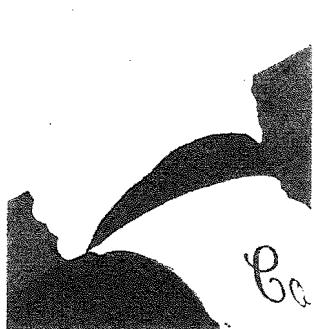
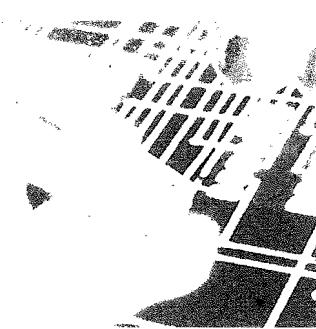
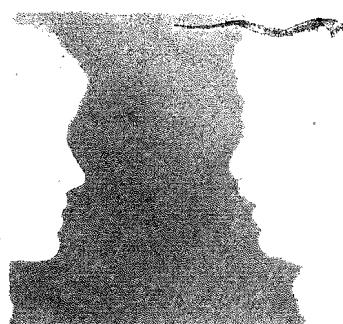
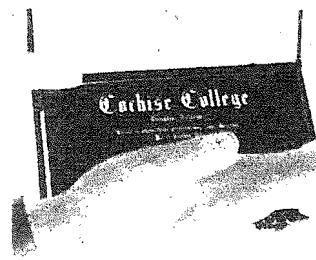
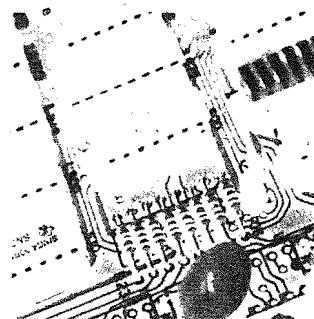
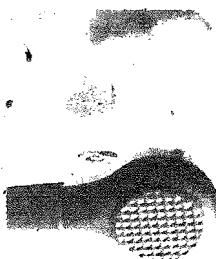


# Cochise College Catalog 85/86



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## **GOVERNING BOARD**

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- Dr. Joe Duhon
- D. Gene Manring
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- Vicki Schuster

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- Dr. Joe Causey, Cochise County Representative

## **PRESIDENT OF THE COLLEGE**

- Dan W. Rehurek

Cochise College  
Douglas, Arizona 85607  
(602) 364-7943

Sierra Vista Campus  
901 N. Colombo  
Sierra Vista, Arizona 85635  
(602) 458-7110/7113

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

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

Cochise College, in compliance with the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, does not discriminate on the basis of race, color, national origin, sex, age or handicap in any of its programs or activities.

Inquiries regarding this policy may be directed to:  
Personnel Director, Cochise College, Douglas, Arizona 85607; (602) 364-7943.

Cochise College, en cumplimiento con lo estipulado en el Acta de Derechos Civiles de 1964, el Título IX de las Enmiendas de 1972 relativas a la Educación y la Sección 504 del Acta de Rehabilitación de 1973, no discrimina en ninguno de sus programas o actividades por motivo de raza, color, origen, sexo, edad o impedimento. Para mayor información relacionada con estas políticas y lineamientos, por favor dirigirse a, Personnel Director, Cochise College, Douglas, Arizona 85607; (602) 364-7943.

# General Information

## **Educational Philosophy**

Cochise College, a comprehensive community college, is dedicated to the service of its community. The College makes education beyond the high school level available to students interested in, and capable of, benefiting from programs of higher education.

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 administration of the College facilitates instruction and leads its staff and students to personal and group fulfillment in their educational endeavors. Free communication, a free flow of ideas and feelings among the administration, the faculty, the students, the governing board and the community is essential for the realization of personal and institutional goals.

## **Functions and Goals**

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

To assist each student to orient himself to adult and college life by providing a program of counseling which enables him to discover aptitudes and interests and helps in the choice of a vocation or further formal education.

To provide educational opportunity in several occupations for students who wish to prepare for immediate employment upon completion of the appropriate program. The programs are designed to enable students to achieve occupational competence and to provide them with opportunities for achieving skills for living in a contemporary society.

To offer studies during the first two years of college which may be used in transfer for the purpose of securing a bachelor's degree (the candidate for a bachelor's degree can transfer to the institution of his choice with full junior standing, after having successfully completed appropriate lower division studies during the first two full years of college).

To provide for the educational needs of mature and receptive adults whose interests and requirements lie in both cultural activities and occupational fields.

To make available other community services for the growth of the citizens of the county through lectures, forums, plays, concerts, art exhibits, and other cultural activities.

To provide a program of guided studies which will enable students in need of developmental work to pursue studies appropriate to individual needs and to promote study programs for students with superior academic capabilities.

To co-operate with other schools and colleges, with civic groups, with educational foundations and with private individuals and corporations in any proper endeavor likely to result in an educational advantage to the students of the College and the community.

#### **Accreditation**

Cochise College is accredited by the Arizona State Board of Directors for Community Colleges, and the North Central Association of Colleges and Secondary 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 Secondary 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 Di Peso 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 Countywide 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 section. The 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.

## COCHISE COLLEGE

- A — Administration (100)
- B — Business Education and Continuing Education/Evening Campus (200)
- C — Charles Di Peso Library (300)
- D — Faculty Offices (400)
- E — Student Union (500)
- F — Huachuca Hall (1200, 1300, 1400)
- G — Chiricahua Hall (1500, 1600, 1700)
- H — Technical Center (1800)
- I — Anthropological Resource Center (1100)
- J — Science, Math, Social Science (1100)
- K — Apache Stronghold (Gymnasium) (900)
- L — Little Theater (800)
- M — Fine Arts (700)
- N — Liberal Arts (600)
- O — Student Affairs (1000)
- P — Maintenance ("M")
- Q — Art and Welding and Agriculture (1900)

# The Sierra Vista Campus

901 N. Colombo, Sierra Vista, AZ 85635  
458-7110/7113

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.

Ten campus buildings provide space for the rapidly expanding educational needs of the area. A permanent technology building was completed in 1984.

Approximately 2600 students participate in a full schedule of day and night-time classes conducted in 21 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 Systems	Psychology
Executive Secretary	Spanish
Electronics	Social Services
English	Welding

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 1000 careers. Using this service, a student can better examine the potential careers of the future and make better 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.

