

# Cochise College Catalog 87/88



# General Information

## Mission

Cochise College, a comprehensive community college, dedicated to the educational service of all people of Cochise County and citizens of the State, 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 its staff and students to personal and group fulfillment in their educational endeavors. Free communication, as 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 the 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**

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 Association of Junior Colleges, the Council of North Central Junior Colleges and the North Central Association of Colleges and Schools.

#### **Governance**

The College district is controlled 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. It is financed by legislative appropriation and a County-wide tax levy.

#### **Community Services**

Cochise College endeavors to extend 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 College Speakers' Bureau, offering faculty lectures without charge; a program of public events and cultural activities including lectures and forums, art exhibits, film series; a program of non-credit courses and community use of the Charles DiPeso Library.

Other community services include institutes, workshops and lectures to meet special needs of business, industry and the professions; community recreation, campus tours, public information and community participation in the College program through citizens' committees.

#### **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 individuals interested in promoting the goals of the College. A group of 15 men and women serve as officers and directors.

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

The Foundation has devoted some of such money received on a matching basis for construction of a rodeo complex on campus, as seed money for United Student Aid Funds for loans to College students, to Aviation Division for purchase of damaged airplanes from private owners to be rebuilt as part of the laboratory work by Airframe and Powerplant students, on a matching basis for construction of an Archaeology Resource Center, and for many scholarships given each semester.

#### **Advisory Committees**

Occupational curricula leading directly to employment is developed in accordance with the needs of business, industry and the professions. Cochise College has invited a number of leaders in enterprises related to these curricula to advise the College staff on the nature and extent of employment needs, course content, facilities and equipment needed, and the appropriateness of the curriculum content and the quality of the students receiving the degree or certificate.

As additional needs are identified, new advisory committees will be formed to assess the appropriateness of programs to meet these needs.

# The Douglas Campus

The Douglas Campus of Cochise College is situated on the southern portion of a 500-acre site in southeastern Arizona on Highway 80, sixteen 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 district or county 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 complex, in addition to housing classrooms and laboratories for both occupational and arts and sciences programs, includes a student union, dormitory housing for men and women students, apartments for married students, a learning resources center, and a well-equipped physical education facility.

The Douglas Campus offers courses for the first two years of four-year university transfer programs in such areas as communications, humanities and fine arts, science and mathematics, physical education and the social sciences. The campus also provides a variety of occupational programs, such as business education, business management, professional pilot, airframe and powerplant mechanics, nursing education, drafting, electronics, criminal justice, consumer education, and welding technology.

In addition to providing such transfer and occupational programs, the College has initiated a number of programs and services geared to special student needs such as intensive language programs in English and Spanish, a tutorial services center, an archaeological resources center, a career guidance center, and a cooperative education program that allows students to enter individual work-study programs.

The Student Affairs staff provides personal, academic, veterans, and career counseling; diagnostic and vocational interest testing; financial aids advisement and job placement. 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 guides and program guides.

The College also offers a varied student activities program, encouraging participation in student government, campus clubs and organizations, musical and dramatic presentations, the student newspaper and literary magazine and attendance at social and cultural events. Students also participate in intramural sports through the year, and student athletes compete intercollegiately in rodeo, baseball, volleyball, and men's and women's basketball.

## Charles Di Peso Library

The Charles Di Peso Library, one of the most modern learning resources centers in the Southwest, was planned to meet the curricular needs of students and to provide 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, a lecture-exhibit room, a public access computer lab and an audio-visual department. This attractive facility is open:

7:30 a.m. to 9:00 p.m. Monday through Thursday  
7:30 to 4:30 p.m. Friday  
10:00 a.m. to 2:00 p.m. on posted Saturdays.

# The Sierra Vista Campus

Provost — Dr. Phil Tullar  
901 N. Colombo, Sierra Vista, AZ 85635  
458-7110

The Sierra Vista Campus was developed to meet the community needs of the greater Sierra Vista-Fort Huachuca area. It is located north of Charleston Road at the eastern edge of Sierra Vista, approximately one mile northeast of the junction of state highways 90 and 92.

Approximately 3000 students participate in a full schedule of day and nighttime classes conducted in 12 different 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 college programs at the Sierra Vista Campus.

Administration of Justice	Fire Science
Anthropology	History
Art	Journalism
Banking	Liberal Arts
Business Education	Machine Technology
Business Administration	Pre-Law
Computer Information	Psychology
Drafting	Spanish
Executive Secretary	Social Science
Electronics	Welding
English	

Classes are also offered at Buena High School in Sierra Vista, at the Army Education Center and Smith Middle School at Fort Huachuca and other locations in the area as necessary to accommodate students and programs.

## University Transfer

Cochise College is nationally accredited and many courses are designed to transfer to four-year baccalaureate programs. Students interested in taking courses for transfer are advised to work closely with a college counselor.

## 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-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

Full-time counselors are available at both the Sierra Vista Campus and the Army Education Center to provide counseling services, testing, educational advisement and financial aid information. In addition to pursuing programs listed in the college catalog, students may enter into a contract for degree with the college, thus ensuring that all degree requirements are understood. Students are urged to take advantage of these services.

The college encourages participation in extra-curricular activities, campus organizations, and cultural events to promote leadership, student relationships and social development.

A bookstore, student lounge and snack facility 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 military members:

1. Advising, counseling and testing;
2. Granting of credit for appropriate educational 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-enter college has been developed. A counselor will work with women to facilitate an easy transition into the educational environment. Various support groups are available to respond to needs of re-entry women.

## **Career Center**

A campus career 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

A career job placement service is available for students who wish to prepare to enter the world of work. Assistance in developing resumes, job contacts and interviewing skills is available.

Andrea Cracchiolo Library

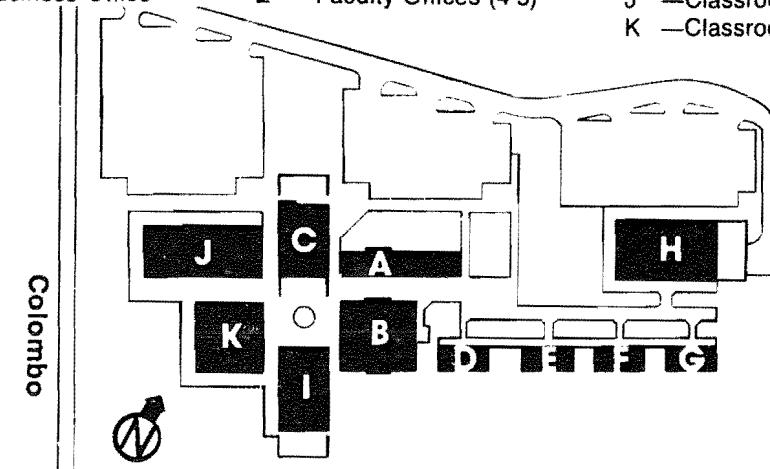
The Andrea Cracchiolo Library houses over 13,000 volumes, 120 periodical and newspaper subscriptions, and 1,000 audio-visual titles. The 6,000 square-foot building provides open-stack reading and reference rooms, seminar and study rooms, and typing, microfilm and computer carrels. Students may check out typewriters, calculators, tape recorders and computers for use in the library. Other materials, both print and non-print, are available from the Charles Di Peso Library and on interlibrary loans from the University of Arizona.

## Faculty — Sierra Vista

A growing complement of full-time faculty teach at the Sierra Vista Campus. In addition, well-qualified associate faculty from the community teach on a part-time basis.

COCHISE COLLEGE/SIERRA VISTA

A —Classrooms (300)      D —Office Building (8-9)  
B —Laboratories (400)      Vice PresidentProvost  
C —Student Union (600)  
    Student Services      Division Chairs  
    Business Office      Administration  
E —Faculty Offices (4-5)      F —Business Lab (6-7)  
G —Classrooms (1-2-3)      H —Technology Building (100)  
I —Library (500)      J —Classrooms (700)  
K —Classrooms (800)



## Women's Re-entry Program

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

## Career Center

A campus career 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

A career job placement service is available for students who wish to prepare to enter the world of work. Assistance in developing resumes, job contacts and interviewing skills is available.

## Andrea Cracchiolo Library

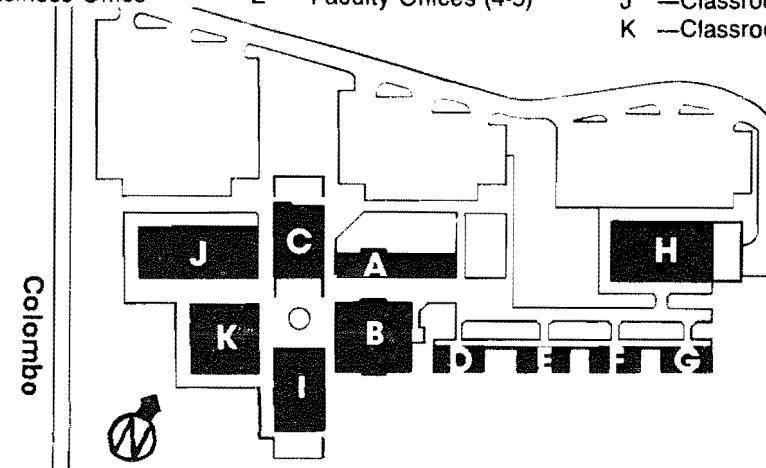
The Andrea Cracchiolo Library houses over 13,000 volumes, 120 periodical and newspaper subscriptions, and 1,000 audio-visual titles. The 6,000 square-foot building provides open-stack reading and reference rooms, seminar and study rooms, and typing, microfilm and computer carrels. Students may check out typewriters, calculators, tape recorders and computers for use in the library. Other materials, both print and non-print, are available from the Charles Di Peso Library and on interlibrary loans from the University of Arizona.

## Faculty — Sierra Vista

A growing complement of full-time faculty teach at the Sierra Vista Campus. In addition, well-qualified associate faculty from the community teach on a part-time basis.

## COCHISE COLLEGE/SIERRA VISTA

A —Classrooms (300)	D —Office Building (8-9)	F —Business Lab (6-7)
B —Laboratories (400)	Vice PresidentProvost	G —Classrooms (1-2-3)
C —Student Union (600)	Division Chairs	H —Technology Building (100)
Student Services	Administration	I —Library (500)
Business Office	E —Faculty Offices (4-5)	J —Classrooms (700)
		K —Classrooms (800)



# The Community Campus

## Community Campus Division

Since the mid 1960's, Cochise College has offered College courses and programs to Cochise County communities through Continuing Education. The Community Campus operates in cooperation and with the support of public school boards, businesses, city, county and state agencies throughout the county. The Community Campus serves those in the county who would otherwise be unable to attend college courses on established campuses.

Courses taught in the Community Campus have the same content as those taught at the other Cochise College campuses — the same course outlines, the same textbooks and requirements. Courses are taught by both full-time College faculty and associate faculty from businesses, industry and the public schools. All faculty are certified to teach by the College and by the Arizona Community College Board. Courses offered by the Community Campus are selected from community requests and needs. The result is a wide variety of courses scheduled to meet local needs and desire.

Classes requiring no special equipment may be offered at any location where there are a sufficient number of students and a qualified instructor. Where special equipment is required to support the educational objective, such as tools and laboratory apparatus, the College coordinates with local schools or businesses to provide the desired educational experience. General, vocational and university transfer courses permit the part-time student to complete a Cochise College degree over a period of time or to take courses for personal enrichment and growth.

Students range from qualified high school students desiring a head start on university courses to mature adults who want to broaden their horizons for a fuller

life through life-long learning opportunities. The challenge of learning together permits a better understanding of neighbors, friends and individual self-realization.

The objective of the Community Campus is to provide citizens of Cochise County an opportunity to continue life-long learning through Cochise College courses offered at convenient locations. Suggestions for initiating or improving local Continuing Education programs are always welcomed.

## Community Campus Coordinators

College representatives, called Coordinators, are located throughout the County, providing local contacts and services to Community Campus students.

Coordinators assist with the planning and scheduling of courses, registrations, book sales, student, faculty, and class room support, special training contracts and programs, and administrative liaison. Coordinators are located in Benson, Bisbee, Douglas, Sierra Vista and Willcox.

## Community Services

Community Campus provides educational services to the county as a community. Community Services include educational, cultural and recreational opportunities beyond the formal classroom atmosphere. These opportunities include public and sports events, forums, art exhibits and community use of the learning resources of the Charles Di Peso and the Andrea Cracchiolo libraries.

## Non-Credit Classes

Non-credit classes covering a variety of subjects are offered to the public. Weekend and evening seminars, ranging from local history and culture, arts and crafts such as weaving, silversmithing and gourmet cooking, parenting, reading clinics, word processing and computer workshops, health and physical fitness, personal growth and enrichment, films and lectures, are provided for general participation.

## COCHISE COLLEGE CALENDAR 1987-88

### Summer Semester

Independence Day Holiday, Observed July 3

### Fall Semester

Faculty return	August 17
Fall registration	August 17-24
Classes begin	August 24
Sierra Vista Friday-Saturday classes begin	August 28-29
Last day for adding classes	September 4
Labor Day Holiday	September 7
Graduation filing deadline (Dec. graduates)	October 2
FTSE count date	October 7
Columbus Day holiday	October 12
Mid-semester exams	October 12-16
Last day to drop classes without academic penalty	October 23
Veterans Day Holiday	November 11
Thanksgiving recess	November 26-27
Class sessions end	December 11
Final exams	December 14-16
Christmas recess (all faculty and staff )	December 19
	January 3

### Spring Semester

Staff on 12 month contract return	January 4
Faculty and staff on nine month contract return	January 4
Spring registration	January 4-8
Classes begin	January 11
Sierra Vista Friday-Saturday classes begin	January 15-16
Martin Luther King Holiday	January 18
Last day for adding classes	January 22
Graduation filing date (May graduates)	February 12
President's Day Holiday	February 15
FTSE Count date	February 24
Mid-semester exams	March 7-11
Last day to drop classes without academic penalty	March 11
Spring recess	March 14-18
Annual Awards Ceremony	May 3
Class sessions end	May 6
Final examinations	May 9-11
Commencement	May 12
Memorial Day Holiday	May 30

### Summer Session

1988 — 1st session May 31 - July 1  
2nd session July 5 - August 5

### Professional Pilot Technology

1987 — July 27 - December 18  
1988 — January 11 - June 10

### English Immersion & Spanish Immersion

1988 — June 20 - August 5

### Airframe-Powerplant Technology

1987 — July 27 - September 24  
September 28 - December 17  
1988 — January 11 - March 31  
April 4 - June 23

# Admissions

## Policy

Prospective students are encouraged to visit the campus and discuss their educational objectives with the Student Affairs staff. The Office of Admissions, in the Division of Student Affairs on the west side of the Douglas campus, is open throughout the year, Monday through Friday, 8:00 a.m. to 4:30 p.m. An appointment is preferable though not required.

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

Contact the Admissions Office for further information.

## Procedure

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

### 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 Classified Full-Time students and those Classified as Part-Time students attending the Douglas campus. 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 requested of all applicants who have graduated from high school within the last five years. 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 Office of Admissions. 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 Office of Admissions. 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.

Professional Pilot students are required to have a class I or II physical examination by an FAA-approved physician. Special FAA medical forms will be supplied and used by the physician. Nursing applicants must complete a physical examination determined by the College Nursing Program.

College entrance examinations, such as ACT or SAT, are not required for admission. However, the College does administer the ACT on national 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 insures 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 readmission, 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**

Since success in college depends upon placement in courses best suited to one's educational experience, free placement information is useful in planning your academic program. Basic skills in mathematics, reading comprehension and composition must be met prior to enrolling in many courses.

All full-time students must take placement tests in reading, English and mathematics when they register the first time. Part-time students who take English and math will take placement tests prior to registration for classes in those subjects. Students whose scores fall below the designated cut-off will register for appropriate courses in basic skills. 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.

### **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 applicants than can be accepted. When this occurs, a point system will be 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 is also 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 Airframe and Powerplant or the Professional Pilot Program should contact the Admissions 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. Upon receipt of a letter of admission, applicants for these programs must remit their program deposit to the Office of Admissions.

### **Aviation Program Deposits**

Students accepted to these programs are required to submit non-refundable program deposits well in advance of program start dates:

Professional Pilot	\$90
Airframe-Powerplant 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 a 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 16 years of age at the time of registration for classes. All full-time international students must have a certificate of graduation from 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
5. High School Transcripts
6. College Transcripts (if applicable)
7. Statement of Financial Guarantee

International students should note that 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 may participate in special educational programs at Cochise College according to procedures developed by the Vice President for Student Affairs. Please contact the Admissions Office for specific procedures for Special Student Admissions.

### **Re-admission**

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

### **Counseling and Advising**

Counselors are available to assist students in planning their educational program and in their general growth and adjustments to college life. Career choice and related course sequence are of particular concern. Careful attention is offered to students so that they may implement a program of their choice.

An educational planning interview is available to the individual student before enrolling in the College and during each succeeding semester. Through preparation and experience, counselors are able to offer guidance and counseling services which include a carefully coordinated curriculum, advantageous registration procedures, advice on adjustments to college and assistance in solution of many other personal problems.

Students are assigned an advisor according to their major interest. Advisor assists a student in preparing a program of study and advise on transfer and employment requirements.

### **Program Plan**

In order to assure that students meet graduation or certificate requirements and to assure maximum transferability of courses, the faculty advisor and the student work out a Program Plan. The program plan will be developed by the student and the advisor according to the degree and major the student has chosen. If a student plans to transfer to a senior institution and is not ready to declare a major, the student will follow the general Associate of Science or Associate of Arts degree plan.

### **Testing**

Although educational and vocational testing do not alone determine a student's skill level or interest, testing is useful in helping the student explore educational and vocational choices as well as helping the student gain personal insight into individual strengths and abilities. To supplement the group and individual counseling, Cochise College has a testing program in the areas of academic ability, aptitude, achievement, skill, interest, and personality. Special testing is required for Nursing

applicants and for those students whose first language is not English. Students interested in testing should see a counselor in the Division of Student Affairs.

### **Career Information Services**

Cochise College has developed an extensive career information system. This includes broad coverage of colleges and universities (both state and national) to which a student may transfer. The service also encompasses military, vocational and trade schools. The information includes entrance requirements, majors offered, courses offered, expenses, and general information about the institutions.

