy Operations. Applications of aseptic techniques and use of the laminar flow hood in the preparation of sterile products. 2 hours lecture, 3 hours laboratory.

**HLT 131 Interprofessional Relations/2 Units**

Prerequisite: HLT 120; Pharmacy Operations.

Study of the interprofessional skills necessary for the pharmacy technician to communicate effectively as a representative of the profession of pharmacy, as an intermediary between the pharmacist and the patient, and as an intermediary between the pharmacist and other health care professionals.

2 hours lecture.

**HLT 132 Drug Therapy II/3 Units**

Prerequisite: None.

Study of the relationship between anatomy and physiology, disease states and pharmaceutical therapy with emphasis on origins, dosage forms, indications, actions, routes of administration and side effects of both prescription and non-prescription drugs.

2 hours lecture.

**HLT 173 Introduction to Health Care/3 Units**

Prerequisite: None.

An introduction to health science fundamentals & exploration of health care delivery concepts and applications presenting health as an individual, community & world service, relating concepts to health careers and delivery. Required by Allied Health Programs through SARAHELP.

2 hours lecture.

**HLT 174 Emergency Medical Technician/6 Units**

Prerequisite: None.

Cochise College Basic Emergency Medical Technology course

is a six unit course that prepares the student for vocational work as an ambulance attendant/.driver. The course covers the study of anatomy, physiology and the basics of legal liabilities. Skills are developed in recognizing symptoms of illness and injury and proper procedures of emergency care for the sick and injured person. Triage assessment and stabilization of the patient for transport to a medical facility are also covered. The course is also a requirement for an Associate of Arts Degree in Criminal Justice and Fire Science Technology. The course is offered each spring and fall semester throughout Cochise County. The class meets two nights a week with an occasional weekend or two.

**HLT 176 Emergency Medical Training Refresher 2 Units**

Prerequisite: HLT 174.

A refresher course required by the Arizona Corporation Commission every two years to maintain and update the handling of the sick and injured by first response personnel.

**HLT 177 First Aid Instructor Training/3 Units**

Prerequisite: HPE 189, EMT 174, 176, or permission of instructor.

An American National Red Cross course intended for persons certified in advanced first aid or emergency medical technology to prepare students to instruct all phases of American National Red Cross first aid.

3 hours lecture.

**HLT 178\* Ward Clerk/4 Units**

Prerequisite: None.

A course teaching basic concepts, skills, and functions of a ward or unit clerk in a hospital setting integrating basic medical terminology into each lecture to prepare student to function as a beginning level ward clerk under the direction of a senior ward clerk or Head Nurse.

2 hours lecture, 6 hours laboratory.

## **LT 183 Legal Aspects of Health Care/3 Units**

Prerequisite: None.

An introductory course in the American judicial system, with emphasis on legal principles applicable to members of the health profession with emphasis on statutory and case law. It involves the conduct of health professionals in the care of patients and their relationships with medical institutions and hospitals, and pharmaceutical laws and regulations concerned with drugs and narcotics.

3 hours lecture.

## **LT 225 Medical Ethics/3 Units**

Prerequisite: None.

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.

## **History**

### **HIS 110 History of the United States 1607-1877**

3 Units

Prerequisite: None.

A study of 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 Units

Prerequisite: None.

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 & foreign affairs in the country's last century of development.

3 hours lecture.

### **HIS 115 Survey of the American West/3 Units**

Prerequisite: None.

A study of the methods of penetration and the patterns of westward expansion and settlement with emphasis on the Southwest. Analysis & 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 126 Afro-American History/3 Units**

Prerequisite: None.

A survey of Afro-American history since first century A.D., highlighting the major West African nations & their relationship with Europe before, during, and after the discovery of the New World with major emphasis on the rise and fall of slavery and the Afro-American's contribution from the Revolutionary War to the Civil War.

3 hours lecture.

### **HIS 127 Afro-American History II/3 Units**

Prerequisite: None.

A survey of Afro-American history since the Civil War, highlighting the significant historical events and major forces that shaped the history of Black Americans with major emphasis on the struggle for complete freedom and the Black American's contribution to the rise of America from the Civil War to the Vietnam conflict.

3 hours lecture.

**HIS 130 Arizona History/3 Units**

Prerequisite: None.

The history of Arizona from the entrance of the Spaniards in 1539 to its emergence as a modern state in the Southwest.

3 hours lecture.

**HIS 140 Survey of Western Civilization I (The Formation of Western Civilization to 1400)/3 Units**

Prerequisite: None.

A study of the major historical trends from the emergence of Western Civilization through the High Middle Ages, with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

**HIS 141 Survey of Western Civilization II (Early Modern Civilization from 1400 to 1800)/3 Units**

Prerequisite: None.

A study of the major historical trends in Western Civilization from the High Middle Ages to the Age of Napoleon with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

**HIS 142 Survey of Western Civilization III (Modern Civilization from 1800 to the Present)/3 Units**

Prerequisite: None.

A study of the major historical trends in Western Civilization from 1800 to the present with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

**HIS 160 An Introduction to the History of the Soviet Union/3 Units**

Prerequisite: None.

A survey of Russian history since 1916, emphasizing revolutionary movements leading to the Bolshevik triumph (the early

Soviet triumph), the early Soviet governments, the Stalin Era, Russia in World War II, the Khrushchev Era, and the USSR in the contemporary world.

3 hours lecture.

**HIS 192 Special Topics in History/.5-1 Unit**

Prerequisite: 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.

.5 hour lecture.

**HIS 229 History of Mexico I/3 Units**

Prerequisite: None.

A study of political, economic, social, & cultural developments from Pre-Columbian civilizations to the War for Independence.

3 hours lecture.

**HIS 230 History of Mexico II/3 Units**

Prerequisite: None.

A study of political, economic, social, & cultural developments from the War for Independence to modern times.

3 hours lecture.

## **Hospitality Administration**

**HAD 100 Introduction to the Hospitality Industry**

**3 Units**

Prerequisite: 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 & motivation, labor relations and management principles as they relate to the hospitality industry.

3 hours lecture.

**HAD 120 Introduction to Property Management****3 Units**

Prerequisite: None.

An introductory course to professional housekeeping and housekeeping administration, including maintenance and logistical supply, employee supervision and safety.

3 hours lecture.

**HAD 210 Guest Services Management/3 Units**

Prerequisite: 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.

**HAD 224 Field Experience in Hospitality****Administration/1-6 Units**

Prerequisite: Sophomore standing in a declared major &amp; 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 hospitality administration. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**HAD 235 Hospitality Law/3 Units**

Prerequisite: 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 240 Commercial Food Preparation Theory****3 Units**

Prerequisite: None.

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.

**HAD 241 Advanced Commercial Food Preparation and Lab/4 Units**

Prerequisite: 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.

**HAD 250 Hospitality Financial Management****3 Units**

Prerequisite: 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 Units**

Prerequisite: HAD 210

An exploration & application of computer technology to front desk operations, including reservations, guest accounting and manager's reports.

3 hours lecture.

# Home Economics

## HEC 100 The Growing Years/3 Units

Prerequisite: None.

A telecourse presentation of child growth and development from prenatal through adolescent years, with emphasis upon physical and intellectual growth and learning sequences including socialization, language and personality development. Cochise College elective credit only unless otherwise designated in degree programs (Identical with CPD 100).

3 hours lecture.

## HEC 101 A Family Portrait/3 Units

Prerequisite: None.

A telecourse consisting of thirty one-half hour lessons that introduces students to objective, sociological and psychological views of marriage, families, and alternate life styles in contemporary America. Emphasis upon personal awareness, growth, and interpersonal relationships.

Cochise College elective credit only unless otherwise designated in degree programs. (Identical with SOC 100).

3 hours lecture.

## HEC 105 The Challenge of Parenting/3 Units

Prerequisite: None.

The application of principles and concepts of effective parenting to meet more effectively the challenges & problems of being a parent in modern American society. (Identical to CPD 105)

3 hours lecture.

## HEC 210 Marriage and the Family/3 Units

Prerequisite: None.

Courtship, mate selection, marital adjustment, parenthood, & family living from the sociological & psychological points of view. (Identical to SOC 210).

3 hours lecture.

# Horticulture

The horticulture courses are designed for the Arizona Department of Corrections in Douglas.

## HRT 101 Basic Horticulture/3 Units

Prerequisite: 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 Units

Prerequisite: 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 Units

Prerequisite: HRT 110

A study of landscape materials, the planting & maintenance of commercial & residential landscapes, sprinkler systems & the use of concrete, brick and wood in landscape construction.

2 hours lecture, 3 hours laboratory.

## HRT 120 Pest Control/3 Units

Prerequisite: 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 140 Landscape Irrigation Systems/3 Units**

Prerequisite: 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 Units**

Prerequisite: HRT 120

The principles of landscape design focusing on the utilization of varied plant materials, environmental requirements, drawing and layout techniques and reading landscape blueprints.

3 hours lecture, 1 hour laboratory.

## **Humanities\***

\*All humanities courses except HUM 011 and HUM 071 may be used to fulfill the humanities and fine arts requirements for the AA and AS degrees. Students must consult an advisor for university transfer requirements.

**HUM 011 Humanities in Modern American Life**

**3-4 Units**

Prerequisite: Recommendation from testing.

Reading and discussion of material which has cultural content relevant to the United States with consequent enlarging of vocabulary and basic understanding of certain American cultural concepts.

3-4 hours lecture.

**HUM 100 American Culture/3 Units**

Prerequisite: Concurrent placement in ENG 100, or 106 or higher, or permission of instructor.

A course for students from non-English-speaking cultures &

for others who wish to increase their awareness of American cultural values. Students will receive and practice key concepts about contemporary American social behavior and values.

3 hours lecture.

**HUM 101 Humanities in Contemporary Life**

**3 Units**

Prerequisite: None.

A study of contemporary thought, literature, music and art as they occur in mass media, journalism, television, and motion pictures; written student critiques of required lectures, plays, motion pictures, concerts, and art exhibits.

3 hours lecture.

**HUM 104 Heritage From Mexico/3 Units**

Prerequisite: None.

A study of the various facets of culture and their historical settings which have contributed to the traditions, life style and uniqueness of Mexicans and Americans of Mexican heritage both past and present.

**HUM 110 Introduction to Film and Video/3 Units**

Prerequisite: None.

A study of film and video as art forms and as medium for the expression of ideas and an introduction to the principles of film criticism.

3 hours lecture.