## Library

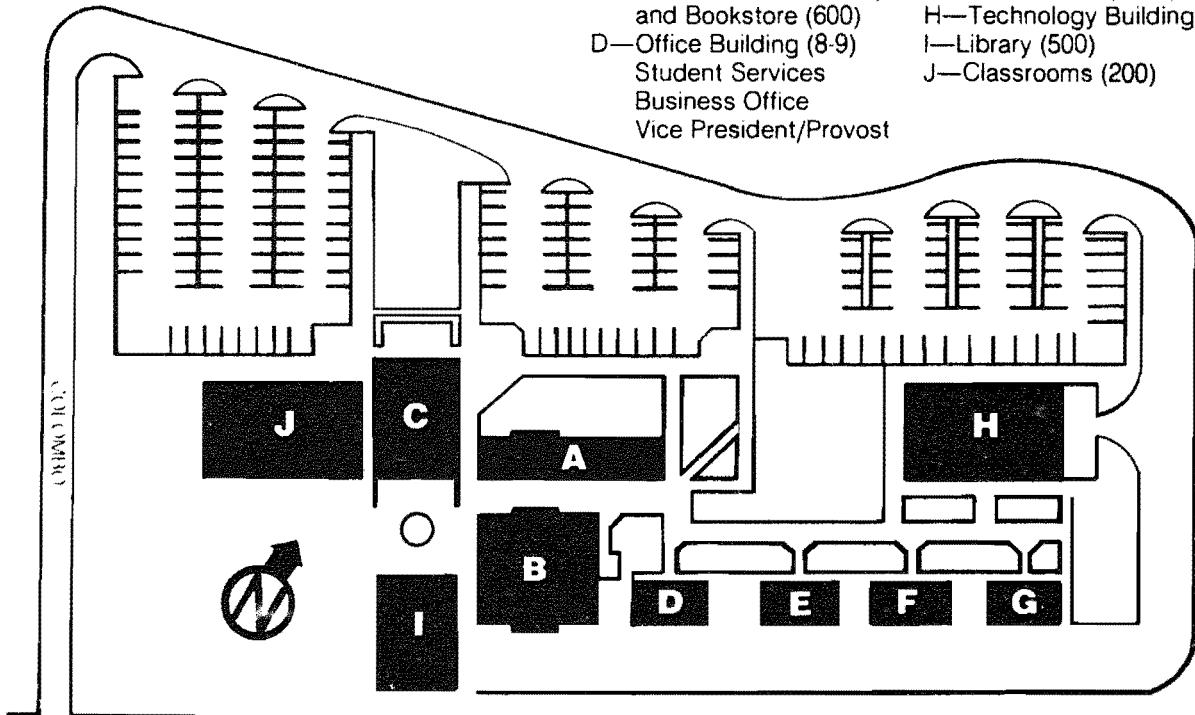
The Sierra Vista Campus library houses over 12,000 volumes, 100 periodical and newspaper subscriptions, and an audio-visual collection. The new 6,000 square foot library building provides large open-stack reading and reference rooms, seminar and study rooms, and an expanded audio-visual section. Materials are also available from the Douglas Campus library upon request.

## Faculty — Sierra Vista

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

## COCHISE COLLEGE/SIERRA VISTA

A—Classrooms (300)	E—Faculty Offices (4-5)
B—Laboratories (400)	F—Business Lab (6-7)
C—Student Union, Library and Bookstore (600)	G—Classrooms (1-2-3)
D—Office Building (8-9) Student Services Business Office Vice President/Provost	H—Technology Building (100)
	I—Library (500)
	J—Classrooms (200)



# The Community Campus

## Division of Continuing Education

Since the mid 1960s, Cochise College has offered College courses and programs to Cochise County communities through the Division of Continuing Education. The Community Campus is a county-wide system providing education to the people of Cochise County when and where they are interested in and capable of benefitting from programs of higher education. The cooperation and support of public school boards, businesses and other local agencies throughout the County has made local facilities available. The Community Campus is truly a campus without walls, serving those in the County who can not attend classes at the two College 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. Some courses are taught by full-time College employees, but the majority of Community Campus courses are taught by local people from business, industry and our public schools. All faculty are certified to teach by the College and by the Arizona Community College Board. We welcome and depend on these teachers who contribute their time, practical day-to-day experience and education as part-time instructors for their community and Cochise College. Courses presented in the Community Campus are selected from requests by students, local citizens and other interested persons who make their needs known. The result is a wide variety of courses scheduled to meet local needs.

Classes requiring no special equipment may be offered at any location where there are 12 or more 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 the 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. Through this program the College serves both the students who wish to complete degrees and those who take courses to satisfy specific inner needs to grow intellectually and experientially.

Students range from able and ambitious high school students desiring a head start on university courses to grandparents who want to broaden their horizons for a more full life through this life-long learning opportunity. In the same classroom we find teenagers, young adults,

adults with family and business interests who need new skills and knowledge for our complex life, and senior citizens who want to investigate some field of knowledge they missed as they worked their way through life. All these and more are welcome to join in the joy of learning something new to them as individuals. With such a mixture of youth and experience, the challenge of learning together permits a better understanding of our neighbors, friends and ourselves.

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

### **Community Services**

Continuing Education includes making available educational services to the county as a community. Community Services provide 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 Library.

Non-credit classes covering a variety of subjects, are offered to the public. Week-end and evening seminars ranging from local history and culture, arts and crafts such as weaving, silversmithing and gourmet cooking, parent and child reading clinics, word processing and computer workshops, films and lectures are provided for general participation.

## COCHISE COLLEGE CALENDAR 1985-86

### Fall Semester

Independence Day Holiday	July 4
Faculty return	August 19
Fall registration	August 19-23
Classes begin	August 26
Sierra Vista Friday-Saturday classes begin	August 30-31
Labor Day holiday	September 2
Last day for adding classes	September 6
Graduation filing deadline	October 4
FTSE count date	October 9
Columbus Day holiday	October 14
Mid-semester exams	October 14-18
Last day to drop classes without academic penalty	October 25
Veterans Day holiday	November 11
Thanksgiving recess	November 28-29
Class sessions end	December 13
Final exams	December 16-18
Christmas recess (students and faculty)	December 20 - January 3
Christmas recess (twelve-month staff)	December 24 - January 1

### Spring Semester

Staff on twelve month contract return	January 2
Faculty and staff on nine month contract return	January 6
Spring registration	January 6-10
Classes begin	January 13
Sierra Vista Friday-Saturday classes begin	January 17-18
Martin Luther King Holiday	January 20
Last day for adding classes	January 24
Graduation filing date (May graduates)	February 19
Washington's Birthday holiday	February 17
FTSE Count date	February 27
Mid-semester exams	March 3-7
Spring recess	March 10-14
Last day to drop classes without academic penalty	March 25
Class sessions end	May 9
Final examinations	May 12-14
Commencement	May 15
Memorial Day Holiday	May 26

### Summer Session

1986 - 1st session May 27 - June 27  
2nd session June 30 - August 1

### Professional Pilot Technology

1985 - July 28 - December 20  
1986 - January 13 - June 13

### English Immersion

1986 - June 23 - August 8

### Airframe-Powerplant Technology

1985 - July 8 - September 26  
September 30 - December 20

1986 - January 13 - April 3  
April 7 - June 6

# 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 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 18 may be admitted with high school equivalency examinations such as the GED.