The main body of this service consists of job descriptions and related information for more than 30,000 occupations. Included are descriptions of work performed, working conditions, training requirements, personal qualifications, method of entry, employment outlook, earnings, social, and psychological factors and references for further information. The service provides a variety of aptitude-interest tests to assist a student in selecting a career compatible to his or her interests and skills. Information on Arizona employment trends and employer preferences in selecting graduates is also available.

### **Placement**

The Office of Career Placement in the Division of Student Affairs will assist graduates in making contacts and arranging for interviews with prospective employers in respective fields of specialization. A counselor will assist students in making application for admission to a four-year college or university if the student is about to complete a transfer program.

### **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 IN HIGH SCHOOL DISTRICTS NOT MAINTAINING A COMMUNITY COLLEGE:** Students who reside in a county which does not maintain a community college are eligible to attend Cochise College. Students from such areas must complete a residence statement prior to registration. Their out-of-county tuition will be paid by the county of residence.

**RESIDENCE IN DISTRICTS MAINTAINING A COMMUNITY COLLEGE:** Students who are residents of districts maintaining a community college are not charged out-of-county tuition.

**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 students are subject to payment of out-of-state tuition as set forth in this catalog. A tuition agreement exists between Cochise College and Western New Mexico State 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 president of each community college or his delegated authority.

Appeal of interpretation or judgments rendered by the college administration shall be handled through appeal channels as established by the District Governing Board. 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 Marines 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 intersession 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.

**Full-time student** is one who registers for at least twelve (12) semester hours per semester.

**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 not 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 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 meets one of the following requirements:

1. His parent's domicile is in this state, and his parent is entitled to claim him as an exemption for state and federal tax purposes.
2. He is an employee of an employer which transferred him to this state for employment purposes or he is the spouse of such employee.

The domicile of an unemancipated person is that of such person's parent.

Any unemancipated person who remains in this state when such person's parent, who had been domiciled in this state removes from his 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.

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.

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.

#### 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 insure uniform criteria to aid the institutions in determining the tuition status of any student and that will establish uniform 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. Date Arizona driver's license was issued.
5. Place of graduation from high school.
6. Bank Statement (checking or savings) from an Arizona Banking institution.
7. Source of support.
8. Dependency as indicated on federal income tax declaration (for dependents).

### In-county

A domicile affidavit must be filed with the Registrar's Office verifying domicile to prove continuous residency in Cochise County for fifty (50) days.

At least two (2) of the following items shall be used to establish proof of county residency:

1. Notarized statements of landlord and/or employer.
2. Current registration as a voter in the county.
3. Source of support.
4. Place of graduation of high school.
5. Dependency as indicated on federal income tax return (for dependants)

## Intellectually Gifted Student Admission

As provided in A.R.S. Section 15-1821, and Senate Bill 1124, Article 2, Cochise College will admit intellectually gifted students under the age of 18. The student, to benefit from this opportunity, must observe the following procedures:

The student will submit supporting documentation that identifies him/her as an intellectually gifted student 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 90th 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 Intellectually Gifted Student application form to the Cochise College Admission's Office. These forms are

available at the Student Affairs Office on the Douglas Campus and at Student Services/Administration on the Sierra Vista Campus.

The Student must submit all requested documentation to the Douglas Campus Admission's 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 Admission's Committee will meet and review all materials and make a recommendation to the Director of Admissions. After the Committee's recommendation, the Director of Admissions will make a ruling and and notify the student of the decision.

Additional restrictions also apply. For more information, contact the Admission's Office at the Douglas Campus (Phone 1-800-537-7564).

## Tuition and Fees

### PAYMENT OF FEE SCHEDULE

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

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

### Miscellaneous Fees

Late Registration	\$ 5
Late Payment of Fees	\$ 5
Credit by Examination (per semester hour)	\$ 8
CLEP General and Subject Examination per test	\$30
Transcript fee - Official	\$ 2
Unofficial	\$.50
Returned check fee (for each returned)	\$10
Nursing Insurance (subject to change)	\$12
Replacement of ID card or meal card	\$1.25
Drop-Add Courses	\$ 3

### Deposits

Housing	\$ 50*
Apartment	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 tuition and/or fees.	

### STUDENT PRICE SCHEDULE FOR 1987-1988\*

#### I. Tuition - Regular and Professional Pilot

In-State	\$17 per unit
Out-of-State 1-6 units	\$23 per unit
7 or more units	\$98 per unit (retroactive to 1 unit)
Summer School	\$22 per unit

#### II. Tuition - Airframe & Powerplant

	In-State	Out-of-State
Phase I = 18 units	\$306 (\$17 per unit)	\$1,764 (\$98 per unit)
Phase II, III, IV, V = 17 units	\$289	\$1,666
Lab Fee: Phase I, II, V	\$150	
Lab Fee: Phase II, IV	\$125	

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

##### A. Regular Student - 17 Weeks

	Semester	Week	Daily	
*Room	\$347	\$20.40	\$2.90	\$128.00 sem.
*Board	\$672	\$39.50	\$5.65	\$ 7.53 week
Apartment	\$195 per month			

##### B. Professional Pilot - 21 Weeks

	Semester	Private Room Add'l
*Room	\$429	\$158.00 Sem
*Board	\$830	\$ 7.53 week
Apartment	\$195 per month	

### C. Airframe & Powerplant - 12 Weeks

	Semester	Private Room Add'l
*Room	\$245	\$90.00 sem
*Board	\$475	\$ 7.53 week
Apartment	\$195 per month	

\*Room and Board are a package deal. A student who lives in the dorms must participate in the board program. There will be no exceptions.

All fees are payable through pre-registration billing or on registration days as the final step in the registration procedure. Do not send checks in advance. Cochise College accepts checks for the amount due at the time of registration only and cannot advance cash on checks.

Installment payments can be accepted only for room and board. Prior approval by Business Office or designated person are required. One-half of room and board is due at registration balance of room and board is due in six 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.

The registration will not be completed if a check is returned unpaid by the bank, and a \$10 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 students are required to clear any indebtedness to the college before degree requirements can be officially certified, or diploma, grades, and transcripts be released.

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.

Deferred payments will be assessed a \$5 deferred payment fee.

Residents of Apache, Coconino, Gila, Santa Cruz and

Greenlee counties must file an out-of-county residence affidavit. Forms are available at the Office of Admissions.

### Graduation Fee

Every candidate for an Associate degree is required to pay a diploma fee of \$8. Those completing certificate programs are not required to pay the fee. The graduation fee is to be paid when the student registers for his final semester.

### Flight Training Fees

Please consult the Aviation Division for current flight fees. All flight fees are subject to change without individual notice.

### Laboratory Fees

Lab fees are charged for those classes requiring unusual equipment, facilities, etc. Lab fees range from \$2 to \$100 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.

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 resident hall must participate in the board program. There are no exceptions.

Please contact the Student Affairs Office for dormitory and apartment availability.

\*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 Fall and Spring 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 two weeks after the close 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**

Students withdrawing from college or residence halls 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 of Student Affairs.

### **Apartment and Room Deposits**

Apartment and/or room deposits will be refunded according to the conditions of the Residence Hall Contract and the conditions of the Apartment Housing Contract after the apartment or room is vacated less any amounts due to the college for damages or other charges.

### **Flight Fees**

Unused flight fees will be refunded in full.

**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.

## **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 by local lending institutions, including banks credit union, 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 or from local lenders.

### **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 or off-campus placement.

Various departments on campus employ students in workstudy 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, student's 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 Cooperative Education Department.

### **Scholarships**

Academic scholarships are offered on the basis of financial need, gradepoint average, leadership qualities, and community service.

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 applicant will be considered for all of the scholarships available.

Students should also contact their individual departments regarding funds which may be available through those sources.

All students are encouraged to apply for financial aid, regardless of their parents' 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, temporary loans, or other programs.

Therefore, please feel free to contact the Office of Financial Aid for further information.

# Student Life

## 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.

## Health Services

The College offers a well-equipped campus health center 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 are also located in this building.

The 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 500. Resident students are offered a well-balanced menu as well as seasonal buffets, specials, and other unique monotony-breakers designed to create a second home atmosphere in the Student Union.

## Student Activities

The College encourages participation in extra-curricular 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 Day, 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, rock concerts, lectures, picnics, weekend trips, Popular Film Series, happening, Winterfest.

## Food Service Committee

The Food Service Committee is comprised of student, faculty and food service representatives who endeavor to produce the best in food quality, service and sanitation.

## Organizations

Student organizations attempt to meet all 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: Alph Eta Rho (Aviation), Cheerleaders, Apache (newspaper), International Club, Phi Beta Lambda (business, office and business teacher education), Residence Hall Councils, Rodeo Club, Newman Club and Aviation Maintenance Specialists.

## Athletics

Cochise College competes with other community colleges in conference basketball, women's volleyball and 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, which includes Arizona and portions of Nevada and New Mexico.

## **Student Publications**

*The Apache* is the official student newspaper of the College. It is published several times during the academic year. *The Mirage*, a student literary magazine, is published once during the spring semester.

## **Student Housing**

Campus housing is available in Huachuca Hall for men and Chiricahua Hall for women. All single students are advised to live on campus if they are not commuting from the home of their parents, legal guardian or relative. A limited number of studio apartments for married students are also available. A room deposit is required of all applicants who desire campus housing. This deposit is refundable, (subject to stipulations in the Residence Hall/Family Housing Contract) when the student leaves the college.

Residence hall students are required to participate in the college food service board plan and must sign a Residence Hall Contract. If students are under 18, a parent or guardian must also sign. Three meals are served each day except Saturday and Sunday, when only two meals are served each day.

Housing applicants must submit a room deposit with their housing contract and be formally admitted to the College before a room assignment may be made.

Adjustments in room rates are not made in periods of over-assignment and the College may reassign rooms from time to time to insure the general welfare of students and the economical operation of residence halls.

Cochise College assumes no responsibility for the loss, theft, or damage to the personal effects of resident students. In addition, the College reserves the right to:

deny or cancel room assignments in the interest of health, discipline, or academic standards.

cancel housing applications when all residence hall rooms have been assigned to earlier applicants.

hold residence hall students financially responsible for all losses and damage in assigned rooms.

Huachuca and Chiricahua Halls will be closed through Thanksgiving, Christmas, semester break and spring recess. All students will be expected to leave unless special arrangements are made in advance of the holiday period. Those enrolled in the aviation programs will be expected to leave when their classes terminate or for any of the breaks listed above.

## **Apartment Housing**

The College maintains an apartment housing complex for married students. Each apartment is completely furnished and includes wall-to-wall carpeting, individual room air conditioning and heating controls, electric stove, garbage disposal, telephone, and television connections. Additional available services include laundry facilities and trash pickup.

## **Housing Admission**

Students who are interested in residence hall living or married student apartments may write or call the Housing office, Cochise College, Douglas, Arizona 85607. (602-364-7943).

## **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 and/or monetary fines, as imposed by the Administrative Social Standards Committee or the Vice President of Student Affairs.

In all case 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.

# Academic Regulations

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

## 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.

## 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 or the ninth week, or that he 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 serious illness, the student failed to complete all requirements for the course. 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 Registrar's Office stating otherwise. The grade of I is not computed in the student's grade point average.

**AUDIT (AU)** — 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 computer 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 of phase at Cochise College and maintains a semester of phase at Cochise College and maintains a semester and cumulative GPA of 3.900 or better will be placed on High Honors Standing.

Any student who completes 12 or more units in one semester of phase at Cochise College and maintains a semester and cumulative GPA of 3.900 or better will be placed on High Honors 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 fifteen 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 Airframe and Powerplant, 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**

Students who have attempted nine or more units at Cochise College and maintain a semester and a cumulative grade point average of 1.999 or lower will be placed on Academic Probation. A student will be returned to academic good standing after his cumulative grade point average is 2.000 or better.

### **Academic Suspension or Dismissal**

A student who has attempted nine or more units may be placed on academic probation for one semester if his or her cumulative grade point average falls below 1.6 at the end of any semester.

A student attempting nine or more units while on Academic Probation may be academically suspended if his or her cumulative grade point average falls below 1.6 at the end of any semester.

All available factors having a bearing upon the academic record of the student will be evaluated before academic suspension.

Exceptions may be made when evidence of significant academic improvement is made by the student during his or her period of academic probation. The student must continue to show improvement to remain on probationary status.

### **Credit for Transfer Students**

Students who have attended other colleges and universities must have copies of their academic records sent to the Registrar's Office.

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 courses for previous earned certificates and ratings if they complete at least one flight course resulting in a certificate or rating.
5. Grade point average 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 number 100 or above, in which a department approved comprehensive examination is the primary evaluative device, and 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 only by full-time faculty.

The student may apply for credit by examination by obtaining an application from the Division of Student Affairs, 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 the General examinations (610 or above in English Composition) 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 sixteen 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 (3)
- College Algebra — Trigonometry (5)

- Computers and Data Processing (3)
- Education: 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.

#### **USAFI/Dantes and Military Schools**

Cochise College follows the credit recommendation of the American Council on Education for Military Service Schools. Credit for USAFI/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 USAFI/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 USAFI/DANTES or Military Service courses. Credit earned on any of these may not be used toward the fifteen resident hours required for an AA, AS, or AAS degree. A maximum of 30 units will be allowed for credit for nontraditional learning experiences.

### **Independent Study**

Cochise College recognizes 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 VPI7). 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 within the semester in which study begins. Independent study may only take place 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 Registrar. Independent studies are subject to the Drop-Add Policy and to all tuition, registration and laboratory fees. Contracts are subject to the same grading stipulations and other procedures as set forth by the Office of the Registrar.

### **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 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
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

### **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 forty-fifth calendar day after college classes have begun, such withdrawal will not appear on the student's record. Withdrawals occurring between the forty-fifth 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 registrar. Students having officially registered for classes prior to Friday of the second week of a class may add classes, subject to unit load limitations and permission of the receiving instructor, through Friday of the fourth week of classes. 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.

#### **Add**

1. All Drop/Add forms will originate in the Student in the Student Affairs Office.
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 Cashier's Office.

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 on the roster who have not been attending class by assigning a grade of W and drop date. There will be no refunds to students for a drop made by the instructor. The student must turn in a drop slip into the cashier in order to receive a refund.
2. 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 a College withdrawal form from the Division of Student Affairs. Upon obtaining the appropriate

signatures, the form is returned to the Division of Student Affairs.

Failure to officially withdraw may jeopardize the receipt of any refunds 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 Registrar's 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 - \$.50 each; all official transcripts - \$2 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 counselor.
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 Registrar's 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 Collegesponsored trips.

#### **Veterans 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 second associate degrees at Cochise College must complete no fewer than one quarter (25Q) of the 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 16 units must be taken in residence at Cochise College. Sixty-four units are required for the AA,AS, 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 EN 101 with a C or better;  
Math - 6 units at any level or 3 units MA 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 Division of Student Affairs. Applications will be available at registration, or in the bookstore at either campus.

Applications must be filed by October 5 for fall graduation and by February 19 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 degree. Diplomas are ordered as marked on application.

# Degrees and Programs

## Academic Standards

Cochise College is committed to maintain and encouraging the highest academic standards thereby enabling students to transfer to colleges and universities throughout the nation and to successfully enter the world of work.

## University Parallel Programs

Cochise College offers the first two years of a four-year program for the 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 Learning Resources Center and the Division of Student Affairs. 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 to 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 upper division major.
4. Earn a cumulative grade point average of 2.0 or better.

Under the provisions of the ROTC Vitalization Act of 1964, community college men and women are now

eligible to immediately enter the Advance 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 Affairs.

### **Occupational Programs**

Occupational programs at Cochise College are designed for the student who wishes to gain employment skills. Each occupational program has been developed with the aid of business and industrial advisory committees to insure the student of quality instruction and to enhance his opportunities for successful employment.

Upon completion of curriculum requirements, the student will receive an Associate of Applied Science Degree or Certificate of Completion. The Office of Career Placement will assist graduates in finding permanent full-time positions in fields of specialization.

Several four-year technical programs are offered at Arizona State University and Northern Arizona University. A large number of occupational programs at Cochise College will transfer to many of these university programs. For further information on specific transfer options consult a counselor, the Office of Career Placement, or the appropriate faculty advisor.

In addition to the established occupational programs listed above, the College will offer a variety of short-term, non-credit courses upon request of business, industry, or other interested groups. Several one-year certificate programs are also offered.

### **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 are also 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 or Associate of Applied Science degree requirements. A maximum of 12 units of 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 the employer, the student and the College to provide parttime (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 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 the various programs offered at Cochise College.

### **Spanish Immersion Programs**

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 sixteen-week semester students attend classes, work with conversants and participate in language laboratory activities five hours daily each week. Students receive sixteen units of transferable credit upon successful completion of the program, equivalent to the first two years of college Spanish.

A seven-week summer Spanish Immersion 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 for regular college courses. 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 audiovisual materials, field trips, cultural activities, sports, International Club and a host family program.

## Degrees and Certificates

Cochise College offers the Associate of Science, Associate in General Studies, and 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	3
(or MA 120 above)	
Lab Science	8
Social Science	9-12
Physical Education	2
Major Emphasis or Electives	20-13
Foreign Language** (Second semester proficiency)	8
<b>TOTAL</b>	<b>64</b>

### Associate of Science Degree

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

\* Foreign students may substitute EN 107 and EN 108 for EN 101 and EN 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 of science, mathematics and foreign language 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	Credit Hours
English 101	3
Other 100 level English Course (or Speech 102)	3
Humanities/Fine Arts	6-8
Science	4-8
Mathematics (any level) (or 3 units of MA 120 or above)	6
Social Science	6-9
Physical Education	2
Electives**	34-25
<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 awarded to students who meet requirements as specified for various vocational and technical majors. Strong emphasis is placed on technical coursework as dictated by the requirements of business and industry.

A minimum of 60 credit hours of prescribed coursework is required. The appropriate program curriculum guide should be considered for specific requirements.