**HUM 115 Cultural Heritage of the Southwest:**

**Indian, Hispanic, North American/3 Units**

Prerequisite: None.

A general survey of the cultural heritage in the Southwest: 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 Units**

Prerequisite: Completion of ENG 101 with a grade of "C" or better; concurrent enrollment in HUM 101 or HUM 104 preferred.

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 Unit**

Prerequisite: 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.

.5 to 1 hour lecture.

## **HUM 205 Major Ancient Cultures/3 Units**

Prerequisite: ENG 101, 102 or permission of the instructor.

Art, literature, music and ideas in the Western World from Ancient times through the late Middle Ages, with emphasis on man's relation to his gods or God.

3 hours lecture.

## **HUM 206 European Culture/3 Units**

Prerequisite: ENG 101, 102 or permission of instructor.

Art, literature, music and philosophy from Renaissance to the Industrial Revolution with emphasis on the development of humanism and science.

3 hours lecture.

## **HUM 207 The Modern World/3 Units**

Prerequisite: ENG 101, 102 or permission of instructor.

Art, literature, and ideas in the West from the Romantic Age through the twentieth century, with emphasis on the importance of science and technology on arts and ideas.

3 hours lecture.

## **HUM 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair and instructor.

Completion of a research problem, or an outlined course of study, under the direction of a faculty member with a contract for the individual study agreed upon by the student, the instructor and the division chair prior to initiation of the study. May be repeated for credit.

## **Journalism**

### **JRN 101 Mass Communication/3 Units**

Prerequisite: Completion of ENG 101 or permission of instructor.

An introduction of mass communications media with emphasis on understanding the basic concepts of gathering, writing, and evaluating news & other kinds of communication in newspapers, magazines, radio, television, business publications, and house publications. Taught in spring semester only.

3 hours lecture.

### **JRN 102 Basic Reporting/3 Units**

Prerequisite: Completion of ENG 101 or permission of instructor.

An entry-level course in journalism introducing students to newswriting, editing, layout, assignments, deadlines and newspaper production.

3 hours lecture.

## **JRN 103 Intermediate Reporting/3 Units**

Prerequisite: Completion of JRN 102 with a grade of C or better or permission of instructor.

A course in writing news, features, editing, layout & production of the college newspaper which also deals with ethics, legal problems, invasion of privacy, investigative reporting.

3 hours lecture.

## **JRN 201 Journalism Workshop/3 Units**

Prerequisite: Permission of instructor.

A guided workshop for newspaper production emphasizing techniques for editing, layout, photo assignment and selection, print media and techniques, headline writing, advertising layout and sales. All students working on the Apache are required to sign up for at least one semester of the workshop. May be repeated for credit. Students will meet a minimum of three hours a week with the instructor.

## **JRN 207 Introduction to Desk-top Publishing**

**3 Units**

Prerequisite: None; word processing or computer course experience helpful.

Principles and practice of creative printed materials of diverse size and complexity using the Ventura system of desk-top publishing, emphasis on the practical aspects of production. Identical to CIS 207.

3 hours lecture.

## **JRN 224 Field Experience in Communication & Media Technology/1-6 Units**

Prerequisite: Sophomore standing in a declared major & 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 communication and media technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **JRN 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

## **Latin**

### **LAT 101 Elementary Latin/4 Units**

Prerequisite: None.

A study of the grammar and vocabulary of Latin & of ancient authors with emphasis on the etymological indebtedness of English to Latin.

4 hours lecture.

### **LAT 102 Elementary Latin/4 Units**

Prerequisite: LAT 101.

A study of the grammar and vocabulary of Latin & of ancient authors; a continuation of LAT 101.

4 hours lecture.

## **Linguistics**

### **LIN 101 Introduction to Linguistics/3 Units**

Prerequisite: ENG 101 or 107. Previous foreign language experience or permission of instructor.

Survey of linguistic concepts and methods; communication among animals; physiology of human speech; elementary phonology, morphology, syntax and semantics; language variation, borrowing and language change; language & the brain; language and thought.

3 hours lecture.

### **LIN 180 Effective Messages/3 Units**

Prerequisite: ENG 167 and SPA 267 or equivalent proficiency as determined by the instructor on the basis of prescribed placement tests.

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 & ambiguity in messages; techniques to increase comprehension. Taught in English and Spanish.

2 hours lecture, 3 hours laboratory.

### **LIN 290 Fundamentals of Translation and**

#### **Interpretation/3 Units**

Prerequisite: ENG 167 & SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.

An introduction to translation and interpretation theory and practice. Emphasis on application; translation of representative texts chosen from general & commercial contexts; interpretation of representative discourse chosen from a variety of social and business contexts. Familiarity with professional translation and interpretation practices, ethics and technology.

2 hours lecture, 3 hours laboratory.

## **Machine Technology**

### **MAC 110\* Machine Shop for Technicians I/4 Units**

Prerequisite: MAC 130 or concurrent enrollment.

Covers preliminary machine shop, introduction to machine tools, their range of application and capacity.

2 hours lecture, 6 hours laboratory.

### **MAC 120\* Machine Shop for Technicians II/4 Units**

Prerequisite: MAC 110, DFT 112, GTC 100

General shop practice including a thorough training in machine tool set-up operation and cutting tool techniques.

2 hours lecture, 6 hours laboratory.

### **MAC 130\* Basic Metallurgy/3 Units**

Prerequisite: None.

The study of steel classifications, heat treatment procedures, properties of ferrous and non-ferrous metals, & non-destructive testing.

3 hours lecture.

### **MAC 210\* Jig and Fixture Designing I/4 Units**

Prerequisite: MAC 120.

The design and application of tools, jigs, and fixtures for basic metalworking and machine tools.

2 hours lecture, 6 hours laboratory.

### **MAC 220\* Jig and Fixture Designing II/4 Units**

Prerequisite: MAC 210.

The design and application of tools, jigs, and fixtures for basic metal working and machine tools.

2 hours lecture, 6 hours laboratory.

### **MAC 224 Field Experience in Machine Technology**

#### **1-6 Units**

Prerequisite: Sophomore standing in a declared major & 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 machine technology. 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.

# **Mathematics**

## **MAT 005\* Developmental Math/3 Units**

Prerequisite: Math placement test scores below requirements for successful completion of MAT 010.

MAT 005 is a self-paced course in basic mathematics. Math pre-test and student inventory responses are used to develop individual course plans. One-to-one or small group instruction is provided as needed. Laboratory assignments, homework & unit exam grades determine individual's progress and course completion rates. Acceptable course progress is indicated by a final grade of incomplete (I) until course work is completed with a final grade of 'C' or better.

3 hours lecture.

## **MAT 010 Fundamental Mathematics/3 Units**

Prerequisite: Indicated mathematics deficiency.

A study of basic arithmetic concepts with drill in skills and techniques of computation including fundamental operations with whole numbers, fractions, decimals, percent, measurements, ratio and proportion, averages, and basic operations with integers.

3 hours lecture.

## **MAT 015 Preparatory Math for Nurses/2 Units**

Prerequisite: For entering nursing students who receive less than 90 on the nursing placement test.

A course designed for nursing students to improve their mathematical accuracy in solving problems commonly encountered in nursing: fractions, decimals, percentages, proportions, conversions, units, Roman numerals & word problems. (Only offered during summer session).

2 hours lecture.

## **MAT 020 Elementary Algebra /3 Units**

Prerequisite: Acceptable score in placement examination of C or better in MAT 010.

An introduction to the basic algebra normally included in a first-year high school algebra course: fundamental axioms & operations applied to rational numbers, laws of integral exponents, solution of equations, polynomials and factoring, systems of equations, graphing inequalities, fractional expressions, radicals and quadratic equations.

3 hours lecture.

## **MAT 110 Intermediate Algebra/3 Units**

Prerequisite: One year of high school algebra or MAT 020 with 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 115 Mathematics for Elementary Education Majors I/3 Units**

Prerequisite: MAT 110 or equivalent

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 116 Mathematics for Elementary Education Majors II/3 Units**

Prerequisite: MAT 115 or equivalent

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 117 College Algebra/3 Units**

Prerequisite: Two years of high school algebra or MAT 110 with a grade of "C" or better.

A logical development of the real number system, field axioms as applied to algebra, sets & set notation, inequalities and absolute value, polynomial functions and their graphs, determinants and matrices, inverse functions, logarithmic & exponential functions, complex numbers, sequences, binomial theorem, and mathematical induction.

3 hours lecture, 2 hours laboratory.

**MAT 120 College Algebra/3 Units**

Prerequisite: Two years of high school algebra, or MAT 110 with a grade of 'C' or better.

A logical development of the real number system, field axioms as applied to algebra, sets & set notation, inequalities and absolute value, polynomial functions and their graphs, determinants and matrices, inverse functions, logarithmic & exponential functions, complex numbers, sequences, binomial theorem, and mathematical induction.

3 hours lecture.

**MAT 124 Plane Trigonometry/3 Units**

Prerequisite: MAT 120 or approval of instructor. May be taken concurrently with MAT 120 or MAT 261.

An analytical approach to trigonometry based upon the unit circle concept: trigonometric functions, identities, conditional equations, radian measure graphs, logarithms, solution of right and oblique triangles, inverse trigonometric functions and trigonometric form of complex numbers.

3 hours lecture.

**MAT 155 Finite Mathematics/3 Units**

Prerequisite: Satisfactory completion of a course in College Algebra MAT 120 or permission of instructor.

A nonrigorous, yet mathematically sound, introduction to finite mathematics, the branch of mathematics not involving

infinite sets, limits, and continuity including linear equations with applications in two space to supply demand functions, systems of linear equations with applications to optimization and two-product supply & demand analysis, systems of linear inequalities with application, linear programming and the simplex method, the primal and dual problems with shadow prices & matrices, summations with application to elementary statistics, common and natural logarithms, and mathematics of finance.

3 hours lecture.

**MAT 243 Discrete Math/3 Units**

Prerequisite: MAT 120 or equivalent.

The objective of this course is to provide an understanding of elementary set theory, permutations & combination, discrete functions, generating functions, difference equations, relations, graphs, trees, circuits, cut-sets, and network flow problems.

3 hours lecture.

**MAT 256 Calculus for Business/3 Units**

Prerequisite: MAT 120 and MAT 155 with satisfactory grade, or equivalent.

Elementary topics in analytic geometry, differential & integral calculus with business application.

3 hours lecture.

**MAT 261 Analytic Geometry with Calculus/5 Units**

Prerequisite: Four years of high school mathematics or permission of instructor or MAT 120 and MAT 124.