## 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 and Classified Part-Time students planning to attend the main 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 required of all applicants who have graduated from high school. Those who have not completed high school and who are age 18 or older are not required to submit transcripts. 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. Persons applying for unclassified status need not submit high school transcripts. 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. 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 intending to enter the Nursing program, those 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.

College entrance examinations, such as ACT or SAT, are not required for admission. However, the College does administer the ACT on the national testing dates for October, December, February, April and June as a service to County students 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 aids in matching current and future records with any past records and insuring that full credit is received for all academic work at Cochise College.

It 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 beginning where one best functions, free placement assessment is offered to all students. Placement information is useful in planning your academic program as requisite basic skills in mathematics, reading comprehension and composition must be met prior to enrolling in many courses.

All full-time, first semester freshmen must take placement tests in reading, English and mathematics. Those who score below the cut-off grades for any of the three tests will be registered in appropriate courses to improve basic skills. The Associate of Arts and Associate of Science degrees require transfer level English and mathematics courses.

### **Foreign Student Language Requirements**

All foreign students and students whose first language is not English are tested by the English Immersion Program before registration. Those students who place below 70 on the Michigan English Placement Test, 7.0 on the Nelson Reading Test, and 3 on the Writing Sample are required to take courses in the English Immersion Program. Those students who place in Level III (Advanced) 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 complete a Math Proficiency Test prepared by the Math & Nursing Departments. The test consists of simple arithmetic calculations in decimals, fractions, ratio and proportion, and Roman numerals.

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 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 Foreign Students**

All foreign students, including students from Mexico, must be at least 16 years of age at the time of registration for classes. All full-time foreign 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

Foreign 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 Registrar's Office for specific procedures for Special Student Admissions.

## **Re-admission**

Students who have been absent from Cochise College for a regular semester 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 a faculty advisor according to their major interest. Faculty advisors assist the student in preparing a program of studies 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 four-year institution and is not ready to declare a major, the student will follow the general AS or AA degree plan.

## **Testing**

Although educational and vocational testing does not constitute the final answer, 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.

## **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

## **RESIDENCE 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 not maintaining a community college are eligible to attend Cochise College. Students from such areas must complete a residence statement prior to registration. Their 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 State Community College Board, tuition waivers are no longer available to assist non-residents of the state to attend an Arizona Community College. Out-of-State students are subject to payment of out-of-state tuition as set forth in this catalog.

## **RESIDENCY REGULATIONS**

The following guidelines concerning the determination of residency for tuition purposes are the result of existing statutory law (A.R.S. §15-1801 et seq.) and State Community College Board 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.

## Definitions

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

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 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 no surviving parent or the whereabouts of the parents are unknown, then a guardian of an unemancipated person if there are not circumstances indicating that such guardianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person

## In-State Student Status

Except as otherwise provided in this article, no person having a domicile elsewhere than in this state is eligible for classification as an in-state student for tuition purposes.

A person is not entitled to classification as an in-state student until he 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:

1. His parents domicile is in this state, and
2. His parent is allowed to claim him as an exemption for state and federal tax purposes.

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 this state is entitled to classification as an in-state student until attainment of the degree for which currently enrolled, so long as such person maintains continuous attendance.

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.

The spouse 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 dependent as defined in section 43-1001, whose parent 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.

#### 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 status 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 country while a member of the armed forces of the United States.

#### 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 of 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 Registrar's Office verifying residency to prove continuous residency in the state for the twelve (12) month period prior to the first day of class.

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. Source of support.
7. Dependency as indicated on federal income tax declaration (for minors).

##### In-county

A domicile affidavit must be filed with the Registrar's Office verifying domicile to prove continuous residency in this 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 minors).

## 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	\$25
Transcript fee - First free, each additional	\$ 1
Returned check fee (for each returned)	\$10
Nursing Insurance (subject to change)	\$12.50
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 1985-1986\*****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)

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Summer School		\$22 per unit
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**II. Tuition - Airframe & Powerplant**

Phase I = 18 units	In-State	Out-of-State
Phase II, III, IV, V = 17 units	\$306 (\$17	\$1,512 (\$84 per unit)
Lab Fee: Phase I, II, V	\$280 per unit)	\$1,428
Phase II, IV	\$150	
	\$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	\$429	\$158.00 sem.
*Board	830	7.53 week
Apartment	\$195 per month	

**C. Airframe & Powerplant - 12 Weeks**

	Semester	Private
*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 tuition, room and board. Prior approval by Business Office or designated person are required. One-half of the fees are due at registration—balance of fees are 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. If the total fees are less than \$150, all amounts are due and payable at the 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 graduation fee of \$18. 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 \$2.00 to \$100.00 per course. Please consult a class schedule or a current Lab Fee Schedule for courses charging lab fees and the amount.

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 or 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. 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 offers a variety of financial aids to full-time and part-time students who have completed the appropriate applications. Types of financial aids available include scholarships, Grants-in-Aid, College Work Study\* (on and off campus), Non-Work Study, Athletic Grants-in-Aid, Fee Waiver Scholarships and Grants, Supplemental Educational Opportunity Grants (SEOG), Bureau of Indian Affairs Grants, Basic Educational Opportunity Grants (BEOG), Cochise College Short-Term Loans, Nursing Loans and Scholarships, Federally-insured Student Loans, and Grants.

\*Students must carry six (6) units to be able to work on the college work-study program.

## **Financial Aid Application Procedure**

To apply for any type of financial aid, with the exception of LEEP grants and loans, the applicant must:

1. Complete the Family Financial Statement (FFS) of the American Testing Program (ACT) and the Arizona Student Data Form. The FFS is also the application for the BEOG when the appropriate box is marked. All students must apply for this if they are applying for financial aid. Designate Cochise College as a recipient (Code 0089), send the Family Financial Statement and the Arizona Student Data Form to ACT with the appropriate processing fee. Allow a minimum of six weeks for processing. Please forward all copies of the Student Aid Report to the financial aid coordinator.
2. If you wish to be considered for general academic scholarships and financial need is not a factor, the Arizona Student Data Form is the only form that is necessary. You may obtain this form from your high school counselor or college financial aid coordinator.