# 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

Degree	Degree			Transferable Elective
	AA	AS	AGS	
<b>Mathematics Requirement</b>				
MAT010 Fundamental Mathematics			X	
MAT020 Elementary Algebra			X	
MAT110 Intermediate Algebra			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
OED104 Business Mathematics			X	
BUS219 Business Statistics			X	X
BUS220 Business Statistics			X	X
ELT110 Mathematics for Electronics			X	
ELT120 Advanced Mathematics for Electronics			X	X
GTC100 Technical Mathematics			X	X
GTC101 Technical Mathematics			X	X

Degree				Transferable Elective
AA	AS	AGS	Transferable Elective	
<b>Laboratory Science Requirement</b>				
BIO101 General Biology			X	X X X X
BIO102 General Biology			X	X X X X
BIO181 General Botany			X	X X X X
BIO182 General Zoology			X	X X X X
BIO183 General Zoology			X	X X X X
BIO201 Human Anatomy & Physiology			X	X X X X
BIO202 Human Anatomy & Physiology			X	X X X X
BIO203 Microbiology			X	X X X X
BIO282 Ecology			X	X X X X
CHM101 Introduction to Chemistry				X X
CHM110 Essentials of Chemistry				X X
CHM121 General Chemistry			X	X X X X
CHM122 General Chemistry			X	X X X X
CHM230 Analytical Chemistry			X	X X X X
CHM240 Organic Chemistry			X	X X X X
CHM241 Organic Chemistry			X	X X X X
ANT136 Archaeological Excavation				X X
ANT137 Archaeological Excavation				X X
EVS111 Wildland Ecology				X X
PHY101 Introduction to Physics				X X
PHY111 General Physics			X	X X X X
PHY112 General Physics			X	X X X X
PHY230 General Physics with Calculus			X	X X X X
PHY231 General Physics with Calculus			X	X X X X
GLG121 Physical Geology			X	X X X X
GLG122 Historical Geology			X	X X X X

<b>Social Science Requirement</b>	<b>Degree</b>				<b>Transferable Elective</b>	<b>Degree</b>	<b>Transferable Elective</b>			
	<b>AA</b>	<b>AS</b>	<b>AGS</b>				<b>AA</b>	<b>AS</b>	<b>AGS</b>	
ANT101 The Origin and Antiquity of Man	X	X	X	X		POS220/ National and Arizona				
ANT102 Development of Culture	X	X	X	X		POS2211 Constitution	X	X	X	X
ANT125 Society and Culture	X	X	X	X		POS230 Introduction to International Relations	X	X	X	X
ANT135 Introduction to Archaeology	X	X	X	X		PSY101 Introduction to Psychology	X	X	X	X
ANT136 Archaeological Excavation	X	X	X	X		PSY210 Social Psychology	X	X	X	X
ANT137 Archaeological Excavation			X	X		PSY230 Personality Theories & Research	X	X	X	X
ANT165 Prehistoric Cultures of North America	X	X	X	X		PSY240 Developmental Psychology	X	X	X	X
ANT186 Historic Indian Tribes of North America	X	X	X	X		PSY250 Introduction to Psychological Research	X	X	X	X
ANT226 Non-Literate Societies of the World	X	X	X	X		PSY290 Experimental Psychology	X	X	X	X
CPD103 Personality and Adjustment				X	X	SOC101 Introduction to Sociology	X	X	X	X
CPD105 The Challenge of Parenting				X		SOC160 Ethnic Group & Minorities	X	X	X	X
CPD121 Career and Life Planning				X	X	SOC202 Social Problems	X	X	X	X
ECN201 Principles of Economics	X	X	X	X		SOC210 Marriage and the Family				X
ECN202 Principles of Economics	X	X	X	X						
GEO101 Physical Geography				X	X					
GEO102 Cultural Geography	X	X	X	X						
GEO104 Political Geography				X	X					
GEO105 Economic Geography	X	X	X	X						
HIS110 History of the United States	X	X	X	X						
HIS111 History of the United States	X	X	X	X						
HIS115 Survey of the American West				X	X					
HIS126 Afro-American History				X	X					
HIS127 Afro-American History				X	X					
HIS130 Arizona History				X	X					
HIS140 Survey of Western Civilization	X	X	X	X						
HIS141 Survey of Western Civilization	X	X	X	X						
HIS160 Introduction to the History of the Soviet Union				X	X					
HIS229 History of Mexico				X	X					
HIS230 History of Mexico				X	X					
POS120 American National Government	X	X	X	X		THE101 Acting				
						THE102 Acting				
						THE103 Introduction to Theater	X	X	X	X
						THE104 Principles and Techniques of Play Production				X

Degree				Transferable	Elective	Degree				Transferable	Elective
AA	AS	AGS				AA	AS	AGS			
THE105	Theater Dance			X	X	SPA275	Intermediate Composition & Conversation				X
THE110	Theater Workshop			X	X	SPA276	Intermediate Composition & Conversation				X
ENG104	Introduction to Literature	X	X	X	X	SPA304	Introduction to Spanish Literature				X
ENG220	British Literature I	X	X	X	X	SPA305	Introduction to Spanish Literature				X
ENG221	British Literature II	X	X	X	X	SPA307/	Introduction to Mexican Literature				X
ENG222	Introduction to Shakespeare	X	X	X	X	SPA308	Literature				X
ENG224	American Literature I	X	X	X	X	SPA299	Independent Studies				X
ENG225	American Literature I	X	X	X	X	<b>English Requirement</b>					
ENG226	World Literature I	X	X	X	X	ENG101	Composition		X	X	X
ENG227	World Literature II	X	X	X	X	ENG102	Composition		X	X	X
ENG299	Individual Studies*	X	X	X	X	ENG103	Advanced Composition		X	X	X
MUS101	Introduction to Music	X	X	X	X	ENG107	English Composition for Foreign Students I		X	X	X
MUS102	Introduction to Music	X	X	X	X	ENG108	English Composition for Foreign Students II		X	X	X
FRE101	Elementary French					ENG109	Written Communications and Reports			X	X
FRE102	Elementary French					ENG111	Grammar, Usage, and Punctuation			X	X
GER101	Elementary German					ENG112	Children's Literature			X	X
GER102	Elementary German					ENG115	Genealogy of English Words			X	X
HUM101	Humanities in Contemporary Life					ENG116	Genealogy of English Words			X	X
HUM104	Heritage from Mexico					ENG119	Creative Writing		X	X	
HUM110	Introduction to Film					ENG167	Business English Communications				
HUM115	Cultural Heritage of the Southwest					ENG206	Critical Reading and Writing				
HUM116	Folklore of the Southwest					ENG209	Introduction to Poetry				
HUM205	Humanities	X	X	X	X	ENG210	Bible as Literature				
HUM206	Humanities	X	X	X	X	ENG219	Advanced Creative Writing				
LAT101	Elementary Latin					ENG228	Mythology & Folklore				
LAT102	Elementary Latin					SPE102	Fundamentals of Speech		X	X	
PHI111	Introduction to Philosophy	X	X	X	X	SPE110	Public Speaking				
PHI130	Ethics	X	X	X	X	SPE115	Argumentation Debate				
PHI140	Death, Dying, Loss and Survival					SPE125	Forensics				
PHI201	Philosophies of the East										
PHI202	Philosophy of Religion										
PHI299	Individual Studies*	X	X	X	X						
SPA101	Elementary Spanish										
SPA102	Elementary Spanish										
SPA155	Appreciation of Mexico										
SPA201	Intermediate Spanish										
SPA202	Intermediate Spanish										

	Degree			Transferable Elective		Degree			Transferable Elective
	AA	AS	AGS			AA	AS	AGS	
<b>Foreign Language Requirement</b>									
FRE101 Elementary French	X			X					X X
FRE102 Elementary French	X			X					X X
GRE101 Elementary German	X			X					X X
GRE102 Elementary German	X			X					X X
SPA101 Elementary Spanish	X			X					X X
SPA102 Elementary Spanish	X			X					X X
SPA201 Intermediate Spanish	X			X					X X
SPA202 Intermediate Spanish	X			X					X X
<b>Physical Education Requirement</b>									
PED112 Weight Training	X	X	X	X					
PED113 Modern Dance	X	X	X	X					
PED114 Badminton	X	X	X	X					
PED115 Beginning Coed Bowling				X X					
PED116 Intermediate Coed Bowling				X X					
PED117 Beginning Tennis				X X					
PED118 Intermediate Tennis	X	X	X	X					
PED119 Beginning Golf	X	X	X	X					
PED120 Intermediate Golf	X	X	X	X					
PED122 Coed Archery	X	X	X	X					
PED123 Beginning Handball				X X					
PED124 Beginning Swimming	X	X	X	X					
PED125 Intermediate Swimming	X	X	X	X					
PED127 Life Saving	X	X	X	X					
PED128 Adapted Physical Education				X X					
PED129 Body Conditioning	X	X	X	X					
PED130 Body Dynamics	X	X	X	X					
PED133 Hiking				X X					
PED135 Scuba Diving				X X					
PED136 Yoga				X X					
PED137 Beginning Judo				X X					
PED138 Volleyball	X	X	X	X					
PED139 Coed Raquetball				X X					
PED141 Beginning Basketball	X	X	X	X					
PED142 Coed Softball	X	X	X	X					
PED143 Coed Backpacking				X X					
PED144 Intermediate Modern Dance	X	X	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

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	POS 110	3
Physical Education	PE	2
		22

#### Core Curriculum

Intro to Criminal Justice	AJS 121	3
Juvenile Procedures	AJS 130	3
Criminology	AJS 156	3
Criminal Law I	AJS 200	3
Criminal Law II	AJS 201	3
Rules of Evidence	AJS 227	3
Fundamentals of Speech	SPE 102	3
Computer Literacy for Professionals	CIS 102	1
		23

#### Major Emphasis: Law Enforcement

Intro to Police Science	AJS 100	3
Psychology in Law Enforcement	AJS 154	3
Police Community Relations	AJS 140	3
Criminal Investigation	AJS 238	3
Police Patrol Functions	AJS 122	3
Accidents, Citations, Disorders	AJS 252	3
Practicum Public Service	CED 110*	2
Survey of Forensic Science	AJS 236	3
		23

\*Cooperative Education Practicum may be taken for up to 6 units of credit.  
See CO-OP Coordinator for enrollment.

#### Major Emphasis: Corrections

Corrections I:	Corrections as a System	AJS 149	3
Corrections II:	Correctional Management	AJS 150	3
Corrections III: Effective	Inmate Management/Control	AJS 247	3
Corrections IV: Treatment of the Offender in the Community Setting	AJS 248	3	
Principles of Management	BUS 143	3	
Leadership & Supervision	BUS 127	3	
Practicum in Public Service	CED 110*	2	
Elective	Any AJS course	3	
		23	

\*Cooperative Education Practicum may be taken for up to 6 units of credit.  
See CO-OP Coordinator for enrollment.

## Administration of Justice

### Associate of General Studies-Transfer

#### General Education Requirements

Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120	3
Laboratory Sciences	(BIO,CHM,GLG,PHY)	8
Humanities*		9-12
Social Science	(must include POS 110, PSY 101, SOC 101)	12
Physical Education		2
		40-43

\*See specific university requirements for applicable courses.

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

Introduction to the Criminal Justice System	AJS 121	3
Juvenile Procedures	AJS 130	3
Criminology	AJS 156	3
Criminal Law I	AJS 200	3
Criminal Law II	AJS 201	3
Survey of Forensic Science	AJS 236	3
Intro to Data Processing	CIS 172	3
Business Statistics	BUS 219	3
		24

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

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

**Core Curriculum**

**Introduction to the Criminal Justice**

System	AJS 121	3	
Criminology	AJS 156	3	
Survey of Forensic Science	AJS 236	3	
Constitutional Law	AJS 249	3	
Social Science		3	
		15	

**Law Enforcement Emphasis**

Police-Community Relations	AJS 140	3	
Criminal Law I	AJS 200	3	
Criminal Law II	AJS 201	3	
Rules of Evidence	AJS 227	3	
		12	

**Corrections Emphasis**

Juvenile Procedures	AJS 130	3	
Institutional Corrections	AJS 148	3	
Corrections II:			
Correctional Management	AJS 150	3	
		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**

Finite Mathematics	MAT 155	3	
Calculus for Business	MAT 256	3	
Principles of Accounting	BUS 101 & 102	6	
Business Statistics	BUS 219	3	
Intro to Data Processing	CIS 172	3	
Principles of Economics I	ECN 201	3	
Principles of Economics II	ECN 202	3	
Public Speaking	SPE 110	3	
		27	

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

# AGRICULTURE

## Associate of General Studies

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	ENG 101	3
Zoology, Plant Biology, or General Biology		4
Social/Behavioral or Humanities/Fine Arts		3
Physical Education		1
Introduction to Animal Disease Process	AGR 103	3
Animal Industry	AGR 208	3
Introduction to Agriculture	AGR 102	3
<b>Second Semester</b>	<b>Second Semester</b>	<b>Units</b>
Composition	ENG 102	3
Zoology or Plant Biology, or General Biology		4
College Algebra	MAT 120	3
Physical Education		1
Range Management	AGR 105	3
Animal Industry	AGR 208	3
<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
General Chemistry	CHM 121	4
Social/Behavioral Science or Humanities/Fine Arts		3
Animal Feeding	AGR 230	3
General Physics or Physical Geology		4
Western Horsemanship	AGR 139	1
Principles of Agronomy	AGR 104	3
Horse Science & Management	AGR 237	3
<b>Second Semester</b>	<b>Second Semester</b>	<b>Units</b>
Chemistry	CHM 122	4
Written Communications & Reports		3
Fundamentals of Speech	ENG 109	3
Agriculture Electives	SPE 102	3
Animal Disease & Sanitation	AGR 106	3
Livestock Production	AGR 243	3
Agriculture Electives: See your advisor or counselor for recommended electives.		

# Agriculture

## Associate of Applied Science Degree

Freshman	First Semester	Units
English ENG 010 or 101		3
Biological Science BIO 101, 184 or 191		4
Selected Electives		3
Agriculture Electives		6

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

	Second Semester	Units
English in 100 Series		3
Biological Science BIO 102, 184 or 192		4
Selected Electives		3
Agriculture Electives		6

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

Sophomore	First Semester	Units
Mathematics 110		3
Chemistry CHM 101 or 121		4
Selected Electives		3
Agriculture Electives		6

### Recommended Electives

Animal Feeding	AGR 230	3
Agricultural Welding	AGR 210	2
Range Plants	AGR 207	3
Livestock Production & Management	AGR 243	3
Western Horsemanship	AGR 139	1

	Second Semester	Units
Fundamentals of Speech	SPE 102	3
Selected Electives		3
Agricultural Electives		9

### Recommended Electives

Economics in American Agriculture or Econ 201	AGR 211	3
Advanced Agriculture Welding	AGR 212	2
Agricultural Alloy & Repair Welding	AGR 213	2
Animal Disease & Sanitation	AGR 106	3
Fertilizer	AGR 214	3
Individual Studies	AGR 299	1-4

## Recommended Electives

Written Communications & Reports	ENG 109	3
Principles of Accounting	BUS 101	3
Principles of Management	BUS 143	3
Business Communications	OED 167	3

# Anthropology

## Associate of Arts Degree\*

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

### Core Curriculum Courses

Origin & Antiquity of Man	ANT 101	3
Development of Culture	ANT 102	3
Society and Culture	ANT 125	3
Prehistoric Cultures of North America	ANT 185	3
Historic Indian Tribes of North America	ANT 186	3
Recommended Electives*		5-0
		64

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

# Art

## Associate of Arts

	Units
English 101, 102	6
Mathematics (MAT 120 or above)	3
Laboratory Science	8
Social Science*	9
Foreign Language	8
Humanities**	9
Physical Education	2
	45

\*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
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
		21

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

Three Dimensional Design	ART 231	3
Ceramics	ART 270	3
Beginning Commercial Design	ART 265	3
Sculpture	ART 280	3
Beginning Photography	ART 285	3
Intermediate Photography	ART 286	3

## Aviation Technology

### Airframe and Powerplant Program

**Associate of Applied Science Degree**

Course AVN 150, AVN 160, AVN 260, AVN 270, AVN 275, ENG 020, and ENG 109 are the minimum requirements for an Associate of Applied Science Degree and to take the F.A.A. examinations for the Airframe Powerplant Certificate. The minimum time to complete the course is approximately 15 months. Each phase is twelve weeks.

Phase		Units
Phase I - General	AVN 150	18
Phase II - Basic Airframe	AVN 160	17
Phase III - Advanced Airframe	AVN 260	17
Phase IV - Basic Powerplant	AVN 270	17
Phase V - Advanced Powerplant	AVN 275	17
Reading Fundamentals	ENG 020	3
Written Communications		
Reports	ENG 109	3
		92

\*Acceptance into the Airframe & Powerplant Program requires an interview plus acceptance into the Airframe & Powerplant Program. Admission to Cochise College does not guarantee acceptance into the A & P Program.

## Professional Pilot Program

**Associate of Applied Science Degree**

Courses AVN 101, 102, 103 and 204 and AVN 111, 112, 113 and 214F 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. 101 and 103 are taken concurrently.

		Units
Stage One — Commercial Pilot	AVN 101-111	5-6
Stage Two — Commercial Pilot	AVN 102-112	5-3
Stage Three — Commercial Pilot	AVN 103-113	5-3
Stage Four — Commercial Pilot	AVN 204-214	5-6
Principles of Economics	ECN 201	3
Accounting	BUS 101	3
Composition I	ENG 101	3
Principles of Marketing	BUS 145	3
Lab Science		4
Physical Education	PED	2
Principles of Economics	ECN 202	3
Business Law	BUS 231	3
Personnel Management	BUS 123	3
Accounting	BUS 102	3
Principles of Management	BUS 143	3
Social/Behavioral Science		3
Business Math	BUS 104	3

		Units
Stage One — Commercial Pilot	AVN 101-111	5-6
Stage Two — Commercial Pilot	AVN 102-112	5-3
Stage Three — Commercial Pilot	AVN 103-113	5-3
Stage Four — Commercial Pilot	AVN 204-214	5-6
Composition I	ENG 101	3
Social/Behavioral Science		3
Lab Science		4-4
Humanities/Fine Arts	HUM	3-4
Physical Education	PED	2
College Algebra	MAT 120	3
Composition II	ENG 102	3
Social/Behavioral Science		3
Humanities/Fine Arts	HUM	3-4
Math	MAT 124 or higher	6-9
Elective		3

<b>Optional Courses</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
Flight Instructor Multi-Engine	AVN 230-231	2-2
Fundamentals of Aviation Instruction	AVN 225	3

\*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.