An integrated study in which analytic geometry is used to develop, understand, and apply calculus concepts including absolute value and inequality, relations and functions, graphs, limits & continuity, definition & application of the derivative, antiderivative and definite integral, and conic sections.

5 hours lecture.

## **MAT 262 Analytic Geometry with Calculus**

**5 Units**

Prerequisite: MAT 261 with a grade of 'C' or better.

A continuation of MAT 261 including differentiation and integration of trigonometric, inverse trigonometric, exponential and logarithmic functions, parametric equations, arc length, polar coordinate, methods and applications of integration, vectors in three dimensions and solid analytic geometry.

5 hours lecture.

## **MAT 263 Analytic Geometry with Calculus**

**3 Units**

Prerequisite: MAT 262 with grade of 'C' or better.

A continuation of MAT 262 to conclude the three-semester calculus sequence including elements of infinite series, partial differentiation, and multiple integration.

3 hours lecture.

## **MAT 274 Differential Equations/3 Units**

Prerequisite: MAT 262 with a grade of 'C' or better.

Ordinary differential equations with applications including linear equations, nonlinear & separable equations, homogeneous equations, power series solutions, Euler equations, LaPlace transforms (optional) & numerical methods (optional).

3 hours lecture.

## **MAT 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

## **Motor Transportation Technology**

### **MTT 101 Transport Basic/4 Units**

Prerequisite: 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 Units**

Prerequisite: 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 Units****Prerequisite:** 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 Units****Prerequisite:** 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, & 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 Units****Prerequisite:** 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.

**Music****Note:** \*Indicates lab fees**MUS 100 Fundamentals of Music Notation/3 Units****Prerequisite:** None.

Introduction to the fundamentals of musical notation, chords, rhythm and melody (for beginners).

3 hours lecture.

**MUS 101 Introduction to Music/3 Units****Prerequisite:** None

An introduction to the elements of form and design of music illustrated with recordings of important musical literature from various periods of music history with an emphasis on the Medieval and Renaissance periods of music history.

3 hour lecture.

**MUS 102 Introduction to Music/ 3 Units****Prerequisite:** None, although it is preferable to have MUS 101.

A continuation of MUS 101 with special emphasis on consideration of texture, tonality, kinds of musical ensembles and on the style characteristics of music from the 19th century to the present, including the historical development of musical forms.

3 hours lecture.

**MUS 103 Voice Class/1 Unit****Prerequisite:** None.

Instruction in class in basic vocal techniques, voice control, development and vocal exercises including development of basic skills: breathing, diction, tone-rhythm, & sight singing with basic vocal literature memorized and performed.

1 hour per week.

**MUS 104 Voice-Class Instruction/1 Unit****Prerequisite:** MUS 103.

Instruction in class in basic vocal techniques, voice control, development and vocal exercises including development of basic vocal skills, breathing, diction, tone-rhythm, and sight singing. Basic vocal literature will be memorized & performed.

1 hour per week.

### **MUS 105 Theatre Dance/1 Unit**

Prerequisite: 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.)

### **MUS 110 Choir/1 Unit**

Prerequisite: None.

Study and performance of outstanding musical literature from various periods of musical composition. May be repeated for credit.

### **MUS 111 Band/1 Unit**

Prerequisite: Audition.

Study and performance of outstanding musical literature from various periods of musical composition. May be repeated for credit.

### **MUS 112 Instrumental Class Instruction/1 Unit**

Prerequisite: None.

Introduction and development of basic instrument skills, note reading, coordination, rhythm, sight reading, ensemble playing, practical training without specialization. May be repeated for credit.

#### **MUS01 112 Piano Class Instruction**

#### **MUS02 112 Brass Class Instruction**

#### **MUS03 112 Woodwind Class Instruction**

#### **MUS04 112 Percussion Class Instruction**

#### **MUS05 112 String Class Instruction**

#### **MUS06 112 Guitar Class Instruction**

### **MUS 113, 114\* Instrument-Individual Instruction**

#### **1-1 Unit**

Prerequisite: Permission of instructor, frequently by audition.

A systematic study in technique & repertoire of an instrument of student's choice, providing instructor is available. May be repeated for credit for no more than a total of four units.

Weekly lesson.

### **MUS 115, 116\* Voice-Individual Instruction**

#### **1-3 Units**

Prerequisite: Permission of the instructor.

Study of basic foundations of vocal techniques & preparation of recital literature for jury examination. May be repeated for credit for no more than a total of four hours.

One half hour lesson per week.

### **MUS 130 Keyboard Harmony/1 Unit**

Prerequisite: Some experience in musical performance, either singing or playing a musical instrument and a knowledge of scales, key signatures, triads, and intervals.

Special work on the application of musical theory to the keyboard emphasizing exercises in scales, chords, and especially harmonic progression to provide the student with a functional knowledge of the keyboard for further study of music or as a vehicle of classroom demonstration.

### **MUS 132-133 Music Theory/3 Units**

Prerequisite: Some experience in musical performance, either singing or playing a musical instrument and a knowledge of scales, key signatures, triads and intervals.

A systematic study of the rules of music encompassing terminology, notations, clefs, keys, scales, intervals, rhythmic notation, harmonization of a given melody, voice leading, part writing and form; emphasizing ear training, which includes interval and chord recognition and melodic and harmonic

dictation and sight singing.

### **MUS 201-202 Ensemble/1 Unit**

Prerequisite: Audition.

Trios, quartets, sextets, etc., performing and studying music written or arranged for the smaller ensemble with rehearsal groups occasionally performing in public either on campus or in the surrounding communities. Open to men and women.

3 hours rehearsal.

### **MUS 210 Music Theatre Workshop 1-3 Units**

Prerequisite: Audition or permission of instructor.

Participation in a college musical or operatic production either in a performance capacity or as production crew.

### **MUS 230 Art Song Repertory I/1 Unit**

Prerequisite: Two semesters of voice instruction & permission of the 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 Unit**

Prerequisite: Two semesters of voice instruction & permission of the 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.

## **Nursing**

### **NUR 120 Transition NA/PN/2 Units**

Prerequisite: Concurrent enrollment in NUR 123

This course provides the challenging, transferring or

re-entering Nursing student with an understanding of the philosophy, policies and procedures of the Nursing Program. The course emphasizes the theory base & use of patient care planning, nursing documentation of care, & therapeutic use of self.

2 hours lecture.

### **NUR 121 Medication Math/1 Unit**

Prerequisite: Admission to Nursing Program.

A course which reviews basic math skills & gives the student experience in calculation of drug dosages: oral dosages, parenteral dosages, pediatric dosages, solutions, & intravenous flow rates.

1 hour lecture.

### **NUR 122\* Nursing I/8 Units**

Prerequisite: Admission to the Cochise College Nursing Program.

A course designed to help the student acquire nursing concepts and skills toward eventual functioning an Associate Degree Nurse: the roles & interactions of nurses, health care systems and other health care professionals; the nursing process; communications; & development theories; all of which assist the beginning nursing student recognize and meet the basic physiological and cultural needs of persons of all ages.

4 hours lecture; 12 hours laboratory.

### **NUR 123\* Nursing II/10 Units**

Prerequisite: Admission to the Cochise College Nursing Program.

NUR 122 & concurrent courses. A course designed to help the student utilize the knowledge of an individual's needs/problems throughout the lifespan focusing on the planning of nursing interventions with an increasing knowledge of nursing assessments and emphasizing acquisition of nursing concepts & skills toward practical nursing or eventual assumption of the role of the associate degree nurse.

6 hours lecture; 12 hours laboratory.

## **NUR 201\* Gastric Intubation for L.P.N.'s/1 Unit**

Prerequisites:

- a. Current license to practice as a Licensed Practical Nurse in Arizona.
- b. The equivalent of one year work experience/practice within the last five years.
- c. Referral and/or recommendation by current employer-health care agency or facility.
- d. Health care agency and/or facility must submit a nursing policy which indicates:
  1. extended care role of the LPN to perform the procedure.
  2. persons to whom the LPN is responsible.

Classroom and clinical instruction in gastric intubation for the purpose of feeding and/or specimen collection in children and adults, leading to certification in these procedures.

## **NUR 202\* Venipuncture for L.P.N.'s/1 Unit**

Prerequisites:

- a. Current license to practice as a Licensed Practical Nurse in Arizona
- b. The equivalent of one year work experience/practice within the last five years.
- c. Referral and/or recommendation by current employer-health care agency or facility.
- d. Health care agency and/or facility must submit a nursing policy which indicates:
  1. extended care role of the LPN to perform the procedure.
  2. persons to whom the LPN is responsible.
- e. must have current liability insurance.

Classroom and clinical instruction in venipuncture techniques designed to provide certification for the Licensed Practical Nurse in the skill of blood drawing for diagnostic testing.

## **NUR 203 Update on Pharmacology/3 Units**

Prerequisite: None

This course aimed at R.N.'s, L.P.N.'s and students in those fields, will review basic pharmacology by specific organ systems and body functions. Current medications will be presented and reviewed for actions, interactions, & reactions.

Decision making and references in medication usage will be explored.

3 hours lecture.

## **NUR 220 Transition LPN/RN/1 Unit**

Prerequisites: Acceptance into Nursing III - NUR 232, Concurrent class - 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 Nursing Program. The emphasis will be on the theory base and use of patient care planning, nursing documentation of care, & therapeutic use of self.

## **NUR 232-233\* Nursing III-IV/9-9 Units**

Prerequisite: Admission to the Cochise College Nursing Program NUR 123 and concurrent courses. NUR 232 and concurrent courses.

These courses based on nursing practice at the Associated Degree Nurse level associated with common physical and psychosocial health needs/problems throughout the lifespan: the body's response to stressors, nursing interventions relative to common health needs/problems and alterations in growth and development within these areas, explored on the use of a framework which promotes effective communication, understanding of the nursing process with emphasis on intervention and evaluation.

5 hours lecture; 12 hours laboratory.

## **Office Education**

### **OED 101\* Elementary Typing A-Keyboard Theory**

**2 Units**

Prerequisite: None.

An introduction to the basic typewriting skills and techniques needed for "touch typewriting" with an expected outcome of 30 wpm for three minutes.

2 hours lecture; 1 hour laboratory.

## **OED 102\* Elementary Typing B- Production Typing/2 Units**

An introduction to the basic skills needed to master letter styles, tabulations, printed forms, and manuscripts through individualized units of work with an expected outcome of 40 wpm for three minutes.