The Financial Aids Committee has nine members including the Vice President of Student Affairs, who acts as chairman, the Coordinator of Counseling, the Comptroller, four faculty members, and two students appointed by the Student Government. Its function is to screen certain specified applications and determine recipients of these awards as well as recommend procedures to be utilized in the financial aid process. Financial Aids Committee meetings are held prior to the awarding process each semester. Regular meetings are held during the school year.

## **Grants and Scholarships**

Both new and returning full-time students are eligible for scholarships and grants-in-aid. Scholarships are awarded to graduates of Cochise County high schools and are made possible by the support of interested groups and individuals.

Three methods of selection are utilized as follows:

1. Recipients are chosen by the donor.
2. Selection is made by the Financial Aids Officer.
3. Selection is made by the Financial Aids Committee of Cochise College.

## **Grants-In-Aid**

Grants-in-aid are available in the areas of athletics, art, music, and journalism. Athletic grant recipients are selected by the coaching staff and are administered by the financial aids coordinator. Recipients of music and art fee waivers are selected by the Division of Humanities and Fine Arts. Awards are administered by the financial aids coordinator.

## **Fee Waiver Grants**

Available to a limited number of freshmen applicants graduating from high schools throughout the state who express a desire to attend college. Grants are in the amount of the prevailing semester registration fee.

Grants are renewable the second semester for a total of two semesters, contingent upon continuous full-time enrollment and maintenance of a 2.0 (C) grade-point average. The only qualifications for eligibility are residency in the State of Arizona and a desire to attend college.

## **Arizona State Student Incentive Grant Program**

Available to undergraduate students who meet the eligibility requirement relating to very needy students.

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

This is a continuation of the program formerly known as the Educational Opportunity Grant (EOG) program. It consists of a federal program of grant aid (not repayable) to deserving students with exceptional financial need. A requirement of this program is that Supplemental Educational Opportunity Grants cannot be awarded in amounts of more than 50% of the total award given any

student. This means the recipient must have received financial aid from another source at least equal to the SEOG amount. When recipients receive college work-study as a match for SEOG, they must work ALL of their work-study award.

## **Pell Grant (BEOG)**

This program is legislated to serve all undergraduate students who show financial need. To be eligible, students must be U.S. citizens or permanent residents and be enrolled at least half-time. The Pell award is based on family financial assets and cost of education.

## **Nursing Scholarship Grants**

This program consists of grant aid (not repayable) to students pursuing a course of study leading to an Associate Degree in nursing. This aid is limited to students with exceptional financial need.

## **Academic Scholarships**

ARIZONA LUNG ASSOCIATION, INC: Provides scholarships of up to \$300 each to this institution for nursing students. Number and amount vary.

RAY DIAMOS BUSTAMANTE SCHOLARSHIP: A memorial scholarship established by Mrs. A.D. Kerson in July 1971. Made to needy students. This is an endowment scholarship.

COCHISE COLLEGE ACTIVITIES SCHOLARSHIP: Based on following criteria: Faculty advisors will recommend recipients, awarded at end of semester activity during semester.

COCHISE COLLEGE CLASSIFIED ASSOCIATION BOOK AWARDS: Since spring semester 1974, this organization has awarded books to a deserving student each semester. The dollar amount depends on the cost of the student's books.

COCHISE COLLEGE PROFESSIONAL ASSOCIATION AWARDS: Two awards to outstanding sophomore graduates in the amount of \$150 each, based on scholastic ability, contributions to Cochise College and leadership.

COCHISE COLLEGE FOUNDATION SCHOLARSHIP: Eight new academic scholarships are provided for the college year. Scholarships based solely on academic achievements

(grade point average) through first 3½ years of high school. A list of students who meet minimum scholarship requirement of 3.2 (B+) submitted by high school.

#### **ARIZONA BANK CHARITABLE FOUNDATION**

**SCHOLARSHIP:** Awarded on basis of financial need to academically deserving students. Amount varies. Minority, disabled, or handicapped students receive consideration.

**GUNTER MEMORIAL RODEO SCHOLARSHIP:** Awarded on recommendation of Rodeo Club sponsor. \$100 per semester.

**GERALD M. PINTO SCHOLARSHIP:** A \$200 scholarship to Bisbee High School graduate, based on need and academic achievement.

#### **INGWALD A. ROSOK MEMORIAL SCHOLARSHIP:**

Scholarships awarded on basis of scholarship, financial need, citizenship, and leadership qualities. Two graduates of Cochise Community College and Bisbee High School will each receive a \$200 scholarship per semester to continue education at a four-year Arizona university.

**DOYLE T. SMITH, JR., MEMORIAL SCHOLARSHIP:** Awarded to third phase Airframe and Powerplant mechanic. Based on academic achievement and financial need. Scholarship will be awarded on continuing basis in amount of \$1200 for final three phases of A & P Program.

**COUNTY INDEPENDENT INSURANCE AGENTS:** Provides several scholarships each in the amount of \$400 to needy, eligible applicants. Recipients selected by Cochise County Independent Insurance Agents. Applicants should apply for grant-in aid through financial aids officer prior to March 15. Applicants must be Cochise County residents.

**DOUGLAS ARIZONA SOCIAL CLUB:** Former Douglas residents now residing and working in the Los Angeles area have created a scholarship fund for Douglas High School graduates. The amount varies and is awarded on an annual basis. Recipients are selected by Douglas High School counselors.

**FIRST NATIONAL BANK OF ARIZONA:** Three \$150 annual scholarships awarded by First National Bank. Requirements are: scholarship, need, resident of Arizona, majoring in Business.

**FRY FOUNDATION SCHOLARSHIP:** Number and amount vary. Applicant must be a Cochise County legal resident. Application may be made through the high school counselor department or the financial aid office at Cochise College.

## **Loans**

#### **Guaranteed Student Loan (GSL)**

Low interest loans (currently 9%) made to students by qualified lending agencies up to \$2500 a year to meet educational expenses.

#### **Other Student Loan Funds**

In addition to the loan funds referred to above, several organizations and individuals have made contributions to the Student Loan Fund for distribution by the college. Contact the Financial Aid Office for additional information.

## **Employment**

#### **Non-Work Study Employment**

Jobs are available in various areas. Applications are screened by the Financial Aids Officer. Students are then referred to the Co-operative Education Department for interviews and job placement.

#### **College Work-Study**

This is a program for full or part-time students from low income families who need employment to help defray educational expenses. Awards are made to deserving students who demonstrate financial need. Students are employed on a part-time basis. The minimum pay rate is the existing federal minimum hourly wage rate. Students are interviewed after being declared eligible and then placed in jobs through the Co-operative Education department. The IDS, ACT, and Student Affadavit must be completed before eligibility is determined.