## Business Administration

### Associate of Science

<b>General Education Requirements</b>		
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120	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>		
Statistics	BUS 219	3
Business Communications	BUS 167	3
Survey of American Business	BUS 109	3
Intro to Data Processing	CIS 172	3
Principles of Accounting	BUS 101	3
Principles of Accounting	BUS 102	3
Business Law	BUS 231	3
Principles of Econ I	ECN 201	3
Principles of Econ II	ECN 202	3
Electives		3
<b>TOTAL HOURS</b>		<b>67</b>

Students transferring to U of A, 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</b>	<b>Units</b>
Grammar Usage & Punctuation	ENG 111	3
Typing	OED 104, or 201	3
Business Math	BUS 104	3
Bookkeeping & Financial Management	OED 146	3
or		
Principles of Accounting	BUS 101	
Major Selection		1
Physical Education		

<b>Second Semester</b>	<b>Second Semester</b>	
Business English		
Communication	OED 167	3
Records Management	OED 206	3
Word Processing	OED 213	3
Exploring Your Potential		
As a Manager	BUS 126	3
Major Selection		3
Physical Education		1

<b>Sophomore</b>	<b>First Semester</b>	
Office Administration	OED 207	3
Secretarial Office Procedures	OED 210	3
Advanced Word Processing or Typing	OED 214	3
	OED 201 or 202	3
Major Selection		3
Transcription Terminology	OED 212	3

<b>Second Semester</b>
Business Law
Secretarial Practice
Computerized Office Management
Office Communications
Major Selections

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

#### Accounting

Principles of Accounting 101  
Principles of Accounting 102  
Intermediate Accounting 201  
Intermediate Accounting 202  
Computerized Accounting  
Computer Applications for Business

#### Computer Systems

Introduction to Data Processing  
COBOL I  
COBAL II  
FORTRAN  
BASIC  
PASCAL

#### Management

Special Problems  
Personnel Management  
Principles of Management  
Small Business Management  
Survey of American Business  
Data Base Management

#### Microcomputer Specialists

Computer Applications for Business  
Computerized Accounting  
Introduction to Data Processing  
Computer Keyboarding/Data Entry  
BASIC  
PASCAL

#### Secretarial

Bilingual Typing  
Shorthand I  
Shorthand II  
Computer Keyboarding/Data Entry  
Advanced Word Processing  
Professional Typing

#### \*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	3
Business Math	BUS 104	3
Social Science/Science		6
		12

#### Core Curriculum Requirements

Principles of Accounting	BUS 101	3
Principles of Accounting	BUS 102	3
Business Law I	BUS 231	3
Survey of American Business	BUS 109	3
Introduction to Data Processing	CIS 172	3
Business Communications	OED 167	3
Principles of Marketing	BUS 145	3
Principles of Economics	ECN 202	3
Small Business Management	BUS 283	3
Principles of Management	BUS 143	3
Principles of Finance	BUS 156	3
		33

#### MAJOR EMPHASIS

AAS Degree 15 60

\*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 Emphasis.

#### Accounting

Taxation  
Analyzing Financial Statements  
Intermediate Accounting I  
Intermediate Accounting II  
Business Elective

#### Marketing

Salesmanship  
Merchandising  
Principles of Advertising  
Business Elective

<b>Banking</b>	
Principles of Bank Operations	
Law & Banking	
Bank Management	
Analyzing Financial Statements	
Computer Applications	

<b>General Business</b>	
Any Business Class	

<b>Women In Management</b>	
Exploring Your Potential As A Manager	
Special Problems In Management	
Business Electives	

<b>Recommended Electives</b>	
Cooperative Education	CED 110
Principles of Economics	ECN 201
Typing	
Management Information Systems	CIS 282
Personnel Management	BUS 123
Business Law II	BUS 232

<b>Microcomputer Science</b>	
Introduction to Data Processing	
Computer Applications	
Programming-COBOL Level I	
Programming-COBOL Level II	
Management Information Systems	
Programming BASIC I & II	
Programming PASCAL	

## Business Certificate Programs

<b>(Middle Management Specialist Program (one year))</b>		<b>Units</b>
Principles of Marketing	BUS 145	3
Principles of Management	BUS 143	3
Personnel Management	BUS 123	3
Salesmanship	BUS 144	3
Bookkeeping or/ Accounting	BUS 146	3
Principles of Finance	BUS 101	3
Small Business Management	BUS 156	3
	BUS 283	3
		21

<b>Business Electives</b>	
Any Business course to include up to 9 units in Business	
Cooperative Education	9
	30

<b>Women in Management Certificate Program</b>	<b>Units</b>
Exploring Your Potential	
As A Manager	BUS 126
Principles of Management	BUS 143
Special Problems in Management	BUS 128
Personnel Management	BUS 123
Principles of Finance	BUS 156
	3
	3
	3
	3
	15

## Business Education

### Associate of General Studies

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

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

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Humanities/Fine Arts		3-4
Principles of Economics	ECN 201	3
U.S. History	HIS 110	3
Principles of Accounting	BUS 101	3
National/Arizona Constitution	POS 220	3
		15-16

	<b>Second Semester</b>	<b>Units</b>
Humanities/Fine Arts		3-4
Social/Behavioral Science		
Principles of Economics	ENG 202	3
Speech	SPE 102	3
Introduction to Data Processing	CIS 172	3
Principles of Accounting	BUS 102	3
		18-19

## **Clerical Assistant**

### **One-Year Certificate Program**

**(Legal, Medical, General, Bilingual)**

	<b>First Semester</b>	<b>Units</b>
Freshman		
General Office Procedures	OED 106	3
*Grammar Usage & Punctuation or *English Fundamentals	ENG 111	3
Typing	ENG 010	3
	OED 102,103,104 or 201	2-3
Computer Keyboarding/ Data Entry	OED 113	3
Business Math or Fundamentals of Math	BUS 104	3
**Electives		0-3
		14-18
	<b>Second Semester</b>	
Typing	OED 104,201 or 202	3
Word Processing	OED 213	3
Clerical Practice	OED 107	3
Records Management	OED 206	3
*Business Communications or *Grammar Usage & Punctuation	OED 167	3
Business Math or **Electives	ENG 111	3
		18

\* 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>
Typing		OED 102,103 or 104	2-3
Shorthand		OED 105 or 205	3
Grammar Usage & Punctuation		ENG 111	3
Business Math		BUS 104	3
*Elective or SPA 275 or BIO 151			3-4
Physical Education			1
			15-17

	<b>Second Semester</b>	
Typing	OED 104,201 or 203	3
Shorthand	OED 205	3
Business English Communications	OED 167	3
Word Processing	OED 213	3
*Elective or SPA 276 or BIO 152		3-4
Physical Education		1
		16-17

	<b>Sophomore</b>	<b>First Semester</b>	
Typing		OED 201 or 202	3
Advanced Word Processing		OED 214	3
Secretarial Office Procedures		OED 210	3
(Legal, Medical, General or Bilingual)			
Machine Transcription/ Terminology		OED 212	3
Office Administration		OED 207	3
*Elective or BUS 231			3
			18

	<b>Second Semester</b>		
Computerized Office Management		OED 208	3
Secretarial Practice		OED 211	3
(Legal, Medical, General or Bilingual)			
Office Communications		OED 209	3
Records Management		OED 206	3
Bookkeeping & Financial Management		OED 146	3
or			
Principles of Accounting		BUS 101	3
*Elective or OED 203 or BUS 232			18

\*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

### General Education Requirements

		Units
Composition	ENG 101	3
Elementary Algebra	MAT 020	3
Computer Math	CIS 110	3
Principles of Accounting — I	BUS 101	3
Principles of Accounting — II	BUS 102	3
Survey of American Business	BUS 109	3
Business English		
Communications	ENG 167	3
Humanities/Science/Fine Arts/ Social Science Elective		3
		24

### Core Curriculum Requirements

Introduction to Data Processing	CIS 172	3	
Introduction to Programming			
PASCAL	CIS 171	4	
Programming — COBOL Level I	CIS 173	4	
Programming — COBOL Level II	CIS 273	4	
Computer Operations — Level I	CIS 279	3	
Information Systems Analysis and Design	CIS 270	3	
Assembler Programming	CIS 220	4	
Fundamentals of Operating Systems	CIS 260	3	
Data Communications	CIS 230	3	
		31	

### Major Emphasis

The student may choose an emphasis in business, scientific or small business programming.

### Business Programming

Programming — BASIC I	CIS 175	3	
Data Base Management	CIS 250	3	
Programming — RPG	CIS 176	4	
Advanced PASCAL	CIS 271	4	
Computer Applications in Business	CIS 181	3	
Programming BASIC II	CIS 275	4	

### Scientific Programming

Programming — FORTRAN I	CIS 174	4
Advanced PASCAL	CIS 271	4
College Algebra	MAT 120	3
Finite Mathematics	MAT 155	3

### Small Business Microcomputer Programming

Programming — BASIC I	CIS 175	3
Programming — BASIC II	CIS 275	4
Computer Applications for Business		
Computer Elective	CIS 181	3

## Chemistry

### Associate of Science

	First Semester	Units
Freshman		
General Chemistry	CHM 121	4
Composition	ENG 101	3
College Algebra	MAT 120	3
Plane Trigonometry	MAT 124	3
Social Science		3

### Second Semester

General Chemistry	CHM 122	4
Composition	ENG 102	3
Analytic Geometry/Calculus	MAT 261	5
Social Science		3
Physical Education		1

### Sophomore

	First Semester	Units
Organic Chemistry or Elementary German	CHM 240/GER101*	4
Physics	PHY 111/230*	4
Analytic Geometry/Calculus	MAT 262	5
Humanities/Fine Arts		3-4

### Second Semester

Organic Chemistry or Elementary German	CHM 241/GER 102*	4
Physics	PHY 112/231*	4
Analytic Geometry/Calculus	MAT 263	3
Humanities/Fine Arts		3-4
Physical Education		1

63-65

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

# Drafting Technology

Associate of Science

	First Semester	Units
Freshman		
Composition	ENG 101	3
Technical Graphics I	DFT 112	3
Descriptive Geometry	DFT 120	3
College Algebra	MAT 120	3
Manufacturing Materials & Processes I	GTC 105	3
Survey of Western Civilization	HIS 140	3

	Second Semester	Units
Composition	ENG 102	3
Technical Graphics II	DFT 113	3
Computer-Aided Drafting	DFT 250	3
Trigonometry	MAT 124	3
Manufacturing Materials & Processes II	GTC 106	3
Survey of Western Civilization	HIS 141	3

## Second Year - Option I:

	First Semester	Units
Sophomore		
Drafting for Manufacturing	DFT 200	4
Drafting for Electronics	DFT 230	3
Analytic Geometry with Calculus	MAT 261	5
Lab Science		4

	Second Semester	Units
Electro/Mechanical Design	DFT 231	3
Tool Design	DFT 240	4
Lab Science		4
Humanities & Fine Arts Elective		4

## Second Year - Option II:

	First Semester	Units
Sophomore		
Topographical Design and Drafting	DFT 210	4
Construction Drafting	DFT 220	3
Lab Science		4
Basic Drawing	ART 106	3

	Second Semester	Units
Advanced Construction Drafting	DFT 221	3
Lab Science		4
Analytic Geometry with Calculus	MAT 261	5
Humanities & Fine Arts Elective		4

# Drafting Technology

Associate of Applied Science

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

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

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

# Drafting Technology

Certificate Program

	First Semester	Units
Freshman		
Technical Graphics I	DFT 112	3
Spatial Relationships	DFT 120	3
Technical Math I	GTC 100	3
Manufacturing Materials and Processes	GTC 105	3
Electives: General Education		3

	Second Semester	Units
Technical Graphics II	DFT 113	3
Electronics Drafting	DFT 130	3
Technical Math II	GTC 101	3
Manufacturing Materials and Processes II	GTC 106	3
Electives: General Education		3

# Electronics Technology

## Associate of Science Degree

Freshman	First Semester	Units
Composition	ENG 101	3
College Algebra	MAT 120	3
General Physics	PHY 120	4
Introduction to D.C. Circuits	ELT 105*	3
Introduction to A.C. Circuits	ELT 106	4
Sophomore	Second Semester	Units
Composition	ENG 102	3
Plane Trigonometry	MAT 124	3
General Physics	PHY 121	4
Semiconductors & Transistors	ELT 122	4
Electronic Circuits & Systems	ELT 125	5
Sophomore	First Semester	Units
Social/Behavioral Science		3
Pulse Circuits	ELT 231	4
Digital Circuits	ELT 233	4
Modern Electrical Devices	ELT 243	4
Humanities/Fine Arts	ELT 243	4
Physical Education	PED	1
Sophomore	Second Semester	Units
Social/Behavioral Science		3
Physical Education	PED	1
Analytical Geometry W/Calculus	MAT 161	5
Humanities/Fine Arts		3
Micropocessors & Microcomputers	ELT 265	4

\*All electronic classes taught only in semester indicated and in sequence.

Sophomore	First Semester	Units
Pulse Circuits	ELT 231	4
Digital Circuits	ELT 233	4
Modern Electrical Devices	ELT 243	4
Communications Electronics	ELT 245	3
Second Semester	Units	
Communications Elect II	ELT 247	3
Avionics	ELT 260	1
Micropocessors & Microcomputers	ELT 265	4
Electives		3

\*All electronic classes taught only in semester indicated and in sequence.

# English

## Associate of Arts

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

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

Recommended electives: (15)

ART107, 108; ANT102, 125, 135, 186; HIS110, 111, 140, 141; JRN101, 102; SPE102; THE103, 110; MUS101, 102; PHI111, 130, 202; SOC101, 202; HUM101, 110.

# Electronics Technology

## Associate of Science Degree

Freshman	First Semester	Units
Composition	ENG 101	3
Introduction to DC Circuits	ELT 105*	3
Introduction to A.C. Circuits	ELT 106	4
Math or Electronics or Math 110	ELT 110	3
Sophomore	Second Semester	Units
Advanced Math for Electronics	ELT 120	3
Semiconductors & Transistors	ELT 122	4
Electronic Circuits	ELT 125	4
Basic Computer Programming	ELT 125	5

# \*Fire Science Technology

## Associate of Applied Science

### General Education Requirements

English Composition	ENG 101	3	
Composition	ENG 102	3	
Written Communications & Reports	ENG 109	3	
Intermediate Algebra	MAT 111	3	
Fundamentals of Speech	SPE 102	3	
Social Science Elective		3	
Physical Education	PED	2	
		20	

### Core Curriculum

Intro 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 & Strategy	FST 240	3	
Fire Investigation	FST 260	3	
Supervisory Training for Fire Fighters	FST 265	3	
COOP Public Service	CED 110	3	
		15	
General Education Requirements		20	
Core Curriculum Courses		51	
<b>TOTAL: AAS Degree Requirements</b>		<b>71</b>	

### Fire Fighter Level II

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

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
		15

# History

## Associate of Arts

### General Education Requirements\*

		Units
Composition	ENG 101	3
Composition	ENG 102	3
Laboratory Science		8
Humanities/Fine Arts		8-12
Foreign Language (2nd Semester Proficiency)		8
Physical Education		2
College Algebra (or above)	MAT 120	3

### Core Curriculum Courses:

History of the U.S. to 1865	HIS 110	3
History of the U.S. Since 1865	HIS 111	3
Survey of Western Civilization	HIS 140	3
Survey of Western Civilization	HIS 141	3
Recommended Electives*		17-13
		64

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

# Journalism

## Associate of Arts

### Freshman

	First Semester	Units
Composition	ENG 101	3
Elective Physical Education	PED	1

# Fire Science Technology

## Certificate Programs

### Fire Fighter Level I

Intro to Fire Protection	FST 101	3	
Fundamentals of Fire Prevention	FST 106	3	
Fire Operations I	FST 110	3	
Intro to Fire Suppression	FST 138	3	
COOP Public Service	CED 110	3	
		15	

Elective Foreign Language	4
Elective Lab Science or Math	3-4
Elective Social/Behavioral Science	3

	Second Semester	Units
Composition	ENG 102	3
Elective Physical Education	PED	1
Elective Foreign Language		4
Elective Lab Science or Math		3-4
Mass Communications	JRN 101	3
Elective Social/Behavioral Science		3

	First Semester	Units
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

	Second Semester	Units
Intermediate Reporting	JRN 103	3
Elective Foreign Language		4
Creative Writing	ENG 119	3
Humanities/Fine Arts		3 - 4
Elective: Social/Behavioral Science		3

## Liberal Arts

### Associate of Arts

General Education Requirements*		
Composition	ENG 101	3
Composition	ENG 102	3
Humanities/Fine Arts		9-12
Social Science		12
College Algebra (or above)	MAT 120	3
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 U of A, 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 U of A's Sierra Vista Center.

## Machine Technology

### Associate of Applied Science

	First Semester	Units
Freshman		
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

	Second Semester	Units
Machine Shop for Technicians	MAC 120	4
Technical Graphics II	DFT 113	3
Technical Math II	GTC 101	3
Written Communications and Reports	ENG 109	3
Oxyacetylene Welding	WLD 105	3

	First Semester	Units
Sophomore		
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 II	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	4
Technical Graphics I	DFT 112	3
Technical Math I	GTC 100	3
Basic Metallurgy	MAC 130	3

	Second Semester	Units
Machine Shop for Technicians II	MAC 120	4
Technical Graphics II	DFT 113	3
Technical Math II	GTC 101	3
Oxyacetylene Welding	WLD 105	3

# 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 Process I	GTC 105	3
		43

# Nursing

## Nursing Assistant - Certificate

## Practical Nurse - Certificate

## Associate Degree Nurse - Associate in Applied Sciences

Cochise College offers an open curriculum nursing program. The ladder concept permits students to enter or exit from the program based upon their specific needs. Grades of B or better are required in all nursing courses and grades of C or better in general education courses are required.

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.

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 of nurse assistants are to care for sub-acute ill patients and to assist other members of the team. This is a one semester program.

**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 Nurses:** 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 hospital or community setting.

# Nursing

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

After satisfactorily completing Nursing I, each student will receive a certificate as a Nurse Assistant.