2 hours lecture; 1 hour laboratory.

## **OED 103\* Elementary Typing/3 Units**

Prerequisite: None.

An introduction to the basic typewriting skills & techniques needed to master letter styles, tabulations, forms, and manuscripts through individualized units of work with an expected outcome of 40 wpm for three minutes.

3 hours lecture; 1 hour laboratory.

## **OED 104\* Intermediate Typing/3 Units**

Prerequisite: OED 103 with a grade of C or better or permission of the instructor.

A comprehensive study to improve the basic typewriting skills & techniques needed to master letter style, tabulations, forms, and manuscripts through individualized units of work with an expected outcome of 50 wpm for five minutes.

3 hours lecture; 1 hour laboratory.

## **OED 105 Shorthand I/3 Units**

Prerequisite: None

An intensive study of Alpha Hand Speedwriting in order to develop writing facility to make notes rapidly and easily for personal or vocational use.

3 hours lecture; 1 hour laboratory.

## **OED 106 General Office Procedures/3 Units**

Prerequisite: OED 102 or OED 103 (or concurrent)

An introduction to duties of office workers, utilizing

mathematical skills or calculating machines, data entry processes on the microcomputer, and typewriting skills with transcription equipment. A review of business English skills is also included.

3 hours lecture.

## **OED 107 Clerical Practice/3 Units**

Prerequisite: OED 103 or permission of the instructor.

An introduction to the general duties of office workers including completing job applications & resumes; reviewing interview procedures; studying skill qualifications, telephone techniques, filing systems, mail handling, report preparation, and transcription and duplicating equipment. Practice sets are available in specialized areas: general, medical, bilingual, & legal.

3 hours lecture.

## **OED 113\* Computer Keyboarding/Data Entry 3 Units**

Prerequisite: None

Specifically designed for (but not limited to) students with no knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop speed and accuracy on the computer keyboard. Same as CIS 113.

3 hours lecture.

## **OED 116 Elementary Shorthand A-Theory/2 Units**

Prerequisite: Minimum grade of C in English or permission of the instructor.

An intensive study of the first half of Gregg Shorthand Theory through practice in reading and writing shorthand with an expected outcome of 25 wpm for three minutes dictation at 95% accuracy.

2 hours lecture; 1 hour laboratory.

**OED 117 Elementary Shorthand B-Theory/Dictation****2 Units**

Prerequisite: OED 116 or equivalent.

An intensive study of the second half of Gregg Shorthand Theory with emphasis on dictation to an expected outcome of 50 wpm for three minutes dictation at 95% accuracy.

2 hours lecture, 1 hour laboratory.

**OED 161 Writing Within Organizations/1 Unit**

Prerequisite: None

The study of organizational writing to include its purposes, strategies, and processes. Students will learn to produce clear, concise, and accurate communications ranging in form from simple to complex memos for technical writers, managers & supervisors, short reports, long reports, proposals, feasibility studies and evaluation reports.

1 hour lecture.

**OED 167 Business Communications/3 Units**

Prerequisites: ENG 101, or ENG 111, or permission of the instructor.

A study of business compositions prepared in a business organization, typical internal and external communications (letters, memos, & reports) with emphasis on applying English fundamentals, usage, syntax, and methods of organization.

3 hours lecture.

**OED 193 Current Computer Applications Modules****1 Unit**

Prerequisite: None

One unit modules designed for personal/professional improvement. Principles and practice of various computer applications; each session directed toward skills mastery of a particular instance of microcomputer applications software, with emphasis on the effective use of the software under study.

**OED 193A Intro to Computers****OED 193B Elementary Keyboarding****OED 193C Intermediate Keyboarding****OED 193D Advanced Keyboarding****OED 193E Beginning Data Entry****OED 193F Intermediate Data Entry****OED 193G Advanced Data Entry****OED 193H MS-DOS 1****OED 193I MS-DOS 2****OED 193J MS-DOS 3****OED 193K Typing Review #1****OED 193L Typing Review #2****OED 193M Shorthand Review****OED 193N WordPerfect 5.1 #1****OED 193O WordPerfect 5.1 #2****OED 193P WordPerfect 5.1 #3****OED 193Q WordPerfect Applications****OED 193R Printmaster****OED 193S First Publisher****OED 193T Beginning E Mail****OED 193U Printers - Dot Matrix****OED 193V Laser Printers****OED 193W Ink Jet Printers****OED 193X Multimate #1****OED 193Y Multimate #2****OED 193Z Multimate #3****OED A193 Multimate Applications****OED B193 Document Tools****OED C193 Bookkeeping on Computers 1****OED D193 Bookkeeping on Computers 2**

1 hour lecture/laboratory.

**OED 201\* Advanced Typing/3 Units**

Prerequisite: OED 104 with a grade of C or permission of the instructor.

A study of typewriting skills needed to become proficient at typing business letters, printed forms, manuscripts, minutes and tabulation problems in the employment field through the use of individualized units of work with an expected outcome of 60 wpm for 5 minutes.

3 hours lecture.

**OED 202\* Professional Typing/3 Units**

Prerequisite: OED 201 with a grade of 'C' or permission of the instructor.

A comprehensive study of typewriting skills needed to type special, more demanding business letters, manuscripts, tabulations, & various forms through the use of individualized units of work with an expected outcome of 70 wpm for five minutes.

3 hours lecture.

**OED 203\* Bilingual Typing/3 Units**

Prerequisite: OED 103 with a grade of 'C' or better or permission of the instructor and Spanish proficiency at the second-year level.

A comprehensive study to improve the basic typewriting skills and techniques needed to master letter style, tabulations, forms, and manuscripts through individualized units of work in both English and Spanish.

3 hours lecture.

**OED 205 Shorthand II/3 Units**

Prerequisites: OED 105 or equivalent, or permission of the instructor.

A comprehensive study of Alpha Hand, a speedwriting system, to develop spelling, punctuation, and speedbuilding skills for vocational transcription.

3 hours lecture; 1 hour laboratory.

**OED 206 Records Management/3 Units**

Prerequisite: None.

A study of the principles and procedures of actual filing and practices in the basic systems using established management systems.

3 hours lecture.

**OED 207 Office Administration/3 Units**

Prerequisite: None.

An analysis of functions of office departments, their organization and administration; employee selection, training, and promotion of office employees; quality & quantity of office production. This course is designed for prospective office supervisors, training directors, and executive secretaries.

3 hours lecture.

**OED 208\* Computerized Office Management/3 Units**

Prerequisite: None.

A study of computerized office applications including correspondence, mailings, inventory, budgets, personnel, time management, records management, accounts management, software management & space management. Techniques will be taught on the microcomputer.

3 hours lecture.

**OED 209 Office Communications/3 Units**

Prerequisite: OED 167 or concurrent with.

A study of the principles of business speech communications, integrating nonverbal skills, vocabulary building, business persuasion, presentations, one-to-one communications, machine dictation, and group communications

3 hours lecture.

**OED 210\* Secretarial Office Procedures/3 Units**

Prerequisite: Concurrent enrollment in OED 201 or 214, 206 and ENG 111 or permission of the instructor.

Available for stenographic or non-stenographic majors. A comprehensive study of the secretary's work responsibilities including: oral & written communications; dictation, transcription, and typing procedures; prioritizing; mail, filing and telephone techniques; administrative responsibilities and specialized duties. Practice sets are available in specialized areas; legal, medical, executive.

3 hours lecture.

**OED 211\* Secretarial Practice/3 Units**

Prerequisite: OED 210 or permission of the instructor.

Available for stenographic or non-stenographic majors. Practice in: using transcription equipment and different dictation styles; preparing business letters, news releases, & reports. Workflow procedures and standards, and personal grooming techniques will also be reviewed using practice sets in specialized areas: executive, medical, bilingual, and legal.

3 hours lecture.

**OED 212\* Transcription/Terminology/3 Units**

Prerequisite: OED 205 for stenographic majors & OED 104 for non-stenographic majors, course individualized for stenographic and non-stenographic.

A study of complex terminology encountered in medical records, or legal documents, or technical business documents with emphasis on shorthand or machine transcription. Practice sets in medical records, or legal documents, or technical documents utilized.

3 hours lecture.

**OED 213\* Word Processing/3 Units**

Prerequisite: Keyboarding Skills.

A study of the major aspects of word processing, including concepts, available careers, systems and equipment with instruction in using text-editing equipment.

3 hours lecture.

**OED 214\* Advanced Word Processing/3 Units**

Prerequisite: OED 213.

Advanced word processing techniques including legal, medical, technical, simulated & actual office data entry on an assortment of microprocessors including instruction in word processing prioritizing, proofreading, and set-up techniques.

3 hours lecture.

**OED 217 Internship as Medical Secretary**

**3-16 Units**

Prerequisite: OED 211 and 212.

A course designed to combine theory and practice with experience in a medical record department or similar facility in on-the-job training.

**OED 224 Field Experience in Office Technology**

**1-6 Units**

Prerequisite: 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 office technology. 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.

**OED 267 Spanish Business Communications/3 Units**

Prerequisite: SPA 202 or equivalent placement

A study of business composition 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. Identical with SPA 267.

3 hours lecture.

**OED 268 Technical Presentations/3 Units**

Prerequisite: CIS 181 or permission of instructor

A study of the principles of effective communication skills integrating the latest electronic technology in order to prepare & deliver state-of-the-art business and technical presentations.

3 hours lecture.

# Office Machine Repair

The following courses, OMR 100, OMR 102, OMR 104, OMR 106, OMR 200, CMR 202, OMR 204, OMR 205, OMR 206, OMR 207 and OMR 208 were designed specifically for the Arizona Department of Corrections in Douglas.