# 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 the local doctor of their choice for diagnosis and treatment. Consultation with the home-town family doctor of resident students is also afforded. Student health insurance is available on voluntary basis through the Health Center for all students.

## **Student Union**

The "living room" of the campus offers an opportunity for students 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 augment the services to the student by the College. The office of the Co-ordinator of Student Activities is located in this building.

The dining services provided by the Student Union include the Que Pas snack bar, private dining facility and a large well-equipped dining room capable of seating 500. Resident students are offered a well-balanced menu featuring popular foods. Seasonal buffets, specials, and other unique monotony-breakers 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 responsibilities of student clubs and organizations. During the year, a full schedule of activities is planned for the student body by the students.

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, happenings, Winterfest.

### **Food Committee**

The Food 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 satisfy all student needs and interests. Students of similar interests may form a club in which fellow students can participate in specialized activities.

Organizations include 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, baseball, women's volleyball and basketball. Apache Stronghold is the center for intercollegiate sports, concerts, and a variety of intramural activities.

### **Rodeo Team**

Cochise College Rodeo Team competes with community colleges and universities in the Grand Canyon Region, including Arizona and portions of Nevada and New Mexico.

### **Student Publications**

*The Apache* is the official student newspaper and is published twelve times during the academic year. *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. The deposit is refunded, subject to stipulations in the Residence Hall Contract, when the student leaves the college.

Residence hall students are required to participate in the college food service facilities 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.

Applicants must submit a room deposit with the 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 bbreaks 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 advantages 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 Co-ordinator of Housing, Cochise College, Douglas, Arizona 85607.

# 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 below a C in the course. A grade of WF is computed in the student's grade point average as an F, or failure.

**WITHDRAW (W)** — Indicates a student has withdrawn from the course through Friday of the ninth week, or that he 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 computed on the basis of units attempted at Cochise College only and will not include units and grade points earned at another college.

### **Scholastic Honors**

Any student who completes 12 or more units in one semester of phase at Cochise College and maintains a semester and cumulative GPA of 3.500 to 3.899 will be placed on 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 freshmen (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 previously 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 offerings. 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)**

Credit may be granted to students who have taken one or more tests of the College Level Examination Program developed by the College Entrance Examination Board. To receive credit on the General Examinations, a student must achieve a standard score of 500 or above, except English which requires 610 minimum standard score.

Students must complete at least one Cochise College 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.

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 Division of Student Affairs for detailed testing procedures.

### **USAFL/Dantes and Military Schools**

Cochise College follows the credit recommendation of the American Council on Education for Military Service Schools. Credit for USAFL/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 USAFL/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 USAFL/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 non-traditional 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 VPI-7). Course credit is determined by the instructor and appropriate division chairman, and will be compatible with published academic standards and procedures. Units assigned to an independent study contract may not be increased or reduced after commencement of the study. Contracts must be completed 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. Student 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 guidelines:

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

The listing of the original course and grade remains as part of the permanent record, but only the last grade earned will be computed for graduation and cumulative grade

point average. A student need not repeat a course which he has failed unless it is a prerequisite for another course or is a course required for graduation or transfer.

\*Excepting Emergency Medical Training

### **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 may be assigned by the instructor. A 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 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 student are marked "issued to student." The first transcript is issued without charge. Charges for additional transcripts are as follows: unofficial transcripts to student - \$.25 each; all official transcripts - \$1 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 College-sponsored 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 veterans' 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 (25%) 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 maintaining 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 co-operation 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 Advanced ROTC Program when they transfer to a four-year college or university.

Information relative to this program may be secured from the Division of Student 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 a 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 coursework numbered below 100 may be used as electives in the Associate of General Studies degree. Coursework numbered below 100 is not transferable.

## **Computer Literacy**

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

## **Cooperative Education**

Cochise College students enrolled for credit in any College program may elect to participate in the Cooperative Education Program. This is a cooperative arrangement between the employer, the student and the College to provide part-time (or in some cases, full-time) job placement in training positions related to the student's career interest. The student's work is coordinated by college staff and the student will receive college credit for this job experience. This program 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 6 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 Arts, 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(MA 120 or above)
Laboratory Science**	8
Social Science**	9-12
Foreign Language**	8 (Second semester proficiency)
Physical Education	2
Major Area of Emphasis or Electives	20-13
<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 exception, course substitutions are not allowed.

### Associate of Science Degree

#### Minimum Requirements

	Credit Hours
English 101, 102*	6
Humanities/Social Science**	12
Laboratory Science**	8
Mathematics	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)	6 (or 3 units of MA 120 or above)
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:**

Course No.	Courses Applicable To Mathematics Requirement			Degree	Transferable Elective
	AA	AS	AGS		
MA010	Fundamental Mathematics			X	
020	Elementary Algebra			X	
110	Intermediate Algebra			X	X
120	College Algebra	X	X	X	X
124	Plane Trigonometry	X	X	X	X
155	Finite Mathematics	X	X	X	X
156	Calculus for Business	X	X	X	X
161	Analytic Geometry with Calculus	X	X	X	X
162	Analytic Geometry with Calculus	X	X	X	X
263	Analytic Geometry with Calculus	X	X	X	X
BU104	Business Mathematics			X	
219	Business Statistics			X	X
220	Business Statistics			X	X
ET110	Mathematics for Electronics			X	
120	Advanced Mathematics for Electronics			X	X
GT100	Technical Mathematics			X	X
101	Technical Mathematics			X	X

Course No.	Courses Applicable To Laboratory Science Requirement			Degree	Transferable Elective
	AA	AS	AGS		
BS101	General Biology	X	X	X	X
102	General Biology	X	X	X	X
181	General Botany	X	X	X	X
182	General Zoology	X	X	X	X
183	General Zoology	X	X	X	X
201	Human Anatomy & Physiology	X	X	X	X
202	Human Anatomy & Physiology	X	X	X	X
203	Microbiology	X	X	X	X
282	Ecology	X	X	X	X
CH101	Introduction to Chemistry			X	X
110	Essentials of Chemistry			X	X
121	General Chemistry	X	X	X	X