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

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

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

	Fourth Semester	Units
Essentials of Chemistry	CHM 110	4
Controlled Elective		3
Nursing IV	NUR 233	9

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

# Physical Education

## Associate of Arts

Freshman	First Semester	Units
Composition	ENG 101	3
U.S. History	HIS 110 or 111	3
Physical Education	Activity	1
Physical Education	Core	2-3

	Second Semester	Units
Composition	ENG 102	3
Elementary Psychology	PSY 101	3
Elective Social/Behavioral Science		3
Physical Education	Activity	1
Fundamentals of Speech	SPE 102	3
Physical Education	Core	2-3

Sophomore	First Semester	Units
Human Anatomy & Physiology I	BIO 201	4
Elective Humanities/Fine Arts		3-4
Physical Education	Core	2-3
Physical Education	Activity	1
National and Arizona Constitution	POS 220	3

	Second Semester	Units
Human Anatomy and Physiology II	BIO 202	4
Elective Humanities/Fine Arts		3-4
Physical Education	Activity	1
Elective Social/Behavioral Science		3-4
Physical Education	Core	2-3

## Core Curriculum Courses

Personal Health	HSC 142	3
First Aid and Safety	HSC 170	3
School and Community Health	HSC 171	3
Orientation to P.E	PED 155	3
Orientation to Recreation	PED 171	2
Elementary School P.E	PED 189	3
Sports Officiating	PED 190	3
Women's Athletic Conditioning	PED 191	3
Coaching Team Sports	PED 192	2
Baseball Theory	PED 193	3
Individual Studies	PED 299	1-4

# Political Science

## Associate of Arts

General Education Requirements	Units
Composition	ENG 101
Composition	ENG 102
College Algebra	MAT 120
Humanities/Fine Arts*	9-12

Laboratory Science*	8
Foreign Language (2nd 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
Introduction to International Relations	POS 230	3
Arizona Constitution (fulfills teaching certification requirements)	POS 221	1
		10

## Recommended Electives\*

\*See the major area advisor for specific ASU, NAU or U of A requirements.

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

\*\*May be used to fulfill social science general education requirements.

# \*Pre-Dentistry

## Associate of Science

Freshman	First Semester	Units
Elective Physical Education	PED	1
Composition	ENG 101	3
College Algebra	MAT 120	3
General Chemistry	CHM 121	4
General Physics	PHY 111	4
Social/Behavioral Science		3
Second Semester		
Elective Physical Education	PED	1
Composition	ENG 102	3
Trigonometry	MAT 124	3
General Chemistry	CHM 122	4
General Physics	PHY 112	4
Social/Behavioral Science		3

Sophomore	First Semester	Units
✓Organic Chemistry	CHM 240	4
✓Human Anatomy & Physiology I	BIO 201	4
✓Humanities or Equivalent	HUM 205	3-4
✓Elective		3
	Second Semester	Units
Organic Chemistry	CHM 241	4
Human Anatomy & Physiology II	BIO 202	4
Humanities or Equivalent	HUM 206	3-4
Analytic Geometry/Calculus	MAT 261	5

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

The above course prepares a student for entry into a Baccalaureate Program.

## Teacher Aide

Certificate Program	Units
Composition	ENG 101
Introduction to Psychology	PSY 101
School and Community Health	HSC 171
Elementary School PE (or Introduction to Art)	PED 189
Ethnic Groups and Minorities (or Introduction to Sociology)	ART 101
Mathematics*	SOC 160
	SOC 101
	3
	3
	3
	3
	3
	3
	15

\*any course as determined by the Cochise College Math Placement Test.

## Pre-Education

### Associate of General Studies Degree

General Education Requirements		Units
Composition	ENG 101	3
Composition	ENG 102	3
Mathematics	MAT 120 (or higher)	3
Humanities/Fine Arts*		6-12
Social Science*		6-12
Laboratory Science*		8-12
Physical Education		2
		27-47
Core Curriculum Courses		
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
		12
Recommended Electives*		
Fundamentals of Speech	SPE 102/110	3
School and Community Health	HSC 171	3
Others as specified by the college/university		19- 0
		64-65

\*See the major area advisor for specific transfer curriculum to NAU, ASU or the U of A. NOTE: All students are required to pass the Pre-Professional Skills Test (PPST) before being admitted to the College of Education at the university.

## Pre-Engineering

### Associate of Science

Freshman	First Semester	Units
Composition	ENG 101	3
College Algebra/Trigonometry	MAT 120	3
Plane Trigonometry	MAT 124	3
General Chemistry	CHM 121	4
*Spatial Relations	DFT 120 or 112	3
Social/Behavioral Science		3
Physical Education		1
	Second Semester	
Composition	ENG 102	3
Analytical Geometry/Calculus	MAT 261	5
General Chemistry	CHM 122	4
Humanities/Fine Arts		3-4
Principles of Economics	ECN 201	3
Physical Education		1
Sophomore	First Semester	
Analytical 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	
Analytical 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.

\*Check with advisor. The above courses prepare a student for entry into the Baccalaureate program.

## Pre-Forestry

### Associate of General Studies

Freshman	First Semester	Units
Composition	ENG 101	3
Physical Education	PED	1
College Algebra	MAT 120	3
General Chemistry	CHM 121	4
Intro. Data Processing	CIS 172	3
Humanities		3
	Second Semester	Units
Composition	ENG 102	3
Physical Education	PED	1
Trigonometry	MAT 124	3
General Chemistry	CHM 122	4
FORTRAN	CIS 174	4
Humanities		3
Sophomore	First Semester	Units
Principles of Economics	ECN 201	3
General Zoology I	BIO 191	4
Business Statistics	BUS 219	3
Intro to Geology (Physical)	GLG 121	4
Fundamentals of Speech	SPE 102	3
	Second Semester	Units
Principles of Economics	ECN 202	3
General Zoology II	BIO 192	4
Plant Biology	BIO 184	4
Written Communications & Reports	ENG 109	3
Elective		3

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.

## Pre-Law

### Associate of Arts

Colleges of Law usually have no specific pre-legal course requirements. Students interested in pursuing a legal career are urged to select courses which would reflect a well rounded general education with perhaps emphasis on history, political science and economics. A four-year college degree generally is required to enter a college of law as well as an acceptable score on the Law School Admissions Test. Each law school determines its own requirements for grade point average.

#### Suggested Courses

Freshman	First Semester	Units
Composition	ENG 101	3
Laboratory Science		4
Foreign Language		4
Mathematics (MAT 120 or above)		3
American Politics	POS 110	3
Physical Education	PED	1
	Second Semester	
Composition	ENG 102	3
Laboratory Science		4
Foreign Language		4
(2nd Semester Proficiency)		
Social/Behavioral Science		4
Introduction to Sociology	SOC 101	3
Physical Education	PED	1
Sophomore	First Semester	
Principles of Accounting	BUS 101	3
Principles of Economics	ECN 201	3
Humanities/Fine Arts		4-6
Fundamentals of Speech	SPE 102	3
Elective		3
	Second Semester	
Principles of Accounting	BUS 102	3
Principles of Economics	ECN 202	3
Humanities/Fine Arts		4-6
Electives		6
		65-69

# Pre-Med

## Associate of Science

### Freshman

- ✓ Composition
- ✓ Physical Education
- ✓ General Chemistry
- ✓ General Zoology I
- ✓ College Algebra

### First Semester

	First Semester	Units
ENG 101	3	
PED	1	
CHM 121	4	
BIO 191	4	
MAT 120	3	

### Second Semester

	Second Semester	Units
ENG 102	3	
PED	1	
CHM 122	4	
BIO 192	4	
MAT 124	3	
	3	

- ✓ Composition
- ✓ Physical Education
- ✓ General Chemistry
- ✓ General Zoology II
- ✓ Plane Trigonometry
- ✓ Social/Behavioral Science

### Sophomore

- Organic Chemistry
- General Physics
- Humanities/Fine Arts
- Analytical Geometry with Calculus

### First Semester

	First Semester	Units
CHM 240	4	
PHY 111	4	
	3-4	
MAT 261	5	

### Second Semester

	Second Semester	Units
CHM 241	4	
PHY 112	4	
	3-4	
Social/Behavioral Science	3	

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

### Sophomore

- Analytical Geometry/Calculus
- Human Anatomy & Physiology I
- Elective Humanities/Fine Arts
- Fundamentals of Speech
- Principles of Economics

### First Semester

	First Semester	Units
MAT 261	5	
BIO 201	4	
	3-4	
SPE 102	3	
ECN 201	3	

### Second Semester

	Second Semester	Units
BIO 202	4	
CHM 230	4	
	3-4	
SOC 101	3	
PSY 101	3	

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

# Pre-Physical Therapy

## Associate of General Studies

### Freshman

- Composition
- General Psychology
- General Biology I (non-majors)
- College Algebra
- Physical Education
- Social/Behavioral Science

### First Semester

	First Semester	Units
ENG 101	3	
PSY 101	3	
BIO 101	4	
MAT 120	3	
PED	1	
Social/Behavioral Science	3	

### Second Semester

	Second Semester	Units
ENG 102	3	
BIO 102	4	
	3	
Elective		
PED	1	
Social/Behavioral Science	3	

### Sophomore

- General Chemistry
- Anatomy & Physiology I
- Elective
- General Physics
- Humanities/Fine Arts

### First Semester

	First Semester	Units
CHM 121	4	
BIO 201	4	
	3	
PHY 111	4	
	3-4	

### Second Semester

	Second Semester	Units
BIO 202	4	
CHM 122	4	
PHY 112	4	
	3-4	
Elective	3	

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

# Pre-Pharmacy

## Associate of Science

### Freshman

- Composition
- General Chemistry
- Elective: Physical Education
- College Algebra
- General Physics
- Social/Behavioral Science

### First Semester

	First Semester	Units
ENG 101	3	
CHM 121	4	
PED	1	
MAT 120	3	
PHY 111	4	
	3	

### Second Semester

	Second Semester	Units
ENG 102	3	
CHM 122	4	
PED	1	
MAT 124	3	
PHY 112	4	
	3	

### Composition

- General Chemistry
- Elective Physical Education
- Trigonometry
- General Physics
- Social/Behavioral Science

# \*Pre-Veterinary

Associate of Science

Freshman	First Semester		Units	Core Curriculum Courses		
	Course	Units		Course	Units	Course
Composition	ENG 101	3		Introduction to Psychology	PSY 101	3
General Chemistry	CHM 121	4		Introduction to Psychological Research, Measurement & Statistics	PSY 250	4
College Algebra	MAT 120	3		Experimental Psychology	PSY 290	4
General Zoology I	BIO 191	4				
Elective Social/Behavioral Science		3				
Physical Education	Second Semester		Units	Required Electives (two of the following)		
	Course	Units		Social Psychology	PSY 210	3
Composition	PED	1		Personality Theory & Research Development	PSY 230	4
General Chemistry	ENG 102	3		Psychology	PSY 240	3
Trigonometry	CHM 122	4				3
General Zoology II	MAT 124	3				3
Elective Humanities/Fine Arts	BIO 192	4				3
		3-4				64-65
						64-65

\*See Psychology Advisor for specific transfer requirements to U of A, ASU, and NAU.

# Social Services

Associate of General Studies

General Education Requirements*	Units
English Composition	ENG 101
English Composition	ENG 102
Laboratory Science	
Mathematics (MAT 120 or above)*	3
Humanities/Fine Arts	
Physical Education	2
Recommended Electives	3

# Psychology

Associate of Arts, Associate of Science

General Education Requirements

	Units	AA	AS
English Composition ENG 101, ENG 102	6	6	
Humanities*	8	12	
Laboratory Science*	8	8	
Mathematics (MAT 120 or above)	3	11	
Foreign Language* (2nd Semester Proficiency)	8	0	
Physical Education	2	2	
Free Elective	11-12	7-8	

Core Curriculum Courses*	Units
Introduction to Sociology	3
Social Problems	3
Introduction to Social Welfare	3
Marriage & the Family	3
Economics	3
American Politics	3
Introduction to Psychology	3
Developmental Psychology	3
Psychological Statistics	3
Ethnic Groups & Minorities	3
Introduction to Philosophy	3
	64

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

# Social Services

## Associate in Applied Science

	First Semester	Units	
Composition	ENG 101	3	
American Politics (or POS 220)	POS 110	3	
Introduction to Sociology	SOC 101	3	
Introduction to Social Welfare*	SOC 207	3	
Elective		3	
		15	

	Second Semester	Units	
Social Problems	SOC 202	3	
Business Math (or MAT 020)	BUS 104	3	
Elementary Psychology	PSY 101	3	
Ethnic Groups & Minorities*	SOC 160	3	
Intro to Criminal Justice System*—	AJS 121	3	
Elective		3	
		18	

	Third Semester	Units	
Developmental Psychology	PSY 240	3	
Social Work Methods I* (Prerequisite)	SSV 270 <i>N</i>	3	
Social Work Seminar* (Prerequisite)	SSV 272 <i>N</i>	3	
Field Experience (Prerequisite)	CED 110	4	
Elective		3	
		16	

	Fourth Semester	Units	
Social Work Methods II* (Prerequisite)	SSV 271 <i>N</i>	3	
Determinants of Human Behavior (Prerequisite)	SSV 273 <i>N</i>	3	
Field Experience (Prerequisite)	CED 110	4	
Electives		6	
		16	

\* Courses are offered only in the Fall or Spring semester.

\*\*All entering students must take a Math and an English Placement Test.

# Social Services

## Associate of Arts Degree

	General Education Requirements	Units
Composition	ENG 101	3
American Politics (or POS 220)	ENG 102	3
Introduction to Sociology	MAT 120	3
Introduction to Social Welfare*		8
Elective		9-11
	Second Semester	Units
Social Problems	SOC 101	3
Business Math (or MAT 020)	PSY 101	3
Elementary Psychology	POS 110 or 220	3
Ethnic Groups & Minorities*	SPN 101 or 201	4
Intro to Criminal Justice System*—	SPN 102 or 202	4
Elective		2
		45-47

\*See specific university requirements for applicable courses

	Major Emphasis: Arizona State University: Social Work	Units
Developmental Psychology		
Social Work Methods I*	HIS 115	3
(Prerequisite)	SOC 160	3
Social Work Seminar* (Prerequisite)	SOC 202	3
Field Experience (Prerequisite)	SOC 207	3
Elective	Recommended Electives	9
		21

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

	Major Emphasis: University of Arizona: Criminal Justice Administration	Units
Social Work Methods II* (Prerequisite)	Introduction to Criminal Justice	AJS 121
Determinants of Human Behavior (Prerequisite)	Finite Math	MAT 155
Field Experience (Prerequisite)	Calculus for Business	MAT 256
Electives	Business	BUS 101
		BUS 172
		BUS 219
	Speech	SPE 110 or 102
		3

**Major Emphasis: University of Arizona: Child Development and Family Relations**

		Units
Speech	SPE 110 or 102	3
Recommended Electives		18
		21

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

**Major Emphasis: University of Arizona: Rehabilitation**

		Units
Human Anatomy & Physiology	BIO 201	4
	BIO 202	4
Recommended Electives		12
		20

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

Human Anatomy & Physiology	BIO 201	4
	BIO 202	4
Recommended Electives		12
		20

**Recommended Electives**

		Units
Sociology	SOC 160	3
	SOC 202	3
	SOC 207	3
Economics	ECN 201	3
	ECN 202	3
Anthropology	ANT 125	3
Social Services	SSV 190	3
	SSV 193	3
	SSV 273	3

**Social Services**

**Certificate Program**

		Units
Development of Culture	ANT 102	3
Intro to Psychology	PSY 101	3
Intro to Sociology	SOC 101	3
Intro to Social Welfare	SOC 207	3
English Composition	ENG 101	3

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

15  
30

**Spanish**

**Associate of Arts**

**General Education Requirements**

ENG 101, 102	6
Humanities	8-9
Mathematics (MAT 120 or above)	3
Laboratory Science	8
Social Science	9
Foreign Language (SPA 101, 102)	8
	44-45

**Required Courses:**

SPA 201, 202	8
--------------	---

**Recommended Electives:**

ART107, 108, ANT102, 125, 135, 186, HIS110, 111, 140, 141, JRN101, 102, SPE102, THE103, 110, MUS101, 102, ENG104, PLI111, 130, SOC101, 202.

**Welding**

**Certificate Program**

		Units
Written Communications & Reports	ENG 109	3
Technical Mathematics I	GTC 100	3
Technical Mathematics II	GTC 101	3
Manufacturing Materials & Processing I	GTC 105	3
Manufacturing Materials & Processing II	GTC 106	3
Blueprint Interpretation & Basic Drafting	DFT 100	4
Oxyacetylene Welding	WLD 105	3
Arc Welding	WLD 106	3
MIG and TIG Welding*	WLD 107	3
Pipe and Plate Welding*	WLD 210	3

\*Offered at Sierra Vista only.

# Welding Technology

Associate of Science Degree

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

	<b>First Semester</b>	<b>Units</b>
Composition	ENG 101	3
Technical Graphics	DFT 112	3
Manufacturing Materials and Processes I	GTC 105	3
College Algebra	MAT 120	3
Oxyacetylene Welding	WLD 105	3
Physical Education	PED	1

	<b>Second Semester</b>	<b>Units</b>
Composition	ENG 102	3
Technical Graphics II	DFT 113	3
Manufacturing Materials and Processes II	GTC 106	3
Plane Trigonometry	MAT 124	3
Arc Welding	WLD 106	3
Physical Education	PED	1

	<b>First Semester</b>	<b>Units</b>
Sophomore		
MIG and TIG Welding	WLD 107	3
Pipe and Plate Welding	WLD 210	3
Electives:		
Lab Science		4
Humanities/Fine Arts		3-4
Social/Behavioral Science		3

	<b>Second Semester</b>	<b>Units</b>
Pipe Fitting and Welding	WLD 211	3
Welding Design and Fabrication	WLD 215	3
Electives:		
Lab Science		4
Humanities/Fine Arts		3-4
Social/Behavioral Science		3

# Welding Technology

Associate of Applied Science Degree

**Freshman**  
 Composition  
 Technical Graphics  
 Technical Math I  
 Manufacturing Materials and Processes I  
 Oxyacetylene Welding

	<b>Second Semester</b>	<b>Units</b>
--	------------------------	--------------

Written Communications and Reports	ENG 109	3
Technical Graphics II	DFT 113	3
Technical Math II	GTC 101	3
Manufacturing Materials and Processes II	GTC 106	3
Arc Welding	WLD 106	3

	<b>First Semester</b>	<b>Units</b>
Sophomore		
MIG and TIG Welding	WLD 107	3
Pipe and Plate Welding	WLD 210	3
Electives:		
Lab Science		4
Humanities/Fine Arts		3-4
Social/Behavioral Science		3

	<b>Second Semester</b>	<b>Units</b>
Pipe Fitting and Welding	WLD 211	3
Welding Design and Fabrication	WLD 215	3
Electives:		
Lab Science		4
Humanities		3-4
Social/Behavioral Science		4

# Course Descriptions

**Note: \*indicates Lab Fees**

## ADMINISTRATION OF JUSTICE

### AJS 100 Introduction to 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 110 U.S. Government/Provost-Marshall Police

#### Operations/3 Units

A study of operation of Military Police and Department of Defense civilian guard activities.

Also, a source of information for commanders and supervisors in the use of Military Police assets to fulfill command responsibilities, i.e., enforcing the Uniform Code of Military Justice, preventing and suppressing crime, assessing physical security posture and registering and controlling privately owned vehicles and weapons.