## **OMR 100 IBM Selectric I & II Repair/4 Units**

Prerequisite: General Electronic Technician Certificate

A course designed to provide the student with proficiency in the repair and maintenance of the IBM Selectric typewriter. The student will learn the mechanical theory of operation of all components of the typewriter, and how to clean, service, relubricate and perform preventive maintenance inspections. The student will learn how to use hand tools, specialized gauges, materials, parts and supplies in performing service procedures; with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

## **OMR 102 Electronic Calculator Repair/3 Units**

Prerequisite: OMR 100

A course designed to make the student proficient in electronic calculator repair. The student will learn the electronic and mechanical theory of operation of all components of the calculator, and how to clean, service, relubricate and perform preventive maintenance inspections. Students will learn how to use hand tools, specialized gauges and test equipment, materials, parts and supplies in performing service procedures; and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance instead of unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

## **OMR 104 Electronic Typewriter Repair/3 Units**

Prerequisite: OMR 100

A course designed to make the student proficient in electronic

typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, special gauges, materials and supplies, and learn how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

## **OMR 106 Dictating Machine Repair/3 Units**

Prerequisite: OMR 100

A course designed to make the student proficient in dictating machine repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, gauges, materials, & supplies and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

## **OMR 200 Electronic Memory Typewriter Repair**

**4 Units**

Prerequisite: OMR 104

A course designed to make the student proficient in electronic memory typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized gauges, materials and supplies, & how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

## **OMR 202 Basic Photocopier Repair/4 Units**

Prerequisite: OMR 100

A course designed to make the student proficient in basic photocopier repair. The student will learn the electronic and

mechanical theory of operation, and how to troubleshoot & repair by safely using maintenance tools, test equipment, gauges, materials & supplies, & how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

### **OMR 204 Advanced Photocopier Repair/4 Units**

Prerequisite: OMR 202

A course designed to make the student proficient in advanced photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, gauges, materials & supplies, & how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

### **OMR 205 Basic Microcomputer Repair/3 Units**

Prerequisite: OMR 200

A course designed to develop student proficiency in basic microcomputer repair. The student will learn to diagnose system defects using logical sequence of operation charts, & how to replace defective system components by the safe use of maintenance tools, materials and supplies, with emphasis on special computer test programs and equipment, and how to schedule maintenance and allot maintenance task hours to effect microcomputer system repairs.

3 hours lecture plus individualized laboratory instruction.

### **OMR 206 Advanced Microcomputer Repair/4 Units**

Prerequisite: OMR 205

A course designed to make the student proficient in advanced microcomputer repair. The student will learn the electronic theory of operation of each circuit board, and how to use

specialized test equipment, diagnostic programs, and repair procedures to facilitate board level repairs, and how to safely use maintenance tools, gauges, materials, parts and supplies, with emphasis on how to schedule maintenance and allot maintenance task hours in performing repairs of the micro-computer.

4 hours lecture plus individualized laboratory instruction.

### **OMR 207 Microcomputer Peripheral Equipment**

**Repair/4 Units**

Prerequisite: OMR 206

A course designed to make the student proficient in micro-computer peripheral equipment repair. The student will learn the mechanical, electronic and logical theory of operation for each type of peripheral equipment, and the troubleshooting and repair techniques used to perform board level repairs, with emphasis on special diagnostic programs and test equipment, and how to schedule maintenance and allot maintenance task hours to facilitate board level repairs.

4 hours lecture plus individualized laboratory instruction.

### **OMR 208 Advanced Troubleshooting and Shop Operations/4 Units**

Prerequisite: OMR 204

A course designed to place the student in a functioning shop operation to concentrate on repair and servicing of electro-mechanical business machines or microcomputers. Students will be responsible for receiving defective machines, scheduling repairs, ordering spare parts, servicing or repairing defective equipment, recording service or repair on history record, completing repair order forms, and scheduling return of the business machine, microcomputer, or micro-computer peripheral to their original location, simulating real world operations.

1 hour lecture plus 3 hours of individualized laboratory instruction.

# Philosophy

\*\* All courses may be used to fulfill three to six units of the humanities and fine arts requirements for AA or AS degrees.

## PHI 111 Introduction to Philosophy/3 Units

Prerequisite: ENG 101 and sophomore standing.

A study of man's interpretation of the nature and meaning of reality, conduct, and of his own being.

3 hours lecture.

## PHI 113 Introduction to Logic and Language

**3 Units**

Prerequisite: ENG 020 or equivalency and ENG 101 or equivalency.

Elementary study of formal logic, symbolic logic, logical fallacies, induction, argument and language.

3 hours lecture.

## PHI 130 Ethics/3 Units

Prerequisite: ENG 101 or permission of instructor.

An introduction to moral philosophy with emphasis on analysis of contemporary ethical problems.

3 hours lecture.

## PHI 140 Death, Dying, Loss and Survival/3 Units

Prerequisite: None

This class introduces students to the experience of others on the topics of death, loss, and survival. It will offer new ways to think about death, in general, as well as ones own death, and those of loved ones. It will also include a metaphysical approach to the question of life after death.

3 hours lecture.

## PHI 201 Philosophies of the East/3 Units

Prerequisite: ENG 101 and sophomore standing.

Hinduism, Buddhism, Taoism, and Confucianism with emphasis on their roles in the modern world.

3 hours lecture.

## PHI 202 Philosophy of Religion/3 Units

Prerequisite: ENG 101 and sophomore standing.

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 Units

Prerequisite: Approval of the division chair 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, i.e. instructor & the division chair prior to initiation of the study. May be repeated for credit.

# Physics

## PHY 101 Introduction to Physics/4 Units

Prerequisite: None.

A survey course in the basic concepts of physics with limited emphasis on mathematical applications.

3 hours lecture; 3 hours laboratory.

## PHY 111-112\* General Physics/4-4 Units

Prerequisite: MAT 110 or equivalent; PHY 111 is a prerequisite for PHY 112.

Lectures, demonstration, & problems in mechanics, properties of matter, heat, sound, light, electricity & magnetism, atomic and nuclear physics.

3 hours lecture; 3 hours laboratory.

**PHY 230-231\* Physics with Calculus/4-4 Units**

Prerequisite: MAT 261. PHY 230 is a prerequisite for PHY 231. Coverage of the same areas as PHY 111-112 but in greater depth by the use of calculus, for engineering students & others who require physics with calculus.

4 hours lecture; 3 hours laboratory.

**PHY 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 & the division chair prior to initiation of the study.

May be repeated for credit.

## Political Science

**POS 100 Introduction to Political Science/3 Units**

Prerequisite: None.

A comprehensive introductory study of the nature & 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 Units**

Prerequisite: None.

A study of the political system of the United States. Emphasis on constitutional development, the political culture, voting, political parties, campaigns and elections, interest groups, public opinion, & the three branches of the national government. Designed to increase the student's awareness and understanding of the political arena. This course fulfills the Federal Constitution requirement for the Arizona Teaching Certificate.

3 hours lecture.

**POS 220 National and Arizona Constitution/3 Units**

Prerequisite: Sophomore standing.

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 Unit**

Prerequisite: Sophomore standing.

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 Units**

Prerequisite: POS 110 or permission of instructor.

Introduction to the concept of international relations as it has developed from the rise of nation-states with emphasis on the modern concept as choices and options that governments, and to a degree individuals, face in making decisions in a world of "sovereign" states.

3 hours lecture.

**POS 240 Comparative Politics/3 Units**

Prerequisite: POS 100 or 110 or permission of instructor.

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 Units**

Prerequisite: Approval of the division chair 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 & the division chair prior to initiation of the study. May be repeated for credit.

# Psychology

## PSY 010\* Problem Solving Skills Development

**3 Units**

Prerequisite: Referral by Developmental Studies Department.

A self-paced individualized course designed to develop independent problem solving skills. Students are exposed to information needed for problem conceptualization and are required to understand rules and their applications in problem solution. Students also develop attitudes needed for problem mastery such as perseverance and acceptance of negative feedback.

In completing this course students are interviewed and pre-tested to determine their special educational needs and provided with individualized study plans. Because it is self-paced, this course may be repeated and a grade of "I" will be assigned until course objectives are met with a grade of "C" or better.

3 hours lecture.

## PSY 100 Understanding Human Behavior/3 Units

Prerequisite: None.

A survey of the major areas in psychology to include behavior, perception, sensation, motivation, learning and memory, maturity and development, personality, and social psychology. Cochise College elective credit unless otherwise designated in degree programs.

3 hours lecture.

## PSY 101 Introduction to Psychology/3 Units

Prerequisite: None.

A survey of major topics in psychology to include: personality, cognition, motivation and emotion, conditioning and learning, mental abilities, human development, sensation & perception, social interaction, consideration of theories, research findings and their applications; and introduction of research methods.

and assessment procedures.

3 hours lecture.

## PSY 210 Social Psychology/3 Units

Prerequisite: PSY 101.

A study of basic concepts, theories and research pertaining to human interaction to include: attribution, attitude formation & change, interpersonal interaction, altruism and aggression, environmental psychology and group structure and processes.

3 hours lecture.

## PSY 230 Personality Theories and Research/3 Units

Prerequisite: PSY 101; offered spring semester.

Description and appraisal of personality based upon theory and research findings to include: personality and life-span development, motivation and emotion, interests and abilities, human performance, social and verbal behavior, physiological responding, personality assessment, normal and abnormal personality, and special applications.

3 hours lecture.

## PSY 240 Developmental Psychology/3 Units

Prerequisite: PSY 101.

A topical 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, moral development, personality and social development.

3 hours lecture.

## PSY 250 Introduction to Psychological Research,

## Measurements and Statistics/3 Units

Prerequisite: MAT 110, PSY 101 or equivalent.

Basic concepts of experimental design, measurement, and descriptive & inferential statistics as applied to psychological variables.

3 hours lecture.

## **PSY 290 Experimental Psychology/4 Units**

Prerequisite: PSY 101 and PSY 250.

Student involvement in the review and analysis of scientific literature, designing & implementing experiments, collecting and analyzing data, interpreting results and reporting experimental findings using A.P.A. format.

3 hours lecture; 3 hours laboratory.

## **PSY 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 & the division chair prior to initiation of the study. May be repeated for credit.

# **Public Administration**

## **PAD 101 Management Skills/2 Units**

Prerequisite: Sponsorship by a governmental agency.

A practical study of public-sector management for the first-line supervisor. Topics include communication techniques, delegation of authority, management by objectives, performance evaluation, discipline, and employee orientation. Student grade assigned on a Pass/Fail basis.

2 hours lecture.

## **PAD 102 The Manager & System Relationships**

**2 Units**

Prerequisite: PAD 101 & sponsorship by a governmental agency.

A practical study of the public 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. Student may elect to take course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.

2 hours lecture.

## **PAD 103 The Manager and the Work Group/2 Units**

Prerequisite: PAD 102 & sponsorship by a governmental agency.

A practical analysis of the manager as a group/team leader. Topics include group dynamics, behavioral analysis, group problem-solving and decision making, change management, conflict management, and meeting skills. A student may elect to take the course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.

2 hours lecture.

## **PAD 192 Applications in Public Administration**

**.5 Unit**

Prerequisite: None.

A study of a variety of topics, such as the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.

.5 hour lecture.