Course No.	Courses Applicable To Laboratory Science Requirement			Degree	Transferable Elective
	AA	AS	AGS		
122	General Chemistry	X	X	X	X
230	Analytical Chemistry	X	X	X	X
240	Organic Chemistry	X	X	X	X
241	Organic Chemistry	X	X	X	X
AN136	Archaeological Excavation			X	X
137	Archaeological Excavation			X	X
ES111	Wildland Ecology			X	X
PH101	Introduction to Physics			X	X
120	General Physics	X	X	X	X
121	General Physics	X	X	X	X
230	General Physics with Calculus	X	X	X	X
231	General Physics with Calculus	X	X	X	X
GY121	Physical Geology	X	X	X	X
122	Historical Geology	X	X	X	X

Course No.	Courses Applicable To Social Science Requirement			Degree	Transferable Elective
	AA	AS	AGS		
AN101	The Origin and Antiquity of Man			X	X
102	Development of Culture	X	X	X	X
125	Society and Culture	X	X	X	X
135	Introduction to Archaeology	X	X	X	X
136	Archaeological Excavation	X	X	X	X
137	Archaeological Excavation			X	X
185	Prehistoric Cultures of North America			X	X
186	Historic Indian Tribes of North America	X	X	X	X
226	Non-Literate Societies of the World	X	X	X	X
CO103	Personality and Adjustment			X	X
105	The Challenge of Parenting			X	X
121	Career and Life Planning			X	X
EC201	Principles of Economics	X	X	X	X
202	Principles of Economics	X	X	X	X

Course No.	Courses Applicable To Social Science Requirement	Degree			Transferable Elective
		AA	AS	AGS	
GE101	Physical Geography			X	X
102	Cultural Geography	X	X	X	X
104	Political Geography			X	X
105	Economic Geography	X	X	X	X
HI110	History of the United States			X	X
111	History of the United States	X	X	X	X
115	Survey of the American West			X	X
126	Afro-American History			X	X
127	Afro-American History			X	X
130	Arizona History			X	X
140	Survey of Western Civilization	X	X	X	X
141	Survey of Western Civilization	X	X	X	X
160	Introduction to the History of the Soviet Union			X	X
229	History of Mexico			X	X
230	History of Mexico			X	X
PS120	American National Government	X	X	X	X
166-	National and Arizona				
167	Constitution	X	X	X	X
230	Introduction to International Relations	X	X	X	X
PY101	Introduction to Psychology	X	X	X	X
210	Social Psychology	X	X	X	X
230	Personality Theories & Research	X	X	X	X
240	Developmental Psychology	X	X	X	X
250	Introduction to Psychological Research	X	X	X	X
290	Experimental Psychology	X	X	X	X
SO101	Introduction to Sociology	X	X	X	X
160	Ethnic Group & Minorities	X	X	X	X
202	Social Problems	X	X	X	X
210	Marriage and the Family			X	X

Course No.	Courses Applicable To Humanities/Fine Arts Requirement	Degree			Transferable Elective
		AA	AS	AGS	
AR103	Basic Design				X
105	Art in Elementary School				X
106	Basic Drawing				X
107	Survey of World Art	X	X	X	X
108	Survey of World Art	X	X	X	X
130	Fundamentals of Painting I				X
131	Fundamentals of Painting II				X
230	Two Dimensional Design				X
231	3-Dimensional Design				X
245	Beginning Figure Drawing				X
265	Beginning Commercial Design				X
270	Ceramics				X
280	Beginning Painting				X
285	Beginning Photography				X
286	Intermediate Photography				X
290	Sculpture				X
DR101	Acting				X
102	Acting				X
103	Introduction to Theater	X	X	X	X
104	Principles and Techniques of Play Production				X
105	Theater Dance				X
110	Theater Workshop				X
EN104	Introduction to Literature	X	X	X	X
220	British Literature I	X	X	X	X
221	British Literature II	X	X	X	X
222	Introduction to Shakespeare	X	X	X	X
224	American Literature I	X	X	X	X
225	American Literature I	X	X	X	X
226	World Literature I	X	X	X	X
227	World Literature II	X	X	X	X
299	Individual Studies*	X	X	X	X
MU101	Introduction to Music	X	X	X	X
102	Introduction to Music	X	X	X	X
FR101	Elementary French				X
102	Elementary French				X
GR101	Elementary German				X
102	Elementary German				X

Course No.	Courses Applicable To Humanities/Fine Arts Requirement		Degree			Transferable Elective
	AA	AS	AGS			
HU101 i04 110 115 116 205 206	Humanities in Contemporary Life			X	X	
	Heritage from Mexico			X	X	
	Introduction to Film			X	X	
	Cultural Heritage of the Southwest			X	X	
	Folklore of the Southwest			X	X	
	Humanities	X	X	X	X	
LA101 102	Elementary Latin			X	X	
	Elementary Latin			X	X	
PL111 130 140 201 202 299	Introduction to Philosophy	X	X	X	X	
	Ethics	X	X	X	X	
	Death, Dying, Loss and Survival				X	
	Philosophies of the East			X	X	
	Philosophy of Religion			X	X	
	Individual Studies*	X	X	X	X	
SP101 102 155 201 202 275 276 304 305 307/08 299	Elementary Spanish			X		
	Elementary Spanish			X		
	Appreciation of Mexico			X		
	Intermediate Spanish			X		
	Intermediate Spanish			X		
	Intermediate Composition & Conversation				X	
	Intermediate Composition & Conversation				X	
	Introduction to Spanish Literature			X		
	Introduction to Spanish Literature			X		
	Introduction to Mexican Literature				X	
	Independent Studies				X	
Course No.	Courses Applicable To English Requirement		Degree			Transferable Elective
	AA	AS	AGS			
EN101 102	Composition	X	X	X	X	
	Composition	X	X	X	X	

Course No.	Courses Applicable To English Requirement		Degree			Transferable Elective
	AA	AS	AGS			
103	Advanced Composition			X	X	X
107	English Composition for Foreign Students I			X	X	X
108	English Composition for Foreign Students II			X	X	X
109	Written Communications and Reports				X	X
111	Grammar, Usage, and Punctuation				X	X
112	Children's Literature				X	X
115	Genealogy of English Words				X	X
116	Genealogy of English Words				X	X
119	Creative Writing				X	X
167	Business English Communications				X	
206	Critical Reading and Writing				X	X
209	Introduction to Poetry				X	X
210	Bible as Literature				X	X
219	Advanced Creative Writing				X	
228	Mythology & Folklore					X
SE102 110 115 125	Fundamentals of Speech				X	X
	Public Speaking					X
	Argumentation and Debate					X
	Forensics					X
Course No.	Courses Applicable To Foreign Language Requirement		Degree			Transferable Elective
	AA	AS	AGS			
FR101 102	Elementary French			X		X
	Elementary French			X		X
GR101 102	Elementary German			X		X
	Elementary German			X		X
SP101 102 201 202	Elementary Spanish			X		X
	Elementary Spanish			X		X
	Intermediate Spanish			X		X
	Intermediate Spanish			X		X