3 hours lecture.

### AJS 121 Introduction to the Criminal Justice System/3 Units

Prerequisite: None.

An introduction to the elements of the Criminal Justice System: police, courts, corrections. Duties and functions of each. Investigative process, arrest, prosecution, defense attorney, grand jury, petit jury, judge, probation and parole, sentencing, corrections process.

3 hours lecture.

### AJS 122 Police Patrol Function/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 124 Supervision for Police/3 Units

Prerequisite: AJS 122, or permission of instructor.

A study of the duties and responsibilities of the line supervisor (Sergeant). His role in management, supervisor selection, motivation, leadership, morale, discipline, interviewing and counseling, grievances, performance appraisal, and training.

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: None.

A basic approach to juvenile delinquency, its causes, and proposed corrections. The police role with juveniles, the juvenile officer, judge, and their functions are examined.

3 hours lecture.

### AJS 140 Police-Community Relations/3 Units

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

A study of the evolving role of the police, need for positive police-community relations, misuse of police authority, public attitude toward police, police and racial minorities, police and civil disorder, police isolation, relations with news media, police-public relations programs, police-community relations programs, crime prevention programs.

3 hours lecture.

### AJS 148 Institutional Corrections/3 Units

Prerequisite: None.

A study of the history of punishment, the modern approach to correctional science, punishment as retribution, recidivism rate, rehabilitation through training and education, prisoner's rights, the processes of probation and parole.

3 hours lecture.

**AJS 149 Corrections I: Correctional History/3 Units**

Prerequisite: None.

A study of correctional history focusing upon the origin of punishment, beginning of prisons in America, the foundations of criminal law and the basic theories of criminal behavior.

3 hours lecture.

**AJS 150 Corrections II: Correctional Management/3 Units**

Prerequisite: None.

A study of correctional management topics including sentencing, release credits, classification, discipline, inmate rights and security control measures, with each topic reviewed as it relates to the concepts of rehabilitation, retribution, reintegration and reform.

3 hours lecture.

**AJS 154 Psychology in Law Enforcement/3 Units**

Prerequisite: PSY 101, ENG 101, Reading 11.5 grade level or above 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, paranoid, violent, suicidal behavior. Behavioral aspects of: disasters, riots, riot control and legal aspects of abnormal behavior.

3 hours lecture.

**AJS 156 Criminology/3 Units**

Prerequisite: ENG 101, Reading 11.5 grade level or above 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 190 Police Reserve Academy I/12 Units**

Prerequisite: Student must be employed as a reserve officer by a recognized law enforcement agency.

A limited police academy for reserve officers.

Successful course completion awards certification as a limited authority police reserve.

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

Prerequisite: ENG 101. Reading 11.5 grade level or above

A general overview of criminal procedure, the court system, arrest, search and seizure. Main emphasis will be 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 200 (preferred), Eng 101, Reading 11.5 grade level or above.

Study of the three main working areas of procedural law for police officers, arrest, search, and seizure. Rules of criminal procedure and precedent cases are studied in detail.

3 hours lecture.

**AJS 227 Rules of Evidence/3 Units**

Prerequisite: ENG 101, Reading 11.5 grade level or above recommended.

Examination of the rules of evidence, as applied in the courtroom to the evidence compiled by the police officer in the investigation of criminal offenses. Trial procedure, kinds of evidence, privileged communications, hearsay rule, exclusionary rule, confessions and admissions are studied.

3 hours lecture.

**AJS 236 Survey of Forensic Science/3 Units**

Prerequisite: AJS 122,227 required; ENG 101, Reading 11.5 grade level or above recommended.

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 238 Criminal Investigation/3 Units**

Prerequisite: AJS 122, 154, ENG 101, Reading 11.5 grade level or above recommended.

An introduction to the elements of felony crime investigation. Methods of preliminary and follow-up investigation.

Interviewing, interrogating of witnesses, informants, suspects (subject to legal aspects). Sources of information: witnesses, informants, agencies. Methods of criminal operation in various crimes; arson, burglary, homicide, sex crimes, robbery, and various other crimes.

3 hours lecture.

**AJS 247 Corrections III: The Sociology of Correctional Institutions/3 Units**

Prerequisite: None.

A detailed overview of the prison subculture.

Extensive study of inmate rules, mores, codes and values based upon demographics, politics and programs.

3 hours lecture.

**AJS 248 Corrections IV: Probation/3 Units**

Prerequisite: None.

A study of the origins and developments of probation in the United States including the primary roles of lawyers, judges and probation officers in the administration of probation.

3 hours lecture.

**AJS 249 Constitutional Law for Police/3 Units**

Prerequisite: AJS 200 and 201

A study of the federal constitution, particular attention to specific amendments: Amendment 1,4,5,6,8, and 14. Text and case studies regarding: freedom of speech, assembly, search and seizure, arrest, double jeopardy, self incrimination, right to an attorney, fair trial, jurisdiction, confrontation of witnesses against, jury trial, cruel and unusual punishment, due process of law, and equal protection of the law. Federal government structure: Legislative, Executive, Judicial branches: powers, checks and balances, limitations.

3 hours lecture.

**AJS 252 Accidents, Citations and Disorders/3 Units**

Prerequisite: ENG 101, Reading 11.5 grade level or above recommended.

A study of traffic law; vehicle and operator registration, rules of the road. Traffic engineering, control and management, signals, signs, roads, streets, highways. Elements of accident investigation, prevention. Problems of groups, crowds, mobs, riots. Methods of control and dispersal.

3 hours lecture.

**AJS 270 Police Organization and Administration/3 Units**

Prerequisite: AJS 100, 122, 124.

A study of the basic administrative and organizational concepts being maintained and new advances proposed in the organization of police services, the operations, administrative, auxiliary, and plant facilities in large and small police departments.

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.

3 hours lecture.

## 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: AGR 103.

A course dealing with diseases which affect common domestic animals 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 and hooves, horse shoeing, diagnosis of minor hoof and leg problems and proper methods for correcting stride and alignment.

1 hour lecture; 3 hours laboratory.

**AGR 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**

Prerequisites: 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.

**AGR 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 and 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 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, pedigree, practice judging, and selection of livestock.

3 hours lecture.

**AGR 243 Livestock Production and Management/3 Units**

Prerequisite: None.

A study of the managerial skills necessary in the production, feeding, and the care of livestock on farms and ranches with emphasis on the economics of the livestock industry.

3 hours lecture.

**AGR 250\* Project Welding/3 Units**

Prerequisites: 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 nontransfer 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 101 The 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 Development of Culture/3 Units**

Prerequisite: None.

An introduction to elements of cultural anthropology and a study of man's cultural progress from the Lower Paleolithic to historic periods.

3 hours lecture.

**ANT 125 Society and Culture/3 Units**

Prerequisite: None.

Theoretical and practical insight into cultural forces which affect man's way of life including study of material culture, technology, social, political, economical systems, religion, and language.

3 hours lecture.

**ANT 135 Introduction to Archaeology/3 Units**

Prerequisite: None.

A basic study of archaeological theory and technique with emphasis on the practical aspects of archaeology, a preparation for site excavation.

3 hours lecture; field trips.

**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 185 Prehistoric Cultures of North America/3 Units**

Prerequisite: None.

A survey of prehistoric native cultures of North America, which includes investigations of areas of particular interest to individual students.

3 hours lecture; field trips.

**ANT 186 Historic Indian Tribes of North America/3 Units**

Prerequisite: None.

A survey of historical Indian cultures of North America with in-depth investigation of cultures of particular interest to individual students.

3 hours lecture.

**ANT 187 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 190 The Border; From Heroic Past to Present Controversies/3 Units**

Prerequisite: None.

An introduction to the anthropology, history, and economic development of the the United States-Mexico border, emphasizing the acquisition of knowledge relevant to public and business policy concerns.

3 hours 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 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 non-transfer 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.

Elements of visual perception and organization in two- and three-dimensional media.

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.

Elementary course in a representational drawing and expressive pictorial design: still-life and landscape drawing with pencil, charcoal, and ink; freehand drawing to develop eye-hand coordination; drawing from the imagination, memory, fantasy 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 the world from prehistoric to the classic periods of Greece and Rome.

3 hours lecture.

**ART 108 Survey of World Art/3 Units**

Prerequisite: None.

A survey presentation of the art and architecture of the world from the classic Greek and Roman periods to modern times.

3 hours lecture.

**ART 130\* Fundamentals of Painting I/3 Units**

Prerequisite: None.

Introduction to techniques of watercolor, oil or acrylic with emphasis on composition and materials, students completing

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.

3 hours lecture-demonstration.

**ART 131\* Fundamentals of Painting II/3 Units**

Prerequisite: ART 130.

Development of 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.

1 hour lecture; 3 hours laboratory.

**ART 230\* Two-Dimensional Design/3 Units**

Prerequisite: ART 101, ART 103 for majors or permission of instructor for other interested students.

Further design investigations in the elements of design, form, line, space, texture, color and light within a two-dimensional framework and investigations in the applied design areas of wood-cut, linoleum block, etching, silk screen, batik and other fabric design techniques.

2 hours lecture; 4 hours laboratory.

**ART 231\* Three Dimensional Design/3 Units**

Prerequisite: ART 103.

A studio course with an inquiry into the use of volume and mass relationships as they exist in actual space and an introduction to methods of sculpture, pottery and jewelry.

2 hours lecture; 4 hours studio.

**ART 245\* Beginning Figure Drawing/3 Units**

Prerequisite: ART 106 or permission of instructor.

Drawing of the human figure with the emphasis on structural and anatomical form with a secondary emphasis on the figure in its environment.

2 hours lecture; 4 hours studio.

**ART 265\* Beginning Commercial Design/3 Units**

Prerequisite: ART 102 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/3 Units**

Prerequisite: ART 101, ART 103, or permission of instructor.

An introduction to clay, glaze and kiln processes and wheelthrown techniques with general historical survey of ceramics.

2 hours lecture; 4 hours studio

#### **ART 280\* Beginning Painting/3 Units**

Prerequisite: ART 101, 103 or permission of instructor.

Elementary course in pictorial organization and methods and techniques of oil painting applied to objects and landscapes.

2 hours lecture; 4 hours laboratory.

#### **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 consent of instructor.

Second semester of a one-year sequence, advanced black and white technique. Introduction to color. Current trends.

2 hours lecture; 4 hours laboratory.

#### **ART 290\* Sculpture/3 Units**

Prerequisite: ART 103, 231, or permission of instructor.

An introduction to traditional and contemporary sculptural media, techniques and concepts, student involvement from raw material to finished product.

2 hours lecture; 4 hours 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**

Prerequisites: 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.

127 hours lecture; 79 hours laboratory.

#### **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 toward 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 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 Flight Laboratory/6 Units**

Prerequisite: Completion of AVN 101, 102, and 103 Ground AVN 111, 112 and 113 Flight with minimum grades of C. or possession of a Commercial Certificate, or Private Certificate with 200 hours flight time.

Completion of the knowledge, skill and experience requirements for Commercial Certification.

**AVN 218 Multi-Engine Class Rating Flight Laboratory/2 Units**

Prerequisite: Admission to a laboratory section. 5 hours solo in complex airplane. Concurrent enrollment or prior completion of AVN 208.

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-Airplanes.

**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 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 299G 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 extracurricular projects of merit.

**Airframe and Powerplant Maintenance Technology**

A specialized 1936 contact hour program that meets the requirements of Federal Aviation Regulations, Part 147.

**AVN 150\* Phase I 400 Hours/18 Units**

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.

**AVN 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.

**AVN 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.

**AVN 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.

**AVN 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.

**AVN 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.

**AVN 290 Airframe and Powerplant Upgrade/6 Units**

A review of the 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.

**AVN 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 F.A.A.'s Advisory Circular 652D. Course not open to A & P students.

4 hours lecture; 6 hours laboratory.

**AVN 148 General Aeronautics and 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.

**AVN 149 General Aeronautics and 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.

#### **AVN 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 hours laboratory.

#### **AVN 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.

#### **AVN 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.

#### **AVN 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.

#### **AVN 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.

#### **AVN 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.

#### **AVN 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.

#### **AVN 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 systems, propellers, and engine fire protection systems.

2.5 hours lecture; 1.5 hours laboratory.

## **BIOLOGICAL SCIENCES**

#### **Note: \* Indicates Lab Fees**

#### **BIO 101\* General Biology (non-majors) I/4 Units**

Prerequisite: None.

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) II/4 Units**

Prerequisite: None.

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 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. Offered spring semester only.

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 man 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 the instructor.

An integrated study of the physical, structural, and functional features of the cells, tissues, skeletal system, muscular system, 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 282\* 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 101 Principles of Accounting/3 Units**

Prerequisite: MAT 020 or BUS 104 or equivalent.

An introductory course in gathering, recording and using the financial data of 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 102 Principles of Accounting/3 Units**

Prerequisite: BUS 101.

A continuation of BUS 101 with increased emphasis upon partnership and corporation accounting and capital structure and interpretation and usage of accounting data for managerial decision-making purposes.

3 hours lecture; 2 hours laboratory.

#### **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 101 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 Personnel 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 are employer and employee social responsibilities.

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 136 Analyzing Financial Statements/3 Units**

Prerequisite: BUS 101 or permission of instructor.

The characteristics and analysis of financial statements, with emphasis on their utilization in banking, covering the balance sheet, the profit and loss statement, and analysis of earning potential. An American Institute of Banking Course.

3 hours lecture.

**BUS 137 Business, Money and Banking/3 Units**

Prerequisite: ECN 201.

The practical aspects of money and banking and the basic monetary theory needed by the banking student: economic stabilization, types of spending, the role of gold, limitations of central bank exchange, and their repercussions on the banking industry in affecting yield curves and 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, quasi-contracts, 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 and banking transactions involving legal significance.

3 hours lecture.

**BUS 140 Principles of Real Estate/3 Units**

Prerequisite: None.

A course on basic principles of real estate which meets minimum requirements for the Arizona Real Estate salespersons' examination.

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 hours 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 and 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 147 Labor Relations/3 Units**

Prerequisites: BUS 123 or 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 and services, solutions for buying, selling, stocking, servicing and controlling in retail outlets.

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 and 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, and record keeping.

3 hours lecture.

#### **BUS 154 Credit Union Basics/3 Units**

Prerequisite: None.

Understanding credit unions, operations and 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 official; Federal regulations.

3 hours lecture.

#### **BUS 156 Principles of Finance/3 Units**

Prerequisite: BUS 101 or BUS 146 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 Microcomputer Accounting/1 Unit**

Prerequisite: Bookkeeping & Financial Accounting.

An introduction to the solving of financial accounting problems with the aid of a microcomputer.

1 hour lecture.

#### **BUS 167 Business Communications/3 Units**

Prerequisite: ENG 101 or permission of the instructor.

A study of business compositions prepared in a business organization-typical internal and external communications (letters, memos, and reports) with emphasis on applying English fundamentals, usage, syntax, and methods of organization around patterns of exposition.

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 101 or 146.

Course includes the use of automated accounting software to complete general ledger, accounts payable, accounts receivable and payroll reports.

3 hours lecture.

#### **BUS 201 Intermediate Accounting/3 Units**

Prerequisite: BUS 102.

A comprehensive course in gathering, recording, and using the financial data of business; accounting treatment of assets, including related principles of profit determination.

3 hours lecture; 1 hour laboratory.

#### **BUS 202 Intermediate Accounting/3 Units**

Prerequisite: BUS 201.

A continuation of BUS 201. Accounting treatment of liabilities and capital accounts and the analysis of financial statements. 3 hours lecture; 1 hour laboratory.

### **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 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 and employment, partnerships and special ventures, and corporations.

3 hours lecture.

### **BUS 245 Seminar: Trends and Practices in Marketing and Management/3 Units**

Prerequisite: BUS 144, 145 and 101 or 146, or permission of instructor.

Application of problem-solving and decision-making techniques to practical business situations based on current readings 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 skill 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, 101 and 102.

A course recommended for the last semester of the degree of Associate of Applied Science in Business Administration. Analysis of the practical problems of organizing and managing a successful small business with practical problems in marketing research, financial analysis and control, budgeting, management, and organization for small businesses.

3 hours lecture.

### **BUS 284 Installment Credit I/3 Units**

Prerequisite: BUS 101 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 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 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.

## 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 and restrictions of various methods used in surveying and mapping; principles of directional control; geodetic relationships and subdivision layout.

2 hours lecture; 3 hours laboratory.

## CHEMISTRY

### Note: \*indicates Lab Fees

### CHM 101\* Introduction to 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 110\* Essentials of Chemistry/4 Units

Prerequisite: MAT 020.

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 121-122\* General Chemistry/4 Units

Prerequisite: CHM 121 is prerequisite for CHM 122.

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 and biochemistry.

3 hours lecture; 3 hours laboratory.

### CHM 230\* Analytical Chemistry/4 Units

Prerequisite: CHM 122.

Principles of quantitative chemical analysis including theory and practice of separation processes and analytical determinations involving gravimetric, volumetric, colorimetric and electroanalytical procedures.

2 hours lecture, 6 hours laboratory.

### CHM 240-241\* Organic Chemistry/4 Units

Prerequisite: CHM 122, CHM 240 is a prerequisite for CHM 241.

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 hours 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.

## 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 student's 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 CED110 unless excused by coordinator.

Basic processes and concepts of the world of work; job application, job responsibilities, human relations, career areas and supervisory development.

# COMPUTER INFORMATION SYSTEMS

## **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, and office networking.

3 hours lecture.

## **CIS 131\* Teachers and the Apple/3 Units**

Prerequisite: None.

An introduction to and interaction with the Apple IIE computer for teachers: simple BASIC programming, terminology and commands; low resolution graphics; animation; word processing; Logo language and commands; and 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 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 concurrent enrollment) or permission of instructor.

A non-mathematical study of the fundamentals of computer programming to include program design, antibugging, 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 and aims of business, data processing systems and terminology, data collection, report preparation, functions of data processing units, flow charts, systems design concepts, and BASIC computer programming. Students receive practice in writing computer programs.

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 structures, 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 or permission of the instructor.

A detailed study of the FORTRAN programming language and the organization of data structures, input-output, and operator considerations. Students will write a minimum of eight operational programs.

3 hours lecture, 3 hours laboratory.

**CIS 175\* BASIC Computer Programming/3 Units**

Prerequisite: CIS 171 or permission of the instructor.