## **PAD 201 Leadership and Management of Organizations in the Public Sector/4 Units**

Prerequisite: Completion of the Arizona Department of Administration Certified Supervisory Management Program; or two years of post-secondary education including nine credit hours of management or related coursework and two years of supervisory experience which includes training in performance evaluation, affirmative action, and related topics.

A practical analysis of the public manager's role. Emphasis upon leadership influence, productivity, evaluation, strategic planning, organizational design and analysis, risk management, administrative liability, public sector budgeting, and quality circles. Includes an introduction to computer use & application. Initial course in the Management Development Program.

4 hours lecture.

## **PAD 202 Systems Approach to Public Management/3 Units**

Prerequisite: PAD 201, two years in a supervisory position, and sponsorship by a governmental agency.

A practice analysis of the methodologies, techniques and applications of the systems approach to management. Additional topics include management by objectives as a systems approach and the use of micro-computers for systems analysis. Students may elect to take the course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.

3 hours lecture.

## **PAD 203 The Decision-Making Process and Case Method Analysis/2 Units**

Prerequisites: PAD 202, two years in a supervisory position and sponsorship by a governmental agency.

A practical analysis of the managerial decision-making process including situational analysis, problem analysis, & decision analysis. Corresponds to level VI-A in the ASU CPM program. Students may elect to take the course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.

2 hours lecture.

## **Reading**

### **RDG01 009 Adult Basic Reading I/3 Units**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native & non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.

3 hours lecture.

Students failing to progress beyond the 4.0 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 02 009. This class may not be used for graduation credit.

### **RDG02 009 Adult Basic Reading II/3 Units**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native & non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.

3 hours lecture.

Student failing to progress beyond the 4.0 reading level and with the recommendation of the instructor will be allowed to enroll in RDG03 009. This class may not be used for graduation credit.

### **RDG03 009 Adult Basic Reading III/3 Units**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native & non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.

3 hours lecture.

This class may not be used for graduation credit.

### **RDG 019 Transitional Reading/3-4 Units**

Prerequisite: ESL 034 or placement test score

A course designed for ESL students beginning regular college classes and for lower level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test. (Identical with ENG 019).

3 hours lecture; 1-2 hours laboratory.

## **RDG01 020 Reading Fundamentals I/5 Units**

Prerequisite: None.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG02 020.

5 hours lecture.

A continuation of RDG 020. Emphasis on literal & inferential comprehension, rate building, vocabulary development and textbook strategies.

3 hours lecture.

## **RDG 110 College Study skills/3 Units**

Prerequisite: None

Analysis of motivation and goals. Emphasis on reading and listening skills, study skills and review strategies. Use of the library. Orientation to College resources.

3 hours lecture.

## **RDG02 020 Reading Fundamentals II/5 Units**

Prerequisite: RDG01 020 or permission of instructor.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG03 020.

## **RDG03 020 Reading Fundamentals III/5 Units**

Prerequisite: RDG02 020 or permission of instructor.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use.

5 hours lecture.

## **Russian**

### **RUS 115 Conversational Russian I/3 Units**

Prerequisite: 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 A.A. degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.

3 hours lecture.

### **RUS 116 Conversational Russian II/3 Units**

Prerequisite : RUS 115

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 A.A. degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.

3 hours lecture.

## **RDG 021 Power Reading/3 Units**

Prerequisite: Placement test score or permission of instructor.

# **Social Services**

## **SSV 103 Manual Communications I (Sign Language)/3 Units**

Prerequisites: None

Principles, methods & techniques of communicating manually with deaf and other persons with communications handicaps. May be repeated for Cochise College elective credit.

3 hours lecture.

## **SSV 104 Manual Communications II (Sign Language) 3 Units**

Prerequisite: SSV 103 or permission of instructor

Intermediate level principles & techniques of communicating manually with the deaf & other persons with communications handicaps, emphasizing development of speed, accuracy and conversational skills.

3 hours lecture.

## **SSV 193 Substance Abuse: Causes and Treatment**

**3 Units**

Prerequisite: None.

A practical and theoretical introduction to psychological and sociocultural aspects of substance abuse.

3 hours lecture.

## **SSV 210 Loss, Grief and Dying/3 Units**

Prerequisite: None.

An exploration of grief, dying and the loss of loved persons as universal human experiences, with focus upon coping skills of affected persons and helping skills of others and study of values, behaviors and intervention strategies in cultural, medical, social and legal contexts.

3 hours lecture.

## **SSV 224 Field Experience in Social Services 1-6 Units**

Prerequisite: Sophomore standing in a declared major & 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 social services. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **SSV 270 Interpersonal Communications/3 Units**

Prerequisite: Second year standing in AAS Program or COM 102 and permission of instructor.

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 220.)

3 hours lecture.

## **SSV 271 Communications in Small Groups/3 Units**

Prerequisite: SSV 270 or COM 270 or permission of instructor

A continuation of SSV 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 Social Services Seminar/3 Units**

Prerequisite: PSY 101 or SOC 101

A survey course covering the processes of group work and community organization. Designed for the student enrolled in the AAS Social Services Program.

3 hours lecture.

**SSV 273 Determinants of Human Behavior/3 Units**  
Prerequisite: Sophomore Standing Social Work AAS Program.

Selected behavioral theories presented as the base for understanding adaptive and maladaptive behavior, examined in the context of social, cultural and ethnic differentials with implications for social work and counseling practice.

3 hours lecture.

## **Sociology**

**SOC 100 A Family Portrait/3 Units**

Prerequisite: None.

A telecourse consisting of thirty one-half hour lessons that introduces students to objective, sociological & psychological views of marriage, families, and alternate life styles in contemporary America. Emphasis upon personal awareness, growth, and interpersonal relationships.

Cochise College elective credit only unless otherwise designated in degree programs. (Identical with HEC 101).

Limited to students having access to Desert Cable.

3 hours lecture.

**SOC 101 Introduction to Sociology/3 Units**

Prerequisite: None

A course presenting sociology as a science that explores its methods and studies various aspects of group behavior, social change, basic institutions and the existing social system and that develops a perspective on the individual's role in the formation of society.

3 hours lecture.

**SOC 160 Ethnic Groups and Minorities/3 Units**

Prerequisite: SOC 101 or permission of instructor.

An overview of minority group relations from a sociological viewpoint, focusing upon the Mexican, Black, Asian, and the Indian-American.

3 hours lecture.

**SOC 202 Social Problems/3 Units**  
Prerequisite: SOC 101 and ENG 101 recommended.

A course covering social inequalities affecting women, racial and ethnic minorities and the aged-socially, educationally and financially & problems of drug and alcohol use, physical and mental health care, crime and sexual deviance, designed to provide students with the ability to assess social problems & propose resolutions in a logical and scientific manner.

3 hours lecture.

**SOC 207 Introduction to Social Welfare 3 Units**

Prerequisite: None.

An introduction to social welfare and social insurance systems, designed to acquaint the student to the various programs available to the general public through legislation and private means.

3 hours lecture.

**SOC 210 Marriage and the Family/3 Units**

Prerequisite: None

Courtship, mate selection, marital adjustment, parenthood and family living from sociological and psychological points of view. (Identical to HEC 210)

3 hours lecture.

**SOC 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

# Spanish

## SPA 011 Spanish Orthography/1 Unit

Prerequisite: None.

A concentrated course on Spanish spelling with emphasis on a step-by-step procedure from the simplest to the most complex in Spanish. Special attention 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 Units

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 101 Elementary Spanish/4 Units

Prerequisites: None

Comprehension of the spoken language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.

4 hours lecture; 1 hour laboratory.

## SPA 102 Elementary Spanish/4 Units

Prerequisite: SPA 101.

Comprehension of the spoken language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.

4 hours lecture; 1 hour laboratory.

## SPA 115 Conversational Spanish/3 Units

Prerequisite: None.

Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure

or travel. SPA 115, 116, 215, may be transferable to a four-year institution only upon satisfactory performance of a proficiency examination.

3 hours lecture.

## SPA 116 Conversational Spanish/3 Units

Prerequisite: SPA 115 or permission of instructor.

Continuation of SPA 115 with emphasis on role playing & use of everyday vocabulary & conversational phrases. For credit & transfer requirements see course description for SPA 115.

3 hours lecture.

## SPA 167 Business Spanish Communications/3 Units

Prerequisite: SPA 202 or equivalent placement

A study of business composition 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 192 Special Topics in Language, Literature & Culture/1/2-1 Unit

Prerequisite: 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. One half hour to one hour lecture. Cochise College elective credit only unless otherwise designated in degree programs.

5 or 1 hour credit depending upon the length of the seminar.

## SPA 201 Intermediate Spanish/4 Units

Prerequisite: SPA 102 or two years of high school Spanish with average grade or better or competency based on travel & 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 & short stories to enrich the student's vocabulary.

4 hours lecture.

### **SPA 202 Intermediate Spanish/4 Units**

Prerequisite: SPA 201 or three years of high school Spanish with a grade of C or competency based on travel & 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 & understanding the language with essays & short stories to enrich the student's vocabulary.

4 hours lecture.

### **SPA 215 Conversational Spanish/3 Units**

Prerequisite: SPA 116 or permission of instructor.

Continuation of SPA 116 with drill patterns to reinforce vocabulary & use of verb tense, with a minimum of formal grammar study, with emphasis on practice in the spoken language. For credit and transfer requirements see course description for SPA 116.

3 hours lecture.

### **SPA 216 Conversational Spanish/3 Units**

Prerequisite: SPA 215 or permission of instructor.

A continuation of SPA 115, 116, & 215. Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure, or travel. SPA 115, 116, 215 and 216 may be transferable to a four-year institution only upon satisfactory performance of a proficiency examination. May be repeated for credit.

3 hours lecture.

**SPA 220 Introduction to Spanish Literature/3 Units**  
Prerequisite: 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/3 Units**

Prerequisite: 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 & 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/3 Units**

Prerequisite: SPA 202 & permission of instructor or completion of course similar to SPA 202 or Mexican schooling above 6th grade or four years of high school Spanish.

An introduction to the works of representative Mexican authors and a historical look at the literature of Mexico during the Colonial period and the period of Independence. Conducted in Spanish.

3 hours lecture.

### **SPA 225 Introduction to Mexican Literature/3 Units**

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

An introduction to the works of representative Mexican authors whose genius reflects a historical and literary perspective during times of national stress after Mexico's independence from Spain and its revolution of 1910.

3 hours lecture.

**SPA 267 Spanish Business Communications/3 Units**

Prerequisite: SPA 202 or equivalent placement.