Course No.	Courses Applicable To Physical Education Requirement	Degree			Transferable Elective
		AA	AS	AGS	
PE112	Weight Training	X	X	X	X
113	Modern Dance	X	X	X	X
114	Badminton	X	X	X	X
115	Beginning Coed Bowling			X	X
116	Intermediate Coed Bowling			X	X
117	Beginning Tennis			X	X
118	Intermediate Tennis	X	X	X	X
119	Beginning Golf	X	X	X	X
120	Intermediate Golf	X	X	X	X
122	Coed Archery	X	X	X	X
123	Beginning Handball			X	X
124	Beginning Swimming	X	X	X	X
125	Intermediate Swimming	X	X	X	X
127	Life Saving	X	X	X	X
128	Adapted Physical Education			X	X
129	Body Conditioning	X	X	X	X
130	Body Dynamics	X	X	X	X
133	Hiking			X	X
135	Scuba Diving			X	X
136	Yoga			X	X
137	Beginning Judo			X	X
138	Volleyball	X	X	X	X
139	Coed Raquetball			X	X
141	Beginning Basketball	X	X	X	X
142	Coed Softball	X	X	X	X
143	Coed Backpacking			X	X
144	Intermediate Modern Dance	X	X	X	X
145	Beginning Karate			X	X
146	Intermediate Yoga			X	X
147	Intermediate Judo			X	X
148	Soccer	X	X	X	X
150	Water Safety Instructor	X	X	X	X
153	Intermediate Karate			X	X
154	Self Defense for Women			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

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Intro. to Police Science	AJ 100	3
Criminal Law I	AJ 100	3
Police Patrol Functions	AJ 102	3
Rules of Evidence	AJ 127	3
Composition	EN 101	3

	<b>Second Semester</b>	<b>Units</b>
Intro. to Criminal Justice System	AJ 121	3
Criminal Law II	AJ 201	3
Juvenile Procedures	AJ 238	3
Written Communications & Reports	MA 120	3
Criminal Investigation	AJ 208	3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Police Community Relations	AJ 240	3
Accidents, Citations, Disorders	AJ 252	3
Humanities/Fine Arts		3
Social Behavioral Science		3
Lab Science		4

	<b>Second Semester</b>	<b>Units</b>
Psychology in Law Enforcement	AJ 264	3
Physical Evidence	AJ 236	3
Physical Education		1
Electives		3

# Administration of Justice

## Associate of General Studies

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Introduction to Police Science	AJ 100	3
Criminal Law I	AJ 200	3
Rules of Evidence	AJ 227	3
Juvenile Procedures	AJ 230	3
English Composition I	EN 101	3
Physical Education		1

	<b>Second Semester</b>	<b>Units</b>
Introduction to the Criminal Justice System	AJ 121	3
Criminal Law II	AJ 201	3
Criminal Investigation	AJ 238	3
College Algebra	MA 120	3
Physical Education		1
Social Behavioral Science		3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Police Community Relations	AJ 240	3
Accidents, Citations, Disorders	AJ 252	3
Humanities/Fine Arts		3
Social Behavioral Science		3
Lab Science		4

	<b>Second Semester</b>	<b>Units</b>
Psychology in Law Enforcement	AJ 254	3
Social Behavioral Science		3
Lab Science		4
Humanities/Fine Arts		3
Speech		4

# Agriculture

## Associate of General Studies

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
Zoology, General Botany, or General Biology		4
Social Behavioral or Humanities/Fine Arts		3
Physical Education		1
Introduction to Animal Disease Process	AG 103	3
Animal Industry	AG 208	3
Introduction to Agriculture	AG 102	3

	<b>Second Semester</b>	<b>Units</b>		<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3	English in 100 Series		3
Zoology or General Botany or General Biology		4	Biological Science BS 102, 111		4
College Algebra	MA 120	3	132		
Physical Education		1	Selected Electives		3
Range Management	AG 105	3	Agriculture Electives		6
Animal Industry	AG 208	3	Agriculture Electives See your advisor or counselor for recommended electives		

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>	<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
General Chemistry	CH 121	4	Mathematics 110		3
Social/Behavioral Science or Humanities/Fine Arts		3	Chemistry CH 101 or 121		4
Animal Feeding	AG 230	3	Selected Electives		3
General Physics or Physical Geology		4	Agriculture Electives		6
Western Horsemanship	AG 139	1	<b>Recommended Electives</b>		
Principles of Agronomy	AG 104	3	Animal Feeding	AG 230	3
Horse Science & Management	AG 237	3	Agricultural Welding	AG 210	2

	<b>Second Semester</b>	<b>Units</b>		<b>Second Semester</b>	<b>Units</b>
Chemistry	CH 122	4	Fundamentals of Speech	SE 102	3
Written Communications & Reports	EN 110	3	Selected Electives		3
Fundamentals of Speech	SE 102	3	Agricultural Electives		9
Agriculture electives		3			
Animal Disease & Sanitation	AG 106	3			
Livestock Production	AG 243	3			

Agriculture Electives See your advisor or counselor for recommended electives

## Agriculture

### Associate of Applied Science Degree

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>		<b>Second Semester</b>	<b>Units</b>
English EN 010 or 101		3	Economics in American Agriculture or Econ 201	AG 211	3
Biological Science BS 101, 111 or 132		4	Advanced Agriculture Welding	AG 212	2
Selected Electives		3	Agricultural Alloy & Repair Welding	AG 213	2
Agriculture Electives		6	Animal Disease & Sanitation	AG 106	3
			Fertilizer	AG 214	3
			Individual Studies	AG 199-299	1-4
			<b>Recommended Electives</b>		
			Written Communication & Reports	EN 109	3
			Principles of Accounting	BU 101	3
			Principles of Management	BU 143	3
			Business Communications	BU 167	3

Agriculture Electives See your advisor or counselor for recommended electives

# Anthropology

## Associate of Arts Degree\*

### General Education Requirements

		Units
Composition	EN 101	3
Composition	EN 102	3
Foreign Language	(Second semester proficiency)	8
Laboratory Science		8
Math	MA 120 and above	3
Humanities		8-10
Social Science		9-12
Physical Education		2

### Core Curriculum Courses

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

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

# Art

## Associate of Arts

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

\*Must include HI 140-141

\*\*Must include AR 107-108

### Required courses:

Basic Drawing	AR 103	3
Basic Design	AR 106	3
Two Dimensional Design	AR 230	3
Beginning Figure Drawing	AR 245	3
Beginning Painting	AR 280	3
		<u>15</u>

### Art Electives:

Nine units from the following:

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

# Aviation Technology

## Airframe and Powerplant Program

### Associate of Applied Science Degree

Courses AT 110 AT 115 AT 120, AT 125 AT 130 EN 020 and EN 108 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	AT 110	18
Phase II - Basic Airframe	AT 115	17
Phase III - Advanced Airframe	AT 120	17
Phase IV - Basic Powerplant	AT 125	17
Phase V - Advanced Powerplant	AT 130	17
Reading Fundamentals	EN 020	3
Written Communications & Reports	EN 109	3

\*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 101, 102, 103 and 204G and F are the minimum requirements for a degree and are usually completed in eleven months. Most students return and complete 208, 220, 230, and 240G and F and any academic course requirements not met for the degree. Flight semesters average twenty two weeks. 101G and 103G are taken concurrently.