An introduction to computer and 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 and 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 177\* 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 181\* Computer Applications for Business/3 Units**

Prerequisite: BUS 104 or equivalent or permission of the instructor.

Course includes the use of management information software for the microcomputers. Applications include spreadsheets, inventory control, sales reporting, personnel management, mailing lists, and an introduction to data base management systems. No programming experience is necessary.

3 hours lecture.

**CIS 190 Computer Hardware and Software Applications/.5 Unit**

Prerequisite: None.

A study of various computer hardware components and software programs for the professional on the job use of the student.

Course may be repeated.

.5 hour lecture.

**CIS 215 Automation for Communicators 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 Assembly Programming language that converts individual instructions written in symbolic form into machine language. Computer organization, data structures, input-output and operation considerations. Students will write a minimum of eight operational programs.

3 hours lecture, 3 hours laboratory.

**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 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 240\* Software Engineering and 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 173.

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 hours laboratory.

**CIS 270 Information Systems Analysis and Design/3 Units**

Prerequisite: CIS 173.

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.

Students are required to construct and write several programs.

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 and their interaction with the BASIC language, data input and validation, file creation and updating, report design and preparation, data management, microcomputer data base management systems, computer graphics for input and output and microcomputer communications.

3 hours lecture; 3 hours laboratory.

**CIS 277\* Advanced ADA Programming/4 Units**

Prerequisite: CIS 177 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 279 Computer Operations--Level I/3 Units**

Prerequisite: CIS 173.

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; 3 hours laboratory.

## **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 and establishing health care services for maintenance of health. Available resources, services, and alternative health care options.

3 hours lecture.

**CSN 140 Consumers and Their Money/3 Units**

Prerequisite: CSN 110 or permission of the instructor.

A management-by-objective approach to lifetime financial planning for the individual or family group emphasizing the basics of budgeting for necessary expenditures.

3 hours lecture.

#### **CSN 210 Consumers and Their Environment/3 Units**

Prerequisite: Sophomore standing and 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 and Their Government/3 Units**

Prerequisite: Sophomore standing and 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.

## **COUNSELING & 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 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 In our Modern World/3 Units**

Prerequisite: None.

The application of principles and concepts of effective parenting to meet the challenges and problems of a parent in modern American society.

3 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.

## **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.

#### **COR 01 275 Corrections Training Academy/3 Units**

Prerequisite: Employment with Department of Corrections. Acquisition of knowledge, skills, and attitudes necessary for successful employment.

3 hours lecture.

## **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 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 and Drafting/4 Units**

Prerequisite: None.

A combination of basic surveying and topographical drafting including mapping, subdivision design, profiling, contouring, sectioning, area calculations, horizontal and 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 and 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 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 and 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 Economics I/3 Units**

Prerequisite: None.

A survey of the United States economic system including employment, income, spending, Gross National Product, business cycles, inflation and depression, fiscal policy, money

and banking with emphasis on the households, business and government sections.

3 hours lecture.

### **ECN 202 Principles of Economics II/3 Units**

Prerequisite: None.

Economic principles as applied to the individual units in our system: market structure and price theory of the firm under competition, oligopoly, and monopoly, problems and issues concerning agriculture, labor unions, the urban area, poverty, insecurity, and income distribution.

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 and the roles and responsibilities of the teacher.

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 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, and 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: 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

diode and transistors, load lines, approximate hybrid parameters, and multistage systems.

3 hours lecture; 3 hours laboratory.

#### **ELT 125\* Electronic Circuits and Systems/4 Units**

Prerequisites: ELT 105, ELT 106 and concurrent enrollment in ELT 120 or equivalent.

A study of large signal diode and filter analysis, voltage and current regulations, with emphasis on the field effect transistor as an amplifier, the Miller effect, frequency response and feedback.

3 hours lecture; 3 hours laboratory.

#### **ELT 231\* Pulse Circuits/4 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, the circuit 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. In the 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 student opportunity to apply basic theoretical concepts to practical circuits and complex electronic systems and emphasis on schematic diagram reading and the use of test equipment in systems analysis.

3 hours lecture; 3 hours laboratory.

#### **ELT 265\* Microprocessors and 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 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.

6 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 requirement 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 and 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 and vowel blends. Included in the Reading Improvement Block or taught individually by student contract through the Learning Assistance Center.

1 hour lecture.

**ENG 010 English Fundamentals/3 Units**

Prerequisite: Completion of Intensive English Level 3 or appropriate placement test score, reading levels of grade 5-6. An intensive review of grammar, spelling, vocabulary, and other fundamentals, with emphasis on writing paragraphs and short themes. 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 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: Placement by Communications Division, ENG 010 or its equivalent based on placement scores and transfer essay from ENG 010.

A review of usage and syntax, methods of organization, and patterns of exposition.

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 literary 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, 56.9 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.

**ENG 107 English Composition for Foreign Students I/3 Units**

Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test and a writing sample.

A review of syntax and grammar and an introduction to methods of organization and rhetorical patterns of writing for students whose native language is not English.

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 and 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 and Punctuation/3 Units**

Prerequisite: ENG 010, 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: Placement by Communications Division, English 010 or its equivalent based on placement scores.

A study of business compositions prepared in a business organization including typical internal and external communication (letters, memos, and reports) with emphasis on applying English fundamentals. (Identical with OED 167)

3 hours lecture.

### **ENG 206 Critical Reading & Writing/3 Units**

Prerequisite: ENG 020, 010, 022 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 twentieth 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 18th 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 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.

## **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 and 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 and 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 and a study of English pronunciation, grammar, and usage.

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 and 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 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/3-4 Units**

Prerequisite: ESL 028 or recommendation from testing.

A continuation of skills introduced in Level I with emphasis on vocabulary development, paragraph reading, expository and descriptive discourse, and techniques of critical reading.

#### **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/3-4 Units**

Prerequisite: ESL 032 or recommendation from testing.

Review of basic reading skills, emphasis on improving comprehension, rate, vocabulary, study skills and reading in content areas.

#### **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/4 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 and 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 AV equipment in conjunction with special projects.

#### **ESL 042 Using and Reading English II/4 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.

Placement in this level determined by placement test administered by the English Immersion Program staff.

#### **ESL 043 Lab for Using and 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 AV equipment in conjunction with special projects.

#### **ESL 044 Using and Reading English III/4 Units**

Prerequisite: Using and Reading English II or placement by the English Immersion Program staff.

A continuation of Using and Reading English II.

It covers grammar, reading, vocabulary, and listening exercises at the high intermediate level, communicative activities more advanced than the previous level.

#### **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 AV equipment in conjunction with special projects.

#### **ESL 046 Using and Reading English IV/4 Units**

Prerequisite: Using and Reading English III or placement by the English Immersion Program staff.

A continuation of Using and Reading English III.

It covers 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 and 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 hour 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 and field trips.

3 hours lecture.

**FST 110 Fire Operations I/3 Units**

Prerequisite: None.

Introduction to the operations and 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 and 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.

**FST 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, troubleshooting, 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 acts, chemicals and diseases that affect breathing, and breathing apparatus.

3 hours lecture.

**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 and 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, and incendiary) including arson and incendiaryism

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 and 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 and their application to the normal diet, health and cultural patterns. Some emphasis will be placed upon diet modification in common health disorders, i.e., obesity, diabetes mellitus and cardiovascular disease.

3 hours lecture.

## FRENCH

**FRE 101 Elementary French/4 Units**

Prerequisite: None.

An introduction to conversation, comprehension of the spoken language, pronunciation, grammar, reading and composition.

3 hours lecture; 2 hours laboratory.

**FRE 102 Elementary French/4 Units**

Prerequisite: FRE 101 or permission 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 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 012 General Automotive Mechanics I/3 Units**

Prerequisites: 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 hours 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, use of repair manuals, brake system theory and minor service, repacking wheel bearings, fuel system theory and very minor service, basics of electricity, basics of battery, starter, and charging system theory, ignition system and basic emission control 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**

Prerequisites: Admissability 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 professor.

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 and Processes I/3 Units**

Prerequisites: None.  
Manufacturing materials, operations, procedures, and processes with emphasis on their relationship to drafting and design.  
3 hours lecture.

#### **GTC 106 Manufacturing Materials and 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.

## **GEOGRAPHY**

#### **GEO 101 Physical Geography/3 Units**

Prerequisite: None.  
An introduction to the various features of the physical environment of the earth including the origin and development of landforms, the composition of the earth's crust, weather, climate, vegetation, soils and the mineral resources used by man.  
3 hours lecture.

#### **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 121\* 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 including recent trends in earth science and the environmental science.  
3 hours lecture; 3 hour laboratory.

#### **GLG 122\* Introduction to Geology II (Historical)/4 Units**

Prerequisite: GLG 121 recommended but not required.  
An introduction to current thought on the development of the surface of our planet and the life found upon it. For general-interest students and those majoring in geology, archaeology, or the biological sciences.  
3 hours lecture; 3 hours laboratory.

#### **GLG 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 and composition; emphasis on grammar, pronunciation, and listening vocabulary.

4 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.

4 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 nontechnical essays and analysis of short stories and socially pertinent texts.

4 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 SCIENCE**

#### **HSC 142 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.

#### **HSC 170 First Aid and Safety/3 Units**

Prerequisite: None.

The standard and advanced Red Cross course in first aid including the theory and practice in immediate and temporary care in the case of accident or sudden illness.

3 hours lecture.

#### **HSC 171 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.

## **HEALTH TECHNOLOGY**

#### **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 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 patients/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 patients/clients, emphasizing the needs of the geriatric patient.

4 hours lecture; 6 hour 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 173 Introduction to Health Care/3 Units**

Prerequisite: None.

An introduction to health science fundamentals and exploration of health care delivery concepts and applications presenting health as an individual, community and world service, relating concepts to health careers and delivery.

Required by Allied Health Programs through SARAHELP.

3 hours lecture.

3 hours lecture.

**HLT 177 First Aid Instructor Training/3 Units**

Prerequisite: HSC 170, 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.

**HLT 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 that involve 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.

## **HISTORY**

**HIS 110 History of the United States to 1865/3 Units**

Prerequisite: None.

A study of the development of American characteristics and nationality from the founding of the New World to the preservation of the Union in 1865, 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 1865/3 Units**

Prerequisite: None.

A study of the social, economic, and political forces that moved the United States through the periods of Reconstruction and Industrialization and into the position of a world power, focusing on both domestic and foreign affairs in the country's last century of development.

3 hours lecture.

**HIS 115 Survey of the American West/3 Units**

Prerequisite: None.

A study of the methods of penetration and the patterns of westward expansion and settlement with analysis and criticism of the conquest, exploitation and settlement of the last frontiers, including the contribution of minority groups in the American West emphasizing the Southwest.

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 and 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 From Ancient Times to the Reformation/3 Units**

Prerequisite: None.

A discussion of the major historical trends from primitive society and the emergence of civilization through the Protestant Reformation, including such topics as the Aegean, Grecian, Roman, Medieval, and Renaissance civilizations with special emphasis upon the cultural development of mankind, and upon the relationship of these developments to subsequent history.

3 hours lecture.

### **HIS 141 Survey of Western Civilization from 1715 to the Present/3 Units**

Prerequisite: None.

A study of the significant cultural, political, social, economic and technological developments in the Western world since 1715 which have helped shape the present world.

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 229 History of Mexico I/3 Units**

Prerequisite: None.

A study of political, economic, social, and cultural

developments from Pre-Columbian civilizations to the War for Independence.

3 hours lecture.

### **HIS 230 History of Mexico II/3 Units**

Prerequisite: None.

A study of political, economic, social, and cultural developments from the War for Independence to modern times.

3 hours lecture.

## **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.*

### **HUM 011 Humanities in Modern American Life/3 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 hours lecture.

### **HUM 071 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 and for others who wish to increase their awareness of American cultural values. Students will receive and practice key concepts about American social behavior and values.

3 hours lecture.

### **HUM 101 Humanities in Contemporary Life/3-4 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.

3 hours lecture.

#### **HUM 110 Introduction to Film/3 Units**

Prerequisite: None.

A study of film as an art form 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 205 Humanities/4 Units**

Prerequisite: ENG 102 or permission of the instructor.

A study of the development of art, literature, and music in the western world from classical times to the late Renaissance with particular emphasis on the relationship of man and God.

4 hours lecture.

#### **HUM 206 Humanities/4 Units**

Prerequisite: ENG 102 and sophomore standing.

A continuation of HUM 205 to the contemporary period. May be taken independently of HUM 205.

4 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 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 Communications/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 and 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 JRN 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 and production of the college newspapers 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 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 and 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 and 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 and the brain; language and thought.

3 hours lecture.

## **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, and 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 metalworking and machine tools.

2 hours lecture, 6 hours laboratory.

## **MATHEMATICS**

#### **MAT 005\* Developmental Math/3 Units**

Prerequisite: Math placement test scores below requirements for successful completion of MAT 010 with grade of D or F.

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 and 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 math 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 and word problems. (Only offered during summer session).

2 hours lecture.

#### **MAT 020 Elementary Algebra/3 Units**

Prerequisite: Acceptable score in placement examination or C or better in MAT 010.

An introduction to the basic algebra normally included in a first-year high school algebra course: fundamental axioms and 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 quadratic equations. May or may not transfer for credit to four-year universities.

3 hours lecture.

#### **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 and set notation, inequalities and absolute value, polynomial functions and their graphs, determinants and matrices, inverse functions, logarithmic and exponential functions, complex numbers, sequences, binomial theorem, and mathematical induction.

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 and demand analysis, systems of linear inequalities with application, linear programming and the simplex method including the primal and dual problems with shadow prices and righthand side ranges, compact notations including vectors and matrices and summations with application to elementary statistics, common and natural logarithms, and mathematics of finance.

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 and 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 and continuity, definition and 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 coordinates, 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 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.

## **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).

### **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 hours lecture.

### **MUS 102 Introduction to Music/3 Units first**

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, and 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 with basic vocal literature will be memorized and 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 Unit5**

Prerequisite: None.

Study and performance of outstanding musical literature from various periods of musical composition.

May be repeated for credit.

### **MUS 111 Band/1 Unit6**

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.

May be repeated for credit for no more than a total of four hours.

A systematic study in technique and repertoire of an instrument of student's choice, providing instructor is available.

Weekly lesson.

### **MUS 115, 116\* Voice--Individual Instruction/1-1 Units**

Prerequisite: Permission of the instructor.

May be repeated for credit for no more than a total of four hours.

Study of basic foundations of vocal techniques and preparation of recital literature for jury examination.

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.

## **NURSING**

### **NUR 121 Medication Math/1 Unit**

Prerequisite: Admission to Nursing Program.

A course which reviews basic math skills and gives the student experience in calculation of drug dosages: oral dosages, parental dosages, pediatric dosages, solutions, and 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 as an Associate Degree Nurse: the roles and interactions of nurses, health care systems and other health care professionals; the nursing process; communications; and 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: NUR 122 and 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 and skills toward practical nursing or eventual assumption of the role of the associate degree nurse.

6 hours lecture; 12 hours laboratory.

### **NUR 232-233\* Nursing III-IV/9-9 Units**

Prerequisite: NUR 123 and concurrent courses.

NUR 232 and concurrent courses.

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.

6 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**

Prerequisite: OED 101 or equivalent.

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 and 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 and 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 on 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 and 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, and 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 40 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 60 wpm for three minutes dictation at 95% accuracy.

2 hours lecture.

#### **OED 146 Bookkeeping and Financial Management (Secretarial Accounting)/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 receivables control, inventory control, sources of funds, budgeting, and ratio analysis.

3 hours lecture; 1 hour laboratory.

#### **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, and reports) with emphasis on applying English fundamentals, usage, syntax, and methods of organization around patterns of exposition.

(Identical with ENG 167)

3 hours lecture.

#### **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 type special, more demanding business letters, manuscripts, tabulations, and various forms through the use of individualized units of work with an expected outcome of 60 wpm for five 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, and 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**

Prerequisite: 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 and 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 and 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 and 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, and 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 and OED 104 for nonstenographic majors, course individualized for stenographic and nonstenographic.

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 216 Medical Transcription/3 Units**

Prerequisite: OED 210 or permission of instructor, BIO 151, 152 and OED 212.

Practice in using equipment for transcription into typewritten form of written, verbal or recorded ideas, including work on transcription machines and office style dictation.

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 and 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.

## **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.

A course introducing the experience of others on the topic of death, loss and survival offering new ways to think about death, one's own death, and those of loved ones including 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, the instructor and the division chair prior to initiation of the study. May be repeated for credit.

## PHYSICAL EDUCATION

**PED 110 Beginning Coed Gymnastics/1 Unit**

Prerequisite: None.

An introductory course involving the development of skills in several gymnastic events including trampoline, still rings, parallel bars, side horse, horizontal bars, balance beam, tumbling and floor exercises, and various conditioning apparatus.

1 hour lecture; 1 hour laboratory.

**PED 111 Coed Intermediate Gymnastics/1 Unit**

Prerequisite: PED 110 or permission of instructor.

A laboratory course to develop intermediate and advanced skills in several gymnastics events including trampoline, still rings, parallel bars, side horse, horizontal bar, balance beam, tumbling and floor exercises and various conditioning apparatus.

1 hour lecture; 1 hour laboratory.

**PED 112 Coed Weight Training/1 Unit**

Prerequisite: None.

Introduction to and application of the basic skills, background, and knowledge necessary to develop a proper weight training program.

1 hour lecture; 1 hour laboratory.

**PED 113 Modern Coed Dance/1 Unit**

Prerequisite: None.

A course in individual and group physical exercises and modern dance interpretations.

1 hour lecture; 1 hour laboratory.

**PED 114 Coed Badminton/1 Unit**

Prerequisite: None.

Instruction in and acquisition of at least an adequate level of skill, proficiency and knowledge of the game with emphasis on

the mastery of fundamentals, application of fundamentals, and game philosophy in competition.

1 hour lecture; 1 hour laboratory.

**PED 115 Beginning Coed Bowling/1 Unit**

Prerequisite: None.

A course with emphasis on the development of skills of bowling stressing the mastery of fundamentals.

1 hour lecture; 1 hour laboratory.

**PED 116 Intermediate Coed Bowling/1 Unit**

Prerequisite: PED 115 or permission of instructor.

A course with emphasis upon expanding knowledge and perfecting fundamental skills of bowling.

1 hour lecture; 1 hour laboratory.

**PED 117 Beginning Coed Tennis/1 Unit**

Prerequisite: None.

An introduction to the beginning skills of tennis with emphasis on mastery of fundamentals.