A study of business compositions prepared in a business organization-typical internal and external communications (letters, memos & reports) with emphasis on applying Spanish fundamentals, usage, syntax, and methods of organization.

3 hours lecture.

**SPA 275 Intermediate Spanish Conversation and Composition/3 Units**

Prerequisite: SPA 202 or completion of equivalent course with 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 & application of Spanish grammar rules and building of Spanish vocabulary.

3 hours lecture.

**SPA 276 Intermediate Composition & Conversation 3 Units**

Prerequisite: SPA 275 or equivalent proficiency as assessed by the 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 290 Fundamentals of Translation and Interpretation/3 Units**

Prerequisite: ENG 167 and SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.

An introduction to translation and interpretation theory and practice. Emphasis on application; translation of representative texts chosen from general & commercial contexts; interpreta-

tion of representative discourse chosen from a variety of social and interpretation practices, ethics and technology. Identical with LIN 290.

3 hours lecture.

**SPA 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

## Spanish Immersion Program

Intensive day-long instruction in Spanish for seven weeks for non-native speakers, designed to provide a basic speaking-understanding facility in Spanish language. Eight units of college credit is available in this summer program which is equivalent to Spanish 101 and 102.

## Theatre Arts (Drama)

**THE101 Acting/3 Units**

Prerequisite: None.

Introduction to theories of dramatic art and practice in acting.  
3 hours lecture.

**THE102 Acting/3 Units**

Prerequisite: None.

Introduction to development of characterization in all types of dramatic literature and practice in acting.  
3 hours lecture.

## **THE 103 Introduction to Theatre/3 Units**

Prerequisite: None.

History and tradition of western theatre with analysis and discussion of representative drama, classical to contemporary. Introduction to Theatre fulfills three units of the humanities and fine arts requirements for the A.A. and A.S. degrees.

3 hours lecture.

## **THE 104 Principles and Techniques of Play**

### **Production/3 Units**

Prerequisite: None

Introduction to the theory and practice of directing, set design, costuming, stage lighting, make-up & production organization.

3 hours lecture.

## **THE 105 Theatre Dance/1 Unit**

Prerequisite: None

Study & practice in stage movement & choreography for theatrical production for students in musical theatre productions, one day a week for three hours. (Not intended for transfer credit.)

## **THE 110 Theatre Workshop/1-3 Units**

Prerequisite: Permission of instructor/audition.

Actual participation in a college dramatic production either in an acting or production role. No student will be awarded more than four such credits.

## **THE 299 Individual Studies/1-4 Units**

Prerequisite: Approval of the division chair 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 division chair prior to initiation of the study. May be repeated for credit.

## **Welding Technology**

### **WLD 105 \* Oxyacetylene Welding/3 Units**

Prerequisite: None

Safety practices, set-up & operation of oxyacetylene welding equipment; welding in flat, horizontal and overhead positions of standard alloys of steel; brazing and soldering of ferrous & nonferrous metals.

1 hour lecture; 4 hours laboratory.

### **WLD 106\* Arc Welding/3 Units**

Prerequisite: WLD 105 or permission of instructor.

Safety practices, set-up & operation of arc welding equipment including techniques of joining metals in all positions by electric arcs with the use of the electrode.

1 hour lecture; 4 hours laboratory.

### **WLD 207\* MIG and TIG Welding/3 Units**

Prerequisite: WLD 105 & 106.

Safety practices, set-up & operation of metal inert gas (MIG) and tungsten inert gas (TIG) welding equipment, using both consumable and non-consumable electrodes.

2 hours lecture; 3 hours laboratory.

### **WLD 208 Gas Metal Arc Welding (GMAW)/3 Units**

Prerequisite: WLD 105 & 106

Safety practices, set-up and operation of Gas Metal Arc Welding (GMAW) equipment, using solid and core wire on ferrous and nonferrous metals.

2 hours lecture; 3 hour laboratory.

**WLD 209 Gas Tungsten Arc Welding (GTAW)****3 Units**

Prerequisite: WLD 105 &amp; 106.

Safety practices, set up and operation of gas tungsten arc welding (GTAW) equipment, using ferrous and nonferrous metals.

2 hours lecture; 3 hours laboratory.

**WLD 210\* Pipe and Plate Welding/3 Units**

Prerequisite: WLD 105 &amp; 106.

Continuation of WLD 106 Arc Welding to include out of position welding, pipe and plate welding and welding of medium carbon and high sulfur steels.

2 hours lecture; 3 hours laboratory.

**WLD 211\* Pipe Welding/3 Units**

Prerequisite: WLD 105, 106, 210.

Continuation of WLD 210 Pipe and Plate Welding to include methods of layout and fit-up of pipe of various sizes & types, also welding of pipe by use of electric arc and oxyacetylene.

2 hours lecture; 3 hours laboratory.

**WLD 215\* Welding Design and Fabrication****3 Units**

Prerequisite: WLD 105, 106, 210.

A course designed for students with demonstrated welding skills, to learn proper methods of design, layout & fabrication for welding with student completion of a specific project selected by the student or assigned by the instructor by use of electric arc, oxyacetylene, TIG or MIG welding.

2 hours lecture; 3 hours laboratory.

**WLD 217\* Pipe Layout and Fitting/3 Units**

Prerequisite: WLD 211

Continuation of WLD 211 Pipe Welding, to include methods of layout-fittings and welding of pipe of various sizes & types.

2 hours lecture; 3 hours laboratory.

**WLD 224 Field Experience in Welding Technology****1-6 Units**

Prerequisite: Sophomore standing in a declared major & 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 welding technology. 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.

**Zoology**

Please see Biological Sciences

# Administration

## Administration

Dr. Dan W. Rehurek, President  
University of South Dakota, B.S.  
University of Northern Colorado, M.A.  
Nova University, Ed.D.

## District Administrators

Dr. Charles LaClair, Vice President for Instruction  
Indian River Community College, A.A  
University of Florida, B.S., B.A.  
University of South Florida, M.B.A.  
University of Arizona, Ph.D.

Dr. Walter Patton, Vice President for Student Services  
New Mexico State University, B.S., M.A.T., Ed.D.

Mr. Loren Felabom, Vice President for Administration  
Indiana University, B.S.  
Michigan State University, M.B.A.

David M. Pettes, Dean of Instruction  
(Douglas Campus)  
Duke University, B.A.  
Emory University, M.A.T.

Helen "Beth" Roberts, Dean of Instruction  
(Sierra Vista Campus)  
University of Minnesota, B.S.  
Arizona State University, M.A.

Robert Mena, Dean, Student Services  
Northern Arizona University, B.S., M.A.

# Faculty and Professional Staff

Barbara Adams; Campus Nurse (1981)  
Cochise College, A.A.

Frank Adams; Instructor, Agriculture (1978)  
University of Arizona, B.S.

William Akins; Instructor, Computer Information Management (1986)  
San Francisco State University, B.A.  
Kansas State University, M.S.

Bonnie Andrews, Director, Administrative Services (1991)

John Armsfield; Instructor, Horticulture (1987)  
Colorado State University, B.S.

Dartle Atherton; Assistant Director, Financial Aid/  
Veteran's Affairs Coordinator (1990)  
Grand View College, B.A.

Robert Atkinson; Instructor, Political Science, History (1990)  
Adelphi University, B.A.  
University of Notre Dame, M.A.

Philip Atlas; Instructor, Airframe & Powerplant (1987)  
Chicago State Teacher's College, B.A.  
Northern Illinois University, M.S.

Gifford Babcock; Director, Data Processing (1983)  
Wichita State University, B.A.  
Nova University, M.S.

Barbara Bean; Instructor, Nursing (1975)  
University of Delaware, B.S.N.

Lois Bennett; Assistant Math Instructor/Tutor (1989)  
Cornell University, B.S.

Nell Bennett; Director, Personnel Services (1987)  
University of New Mexico, B.A.

Richard Besal, Assistant Flight Instructor, Aviation (1991)  
Cochise College, A.S.  
University of Georgia, B.S.

Murryelle Bothwell; Instructor, Nursing (1989)  
Medical College of Georgia, B.S.N.  
Ball State University, M.A.

Paul Bovee; Instructor, E.S.L. (1982)  
University of Utah, B.A., M.A.

Belinda Burnett; Assistant Flight Instructor (1988)  
Cochise College, Pro-Pilot

Randy Burns; Instructor, Business Administration (1988)  
Central Michigan University, B.A.  
Golden Gate University, M.B.A.

Carol Chamberlain; Instructor, Nursing (1984)  
University of Iowa, B.S.

Faith Collins; Lead Para-Professional (1985)

Callie Conrad; Instructor, English & Reading (1987)  
University of Arizona, B.A., M.A., Bachelor of Architecture

Loren Cooper; Instructor, Motor Transport (1987)

Brian Cox; Instructor, Chemistry/Biology (1984)  
Northern Arizona University, B.S.  
San Diego State University, M.A.

Alfonza Cunningham; Instructor, Business Administration, Prison  
Education Program (1990)  
St. Leo College, B.A.  
Golden Gate University, M.B.A.

Neal Diltz; Director, Prison Education Program (1986)  
University of South Dakota, B.A., B.S.  
South Dakota State University, M.Ed.

Elizabeth Dockrell; Instructor, Nursing (1991)  
Boston University, B.S.  
Grand Canyon University, B.S.N.  
University of Arizona, M.S.

Randall Dorman; Instructor, Mathematics (1987)  
Northern Arizona University, B.S., M.S.

Faye Douglas; Director, Student Development Center,  
Student Services (1974)  
Wheaton College, B.A.  
Eastern New Mexico University, M.A.  
University of Arizona, M.A.

Sharon Douglas; Instructor, Mathematics (1986)  
Eastern Illinois University, B.S., M.A.

Frank Dykstra; Assistant Director, Facilities & Maintenance (1989)  
West Texas State University, B.S.

Debra Ellis; Program Coordinator, Willcox Center (1986)  
Northern Arizona University, B.S.

Emily Fairbank; Program Coordinator, Center for  
Professional Development (1987)  
Cochise College, A.A.S.

Michael Ferranto; Director, Institutional Research (1984)  
University of Maryland, B.A.  
Louisiana Tech. University, M.B.A.

Charles Field; Instructor, Science and Mathematics (1967)  
Cornell University, B.S.  
Purdue University, M. Agr.

John Fortune; Instructor, Building Maintenance (1988)

Sandra Fotinos; Instructor, ESL (1991)  
Wellesley College, A.B.  
Johns Hopkins University, M.A.T.