1 hour lecture; 1 hour laboratory.

**PED 118 Intermediate Coed Tennis/1 Unit**

Prerequisite: PED 117 or permission of instructor.

Further development of previously acquired skills and the basic strategy of competitive tennis.

1 hour lecture; 1 hour laboratory.

**PED 119 Beginning Coed Golf/1 Unit**

Prerequisite: None.

Development of beginning skills of golf with emphasis on mastery of fundamentals.

1 hour lecture; 1 hour laboratory.

**PED 120 Intermediate Coed Golf/1 Unit**

Prerequisite: PED 119 or permission of instructor.

A course in golf with emphasis upon expanding knowledge and perfecting fundamental skills.

1 hour lecture; 1 hour laboratory.

**PED 121 Coed Square and Social Dance/1 Unit**

Prerequisite: None.

Introduction to the various ballroom steps in social dancing and traditional square dances.

1 hour lecture; 1 hour laboratory

**PED 122 Coed Archery/1 Unit**

Prerequisite: None.

Target archery and clout shooting with opportunity for improvement of existing skills.

1 hour lecture; 1 hour laboratory.

**PED 123 Beginning Coed Handball/1 Unit**

Prerequisite: None.

A course to develop basic skills of handball game philosophy through instruction, participation and intraclass competition.

1 hour lecture; 1 hour laboratory.

**PED 124 Beginning Coed Swimming/1 Unit**

Prerequisite: None.

An introduction for the non-swimmer in primary phases of learning to swim with the final objective of the course, ability to swim 30 yards.

1 hour lecture; 1 hour laboratory.

**PED 125 Intermediate Coed Swimming/1 Unit**

Prerequisite: PED 124 or permission of instructor.

A course to improve skills in the four fundamental strokes, crawl, breast, back and side -- with final objective of the course, the ability to swim continuously for five minutes on front, side and back.

1 hour lecture; 1 hour laboratory.

**PED 126 Advanced Coed Swimming and Water Sports/1 Unit**

Prerequisite: PED 125 or permission of instructor.

A course stressing variations of the four fundamental strokes and other water skills, introducing water polo, synchronized swimming and other aquatic activities.

1 hour lecture; 1 hour laboratory.

**PED 127 Coed Life Saving/1 Unit**

Prerequisite: PED 126 or permission of instructor.

A study of the requirements of the American Standard Red Cross water safety course leading to certification in Advanced Life Saving.

1 hour lecture; 1 hour laboratory.

**PED 128 Coed Adapted Physical Education/1 Unit**

Prerequisite: Written statement from a licensed physician requiring a limited activities program if necessary.

A personalized program of physical education consistent with the recommendation of a private physician.

1 hour lecture; 1 hour laboratory.

**PED 129 Coed Body Conditioning/1 Unit**

Prerequisite: None.

Development of an understanding of bodily functions and various physical activities to procure and maintain at least an adequate level of physical fitness and application of such activities throughout the semester while acquiring an adequate level of physical fitness.

1 hour lecture; 1 hour laboratory.

**PED 130 Coed Body Dynamics/1 Unit**

Prerequisite: None.

A course to acquire a working knowledge of exercise equipment, fitness principles, and implement said principles and equipment throughout the semester to procure an adequate level of fitness.

1 hour lecture; 1 hour laboratory.

**PED 131 Varsity Sports/1 Unit**

Prerequisite: None.

Membership in class based on participation as members of a varsity team.

1 hour lecture; 1 hour laboratory.

**PED 132 Song and Cheerleading/1 Unit**

Prerequisite: Permission of instructor and tryouts.

A laboratory course involving a study of and participation in individual and group physical exercise stunts, and dances with demonstration of these skills at rallies and games.

1 hour lecture; 1 hour laboratory.

**PED 133 Coed Hiking/1 Unit**

Prerequisite: A desire to leave the congestion and turmoil, the agony and travail of busy streets and to commune with nature's creatures.

Participation in the wilderness trail and off-trail hiking and the care and handling of equipment, the use of maps, the care and protection of wilderness trails, the use of emergency first aid, and the importance of physical conditioning.

1 hour lecture; 1 hour laboratory.

**PED 134 Coed Billiards/1 Unit**

Prerequisite: None.

Introduction to the skills of billiards with attention to rules etiquette and proper playing techniques and types of competition.

1 hour lecture; 1 hour laboratory.

#### **PED 115 Coed Scuba Diving/1 Unit**

Prerequisite: Good health and ability to complete the following swim requirements prior to course completion:

- a. Swim 200 yards at the surface in less than five minutes; b. Rest motionless at the surface for at least five minutes with head above water; c. Surface dive head first beneath the surface to a depth of at least eight feet; d. Swim at least 50 feet underwater on single breath of air.

Introduction to scuba diving fundamentals and techniques with open-water experience in a local lake with PADI certification upon successful completion of the course.

1 hour lecture; 1 hour laboratory.

#### **PED 136 Beginning Coed Yoga/1 Unit**

Prerequisite: None.

Introduction to the beginning and intermediate postures of yoga, with an introduction to the advanced postures.

1 hour lecture; 1 hour laboratory.

#### **PED 137 Beginning Coed/1 Unit**

Prerequisite: None.

Introduction to the beginning and intermediate skills of judo, with an introduction to the advanced skills.

2 hours weekly, lecture and participation.

#### **PED 138 Coed Volleyball/1 Unit**

Prerequisite: None.

A course in which student will participate and acquire an adequate level of skill, proficiency and knowledge of the game with emphasis on the mastery of fundamentals, application of fundamentals, and game philosophy in competition.

1 hour lecture; 1 hour laboratory.

#### **PED 139 Coed Beginning Racquetball/1 Unit**

Prerequisite: None.

Development of basic skills of racquetball through instruction, participation, intraclass competition.

The student shall also acquire a working knowledge of game philosophy.

1 hour lecture; 1 hour laboratory.

#### **PED 140 Mexican Folk Dance/1 Unit**

Prerequisite: None.

An introduction to the basic Mexican folk dances: the meaning, importance, theory, history, and general characteristics.

1 hour lecture; 1 hour laboratory.

#### **PED 141 Beginning Coed Basketball/1 Unit**

Prerequisite: None.

An introduction to basketball to provide an understanding of the rules and regulations that govern the game, and develop the basic skills and fundamentals to play the game.

1 hour lecture; 1 hour laboratory.

#### **PED 142 Coed Softball/1 Unit**

Prerequisite: None.

An introduction to softball: rules, basic skills and fundamentals of a popular sports activity.

1 hour lecture; 1 hour laboratory.

#### **PED 143 Coed Backpacking/1 Unit**

Prerequisite: PED 133 or its equivalent or permission of instructor.

A course in back country hiking and camping for students who wish to develop skills in wilderness living and travel with emphasis on developing a wilderness philosophy and an awareness of the individuals ability to live in the back country. Boots, packs, sleeping bags and shelter furnished by student.

1 hour lecture; 1 hour laboratory.

#### **PED 144 Intermediate Coed Modern Dance/1 Unit**

Prerequisite: PED 113 or permission of instructor.

A course offering individual and group physical exercises through modern dance interpretations.

1 hour lecture; 1 hour laboratory.

#### **PED 145 Beginning Coed Karate/1 Unit**

Prerequisite: None.

Introduction to the beginning and intermediate skills of karate with an introduction to the advanced skills.

1 hour lecture; 1 hour laboratory.

#### **PED 146 Intermediate Coed Yoga/1 Unit**

Prerequisite: PED 136 or permission of instructor.

An introduction to the intermediate and advanced postures of yoga.

Lecture, demonstration and participation.

1 hour lecture; 1 hour laboratory.

#### **PED 147 Intermediate Coed Judo/1 Unit**

Prerequisite: PED 137 or permission of instructor.

Introduction to the intermediate skills of judo, with an introduction to the advanced skills.

1 hour lecture; 1 hour laboratory.

#### **PED 148 Coed Soccer/1 Unit**

Prerequisite: None.

Development of the basic skills of soccer through instruction, participation, lecture, and intra-class competition.

1 hour lecture; 1 hour laboratory.

#### **PED 149 Coed Aerobic Exercise/1 Unit**

Prerequisite: None.

An introduction to and practical application of aerobic exercise for the purpose of procuring and maintaining cardiorespiratory conditioning.

1 hour lecture; 1 hour laboratory.

#### **PED 150 Water Safety Instructor/2 Units**

Prerequisite: Current Red Cross Advanced Life Saving Certification, competency in swimming strokes and life saving skills.

Development of instructional skills in learning to swim and life saving programs which meet the requirements for the American National Red Cross Water Safety Instructor Certification.

2 hours lecture.

#### **PED 151 Coed Table Tennis/1 Unit**

Prerequisite: None.

An introduction to table tennis, beginning with the basic grip and strokes and progressing to advanced shots and returns involving backspin, topspin, sidespin with strategy, singles and doubles play, and some history introduced.

1 hour lecture; 1 hour laboratory.

#### **PED 153 Intermediate Coed Karate/1 Unit**

Prerequisite: PED 145 or permission of instructor.

Instruction in intermediate forms and techniques and more advanced sparring and self-defense techniques for those who

would like to continue in the martial arts.

1 hour lecture; 1 hour laboratory.

#### **PED 154 Self-Defense for Women/1 Unit**

Prerequisite: None.

Basic instruction in the techniques of self-defense and discussion to determine when such techniques are necessary, a course for women who wish to learn methods of self-defense without having to go through a martial arts course.

1 hour lecture; 1 hour laboratory.

#### **PED 155 Orientation to Physical Education/3 Units**

Prerequisite: None -- PED major recommended.

An introduction to the nature and scope of physical education, its historical development, basic philosophy and objectives, changing concepts, scientific foundations, and professional opportunities.

3 hours lecture.

#### **PED 171 Orientation to Recreation/2 Units**

Prerequisite: None.

An introduction to the nature and scope of the field of recreation, its historical development, philosophy and objectives, and professional opportunities.

Generally, a study of recreation in America and a specific study of recreation in Arizona and Cochise County.

2 hours lecture.

#### **PED 189 Elementary School Physical Education/3 units**

Prerequisite: None.

The scope and values of physical education and movement education in the elementary school: methods, materials, and practice in recommended activities, including games, rhythms, self-testing activities and recreational activities, designed for prospective elementary classroom teachers, physical education majors and minors.

3 hours lecture.

#### **PED 190 Sports Officiating/3 Units**

Prerequisite: None.

A lecture and laboratory course which will develop the art and skill of officiating several sports, including basketball, football, baseball, and volleyball.

Completion of the course will provide a good background for officiating sports sponsored by the Arizona Interscholastic Association.

3 hours lecture.

**PED 191 Coed Athletic Conditioning & Training/2 Units**

Prerequisite: None.

An introduction to the athletic skills and conditioning necessary to certain coed sports, daily class meetings.

1 hour lecture; 1 hour laboratory.

**PED 192 Coaching Team Sports/2 Units**

Prerequisite: None.

An introduction to the nature and scope of coaching as it applies to schools and colleges, Little League baseball and YMCA basketball.

2 hours lecture.

**PED 193 Baseball Theory/3 Units**

Prerequisite: None.

Advanced instruction in baseball common to college, secondary, and primary school curricula to include descriptive discussions of youth league organization, philosophy, and teaching techniques with additional information on budget and equipment operations.

3 hours lecture.

**PED 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.

## PHYSICS

**PHY101 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 112.

Lectures, demonstration, and problems in mechanics, properties of matter, heat, sound, light, electricity, and magnetism, atomic and nuclear physics.

3 hours lecture; 3 hours laboratory.

**PHY 230-231\* Physics with Calculus/4-4 Units**

Prerequisite: MAT 161.

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 and 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 and 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 and practice of politics, focusing mainly on significant political principles and institutions as they relate to American and foreign governments.

3 hours lecture.

**POS 110 American National Government/3 Units**

Prerequisite: None.

A study of the political system of the United States with emphasis on constitutional development, the political culture, voting, political parties, campaigns and elections, interest groups, public opinion, and the three branches of the national government to increase the student's awareness and understanding of the political arena which 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 Introduction to International Relations/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 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.

## **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 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 and 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 and 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/4 Units**

Prerequisite: MAT 110, PSY 101 or equivalent.

Basic concepts of experimental design, measurement, and descriptive and inferential statistics as applied to psychological variables.

3 hours lecture; 3 hours laboratory.

**PSY 290 Experimental Psychology/4 Units**

Prerequisites: PSY 101 and PSY 250.

Student involvement in the review and analysis of scientific literature, designing and implementing experiments, collecting and analyzing data, interpreting results and reporting

experimental findings using A.P.A. format.  
3 hours lecture; 3 hours laboratory.

#### **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 and the division chair prior to initiation of the study. May be repeated for credit.

## **SOCIAL SERVICES**

#### **SSV 103 Manual Communications I/3 Units**

Prerequisite: None.

Principles, methods and techniques of communicating manually with deaf and other persons with communications handicaps. May be repeated for Cochise College elective credit.

3 hours lecture.

#### **SSV 190 Loss, Grief and Dying/3 Units**

Prerequisite: None.

The course will explore grief, dying and the loss of loved persons as universal human experiences. The primary focus will be upon coping skills of affected persons and helping skills of others. Values and behaviors will be examined regarding their appropriateness at time of death. Social interventions will be studied in cultural, medical, social and legal contexts.  
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 270 Social Work Methods I/3 Units**

Prerequisite: Second year standing in AS Program and permission of instructor.

A course designed to develop awareness of relationships, skills in interviewing, case report writing, and identification with social work profession, taken concurrently with Field Placement I.

3 hours lecture.

#### **SSV 271 Social Work Methods/3 Units**

Prerequisite: SSV 270 and permission of instructor.

A continuation of SSV 270 refining skill learned first semester and adding analysis and presentation, taken concurrently with Field Placement II.

3 hours lecture.

#### **SSV 272 Social Work Seminar/3 Units**

Prerequisite: Second year standing in AS Social Work Program and permission of instructor.

A survey course covering the process of group work and community organization designed for the student enrolled in the AS Social Work Program.

3 hours lecture.

#### **SSV 273 Determinants of Human Behavior/3 Units**

Prerequisite: Sophomore Standing Social Work AS 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 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**

Prerequisites: SOC 101 and ENG 101 recommended.

A course covering social inequalities affecting women, racial

and ethnic minorities and the aged--socially, educationally and financially and 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 and 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, choosing a mate, marriage, marital adjustment, parenthood and family living from the sociological and psychological points of view.

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 001 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 001, 002, 003 applicable to an AA Degree but transferable to a four-year institution only upon satisfactory performance of a proficiency examination.

3 hours lecture.

### **SPA 002 Conversational Spanish/3 Units**

Prerequisite: SPA 001 or permission of instructor.

Continuation of SPA 001 with emphasis on role playing and use of everyday vocabulary and conversational phrases. For credit and transfer requirements see course description for SPA 001.

3 hours lecture.

### **SPA 003 Conversational Spanish/3 Units**

Prerequisites: SPA 102 or permission of instructor.

Continuation of SPA 002 with drill patterns to reinforce vocabulary and use of verb tense, with a minimum of formal grammar study, with emphasis on practice in the spoken language. For credit and transfer requirements see course description for SPA 001.

3 hours lecture.

### **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 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 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 and experience demonstrated to the satisfaction of the instructor.

A review of grammar, pronunciation and development of patterns of speech in Spanish with additional practice in reading, writing, speaking and understanding the language, supplemented by essays and short stories to enrich the student's vocabulary.

4 hours lecture.

### **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 and experience demonstrated to the satisfaction of the instructor.

A review of grammar, pronunciation, and development of patterns of speech in Spanish with additional practice in reading, writing, speaking and understanding the language with essays and short stories to enrich the student's vocabulary.

4 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 and application of Spanish grammar rules and building of Spanish vocabulary.

3 hours lecture.

### **SPA 276 Intermediate Composition and 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 304-305 Introduction to Spanish Literature/3-3 Units**

Prerequisites: SPA 202 and permission of instructor or completion of course similar to SPA 202, Mexican schooling above 6th grade or four years of high school Spanish.

A survey of the development of Spanish literature, emphasizing the development of the genres with relation to the historical and social backgrounds of Spain.

3 hours lecture.

### **SPA 307-308 Introduction to Mexican Literature/3-3 Units**

Prerequisite:

Spanish 202 and permission of the instructor.

An introduction to the works of representative Mexican authors and a historical look at the literature for Mexico during the Colonial period and the period of independence; conducted in Spanish.

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.

## **SPEECH**

### **SPE 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 with an audience, includes basics in all communication as well as choosing and researching a topic, organizing material for speaking, and delivering speeches of information, persuasion and actuation. 3 hours of lecture, discussion and speech delivery.

### **SPE 110 Public Speaking/3 Units**

Prerequisites: SPE 102, a high school speech course or permission of instructor.

A study of public speaking, beginning with a review of the fundamentals of speech as they relate to communicating with an audience, continuing with a study of theories and techniques of persuasion with practical application and an analysis of various types of speeches with practice in researching, constructing and delivering speeches of each type, the basics in parliamentary procedure and public discussion with practice in participating in and leading parliamentary meetings.

3 hours lecture.

### **SPE 115 Argumentation and Debate/3 Units**

Prerequisite: SPE 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, and optional intercollegiate debate.

3 hours lecture.

**SPE 125 Forensics Workshops/1 Unit**

Prerequisite: One high school or college speech class or concurrent enrollment in a speech class.

A performance in forensics in which the students prepare for and participate in one or more intercollegiate speech tournaments.

May be repeated for a total of four units.

**THEATRE ARTS (DRAMA)****THE 101 Acting/3 Units**

Prerequisite: None.

Introduction to theories of dramatic art and practice in acting.

3 hours lecture.

**THE 102 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 requirement 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 and production organization.

3 hours lecture.

**THE 105 Theatre Dance/1 Unit**

Prerequisite: None.

Study and practice in stage movement and 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 and operation of oxyacetylene welding equipment; welding in flat, horizontal and overhead positions of standard alloys of steel; brazing and soldering of ferrous and 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 and operation of arc welding equipment including techniques of joining metals in all positions by electric arcs with the use for the electrode.

1 hour lecture; 4 hours laboratory.

**WLD 107\* MIG and TIG Welding/3 Units**

Prerequisite: WLD 105 & 106.

Safety practices, set-up and 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 210\* Pipe and Plate Welding/3 Units**

Prerequisite: WLD 105 & 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 and 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 and 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 and types.

2 hours lecture; 3 hours laboratory.