Ann Frank; Admissions Counselor (1990)  
University of Wisconsin, B.S.

Arnold Fuller; Instructor, Aviation Mechanics (1978)  
Cochise College, A.A., A.A.S., A.S.  
University of Nebraska, B.A.  
University of Arizona, M.T.

Mildred Galliher; Instructor, Science & Math (1970)  
University of Arizona, B.S., M.S.

Edward Gillespie-Duelos; Instructor, Spanish (1987)  
University of Texas, B.A., Ph.D.  
University of Houston, M.A.

Cynthia Gobel; Fund Accountant (1983)  
Moody Bible Institute, Diploma

Albert Gonzales; Instructor, Flight, Aviation (1991)  
Escuela Universita Tecnic, B.S.

Stanley Graf; Instructor, Technology (1973)  
North Dakota State School of Science, A.A.S.  
North Dakota State University, B.S.

Jimmy Gross; Instructor, Computer Science (1984)  
Eastern Kentucky University, B.A.

Nancy Hagen; Coordinator, Science Laboratory (1983)  
Ohio State University B.S.

Katherine Hagstrum; Instructor, English (1990)  
Carlton College, B.A.  
Empire State College, B.S.  
Northwest University, M.A.T.

James Hall; Instructor, Health and Physical Education,  
Athletic Director, Assistant Baseball Coach (1983)  
Cochise College, A.A  
Grand Canyon College, B.S.  
University of Arizona, M.Ed.

Samuel Hargadine, Instructional Microcomputer Manager (1990)  
University of Missouri, B.A.

Randy Harwood; Instructor, Computers (1987)  
California State University, B.A.  
University of Texas, M.S.

Norma Hildebrand; Coordinator, Tutoring (1979)  
Bemidji University, B.S.

Guy Hollis; Instructor, Business Education (1986)  
Morehouse College, B.A.  
American Technical University, M.S.

Patricia Hotchkiss; Librarian (1978)  
Lake Erie College, B.A.  
University of Texas, M.L.S.

Charles Hoyack; Baseball Coach, Director, Intramurals (1988)  
University of Arizona, B.A.  
Northern Arizona University, M.Ed.

Roberta Ibarra; Librarian (1982)  
Western Washington University, B.A.  
University of Washington, M.L.S.

Mary Jane Jarvis; Instructor, Reading (1977)  
Viterbo College, B.S.  
State University of New York, M.S.  
University of Wisconsin, Ed.S.

Myron Jaworsky; Division Chair, Business Administration/  
Technology/Behavioral Sciences (1989)  
Rutgers University, B.A.  
Harvard University, M.A.  
Georgetown University, M.S., C.P.A.

Paula Jones; Instructor, Secretarial Studies (1983)  
U.C.L.A. Los Angeles, A.B.  
Boston University, M.Ed.

Harry Kane; Assistant Director, Financial Aid (1987)  
University of the Pacific, B.A., M.A.

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University of Arizona, B.S., C.P.A.

Joseph Klimes; Instructor, Consumer Repair, Prison  
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City College of Chicago, A.A.

Albert Kogel; Instructor, Humanities and Fine Arts (1977)  
University of Arizona, B.F.A., M.F.A.

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Claudia Dee LaClair; Division Chair, Information Management (1978)  
University of Arizona, B.S., M.Ed., Ph.D.

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Harvey Lee; Coordinator of Public Information (1991)  
Northern State University, B.A.  
University of South Dakota, M.A.

William Lent; Instructor, Career Action Center (1972)  
Delta College, A.A.  
Arizona State University, B.A.

Catherin Lincer; Director, Cochise College Libraries (1974)  
Executive Director, Planning and Advancement  
Colorado State University, B.S.  
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Northern Arizona University, B.S., M.A.

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University of Arizona, B.A., Ed.D.  
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University of Arizona, B.S.

M. David Meeker; Instructor, Humanities and Fine Arts (1975)  
University of Arizona, B.A., M.A.

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Good Samaritan Hospital, R.N.  
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Southern Illinois University, B.S.  
Indiana State University, M.S.

Yolanda Reyes-Rea; Employment Specialist (1988)  
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Troy State, B.S.  
University of Arizona, M.Ed.

Kim Rogalski; Instructor, Mathematics (1988)  
Northern Arizona University, B.S., M.S.

Bill Saathoff; Instructor, Welding (1980)  
Moorhead Technical Institute  
Cochise College, A.A.S., A.A.

Kristi Saathoff; Coordinator of Publications (1983)  
Moorhead Technical Institute

Max Schoenhals; Instructor, Drafting (1984)  
University of Arizona, B.Arch.

Warren Schofield; Instructor, Spanish (1965)  
Arizona State University, B.A., M.A.

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Student Services/Prison Education Program (1989)  
Southeast Missouri State, B.S.

Enid Schwartz; Instructor, Nursing (1983)  
University of Arizona, B.S., M.S.

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Adams State College, B.A., M.A.

Lucy Shaver; Instructor, English (1990)  
Auburn University, B.S., M.A.

Mary Lee Shelden; Instructor, English (1967)  
Phoenix College, A.A.  
Arizona State University, B.S.  
Northern Arizona University, M.A.  
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University of Arizona, B.B.A., M.A.

Barbara Smith; Instructor, CIS/Computer Science (1989)  
Purdue University, B.S., M.S.

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Kansas State University, B.A.  
University of Arizona, M.A., M.Ed.

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University of Maine, B.A.  
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Sarah Stark; Division Chair, Nursing (1981)  
University of Pennsylvania, A.D.  
University of Arizona, B.S.N., M.S., J.D.

Michele Stickney; Fund Accountant (1989)  
Michigan State University, B.A., C.P.A.

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Michigan State University, B.S.  
Ohio State University, M.A., C.P.A.

Kenneth Stoick; Instructor, HPER/Head Basketball Coach (1988)  
Chadron State College, B.S.

Monte Surratt; Instructor, Art (1989)  
University of Arizona, B.F.A., M.F.A.

David Thompson; Instructor, Principles of Technology,  
Prison Education Program (1990)  
Drexel University, B.S.  
University of Houston, B.A.

Eleanor Torrey; Head Resident, Student Life (1986)  
Northern Arizona University, B.S.  
Ellis Troutman; Instructor, Electronics (1979)  
Cochise College, A.A.

Reginald H. Turner; Instructor, Business Skills, Prison  
Education Program (1991)  
University of Nebraska, B.S.  
University of Northern Colorado, M.A.

Anthony Valach; Head Resident/Coordinator of Housing (1990)  
University of Montana, B.S., M.Ed.

Albert Velasco; Director, Facilities and Maintenance (1964)  
Cochise College, A.A.

Thomas Waddoups; Division Chair, Business Ed. & Tech. (1968)  
University of Idaho, B.S.  
Arizona State University, M.S.

Allen Walker; Director, Career Action Center (1975)  
University of Arizona, B.S., M.Ed.

James Ward; Instructor, Business and Computers (1986)  
The Colorado College, B.A.  
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Roger Weller; Division Chair, SMASS/HPER (1974)  
Wayne State University, B.S.  
University of Arizona, M.S.

Ted White; Division Chair, CHUFAL (1976)  
San Diego State University, B.A.  
San Francisco State University, M.A.

Syd Whitehead; Personnel Analyst (1980)

Beth Wilkerson; Instructor, Agriculture/Assistant Rodeo  
Coach (1989)  
Western New Mexico University, B.S.

Richard Wilkinson; Instructor, Health & Physical Ed. (1979)  
Casper College, A.A.  
University of Wyoming, B.S.  
Indiana University, M.S.

Ray Willcox; Director, Financial Aid (1981)  
University of Colorado, B.A.  
Colorado State University, M.Ed.

Dave Woodhouse; Assistant Flight Instructor, Aviation (1990)

Debra Wright; Science Lab Coordinator (1989)  
Northern Arizona University, B.S.

Paul Wyatt; Instructor, Business Machines Repair (1988)

James L. Young; Instructor, Business Education (1973)  
Pueblo Junior College, A.A.  
Western State College, B.A., M.A.  
New Mexico State University, Ed.D.

John Ziegler; Instructor, English (1973)  
Seton Hall University, B.A., M.A.  
University of Connecticut, Ph.D.

# Associate Faculty

braham, Fred (M.B.A.)

deli, Lisa (M.A.)

tkinson, Richard (M.S.)

ustin, Charles (A.A.)

akken, Richard (M.A.)

alzarini, Charles (B.S.)

arela, Amelia, (M.A.)

asinger, Tyler (A.S.)

ates, Norman (M.A.)

echtold, Richard M. (B.A.)

ennett, Lois M. (B.S.)

enson, Clinton (A.A.)

erman, Catherine (B.A.)

ernheim, David (B.S.)

erry, Trudy (B.A.)

esel, Richard (B.S.)

eyer, Ernest

Billingsley, James (A.S)

Bird, Carol Mary (B.A.)

lagg, Ruel T.

Blomquist, William (M.F.A.)

Bordelois, Martha (B.A.)

Borquez, Juan (A.A.)

lowerman, Rand Dee (M.F.A.)

Bransford, Leonard (B.S.)

Brooks, Clifford (B.D.)

Brower, Rocky Gene (A.S.)

Brown, Spencer (M.S.)

Buchanan, Carolyn A. (M.A.)

Bullock, Phillip (B.S.)

Buono, Jayne (M.A.)

Buono, John T. (M.A.)

Burnett, Belinda Ann

Bush, Neil

Capas, Waldema

Carlson, Elaine (M.A.)

Carr, Nancy (M.A.)

Caster, Paul (M.A.)

Center, Thomas (B.A.)

Chavez, Richard

Cicchelli, Thomas R. (B.F.A.)

Clark, Bruce (M.N.S.)

Coder, Norman (B.S.E.)

Coker, Walter H. (M.S.)

Conroy, Cynthia A. (M.A.)

Contapay, Terri (M.A.)

Cooke, Jack

Corke, Peter (M.S.)

Cormier, Ken (B.S.)

Coyner, Judith (M.A.)

Coyner, Thomas (M.A.)

Crane, James M. (B.S.)

Crimond, Richard (B.S.)

Crose, Constance (M.A.)

Crothers, Danny (B.S.)

Dalcy, Christine (B.S.N.)

Dansforth, Edward (M.A.)

Dietz, Chris (M.A.)

Doherty, Yolanda

Drake, John L. (Ph.D.)

Duff, David C. (M.B.A.)

Eaton, Mary (M.A.)

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