	Units
Stage One—Commercial Pilot	AT 101G & F
Stage Two—Commercial Pilot	AT 102G & F
Stage Three—Commercial Pilot	AT 103G & F
Stage Four—Commercial Pilot	AT 204G & F
Principles of Economics	EC 201
Accounting	BU 101
Composition I	EN 101
Principles of Marketing	BU 155
Lab Science	PL
Physical Education	EC 202
Principles of Economics	BU 231
Business Law	BU 123
Personnel Management	BU 102
Accounting	BU 143
Principles of Management	BU 104
Social/Behavioral Science	BU 104
Business Math	BU 104

## Associate of Science Degree

	Units
Stage One—Commercial Pilot	AT 101G & F
Stage Two—Commercial Pilot	AT 102G & F
Stage Three—Commercial Pilot	AT 103G & F
Stage Four—Commercial Pilot	AT 204G & F
Composition I	EN 101
Social/Behavioral Science	EN 101
Lab Science	PL
Humanities/Fine Arts	HU
Physical Education	PE
College Algebra	MA 120
Composition II	EN 102
Social/Behavioral Science	EN 102
Humanities/Fine Arts	HU
Math	MA 124 or higher
Elective	3

## Optional Courses

	Units
Multi-Engine Rating	AT 208G & F
Flight Instructor Airplane	AT 220G & F
Flight Instructor Instruments	AT 240G & F
Flight Instructor Multi-Engine	AT 230G & F
Fundamentals of Aviation Instruction	AT 225

\*Acceptance into the Professional Pilot Program requires an interview with the chief flight instructor plus acceptance into the Professional Pilot Program. Admission to the college does not guarantee acceptance into the pilot program.

# Business Administration

## Associate of Science

### General Education Requirements

	Units
Composition	EN 101
Composition	EN 102
College Algebra	MA 120
Finite Math	MA 155
Calculus for Business	MA 156
Social and Behavioral Science	12
Humanities	
Physical Education	2
Lab Science	8

### Core Curriculum Courses

Statistics	BU 110	3
Business Communications	BU 167	3
Survey of American Business	BU 104	3
Intro to Data Processing	IS 170	3
Principles of Accounting	BU 101	3
Principles of Accounting	BU 102	3
Business Law	BU 131	3
Principles of Finance	BU 201	3
Principles of Finance	BU 202	3
Electives		3
<b>TOTAL HOURS</b>		<b>67</b>

Students transferring to U of A, A&U, NAU are required to see a business faculty advisor for specific transfer curriculum to these universities.

# Administrative Assistant

Associate of Applied Science Degree (Accounting, Management, Marketing, Computer Science, Secretarial)

## Freshman

Grammar Usage & Punctuation  
Business Math  
Survey of American Business  
Bookkeeping & Financial Mgmt  
or

Principles of Accounting  
Major Selection  
Physical Education

## First Semester

## Units

En 111	3
BU 104	3
BU 109	3
BU 146	
	3 ✓
BU 101	3 ✓
	3
	1
	16

## Computer Science

Introduction to Data Processing  
Cobol I  
Cobol II  
Fortran  
Basic  
Word Processing

## Management

Exploring Your Potential  
Special Problems  
Personnel Management  
Bank Management  
Principles of Management  
Small Business Management  
Credit Union Management

## Marketing

Salesmanship  
Merchandising  
Principles of Advertising  
Principles of Marketing  
Small Business Management

## Typing

Business English Communications  
Calculating Machines  
Intro to Data Processing  
Major Selection  
\*Elective  
Physical Education

## Second Semester

## Units

BU 108 or 208	3
EN 167	3 ✓
BU 118	2 ✓
CS 172	3 ✓
	3
	3
	1
	18

## Secretarial

Secretarial Office Procedures  
(Legal, Medical, General, Bilingual)  
Secretarial Office Practice  
(Legal, Medical, General, Bilingual)  
Word Processing  
Shorthand 111, 211, or 212  
Professional Terminology

## Sophomore

Typing  
Business Law  
Management Elective  
Major Selection  
\*Elective

## First Semester

## Units

BU 208 or 209	3
BU 231	3 ✓
BU 123, 126, 128, or 143	3
	3
	3
	15

## \*Electives

Cooperative Education  
Other business or office classes  
Non-business classes as approved by advisor

## Second Semester

## Units

BU 268	3 ✓
BU 217	3
SE 102	3
EC 201	3
	3
	15

MAJORS: Select 4 (four) classes from one (1) of the following majors for a total of twelve (12) units.

## Accounting

Principles of Accounting 101  
Principles of Accounting 102  
Intermediate Accounting 201  
Intermediate Accounting 202

# Middle Management

Associate of Applied Science (Non-Transferable)\*

## General Education Requirements

		Units
Composition	EN 101	3
Business Math	BU 104	3
Social Science/Science		6
		12

### Core Curriculum Requirements

Principles of Accounting	BU 101	3
Principles of Accounting	BU 102	3
Business Law I	BU 231	3
Survey of American Business	BU 109	3
Introduction to Data Processing	CS 172	3
Business Communications	BU 167	3
Principles of Marketing	BU 145	3
Principles of Economics	EC 202	3
Small Business Management	BU 283	3
Principles of Management	BU 143	3
Principles of Finance	BU 156	3
		33
<b>MAJOR EMPHASIS</b>		15
		60
		AAS Degree

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

#### **MAJOR EMPHASIS**

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

## Accounting

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

## Marketing

Salesmanship  
Merchandising  
Principles of Advertising  
Business Elective

## Banking

Principles of Bank Operations  
Law & Banking  
Bank Management  
Analyzing Financial Statements  
Computer Applications

## General Business

Any Business Class

## Women In Management

Exploring Your Potential As A Manager  
Special Problems In Management  
Business Electives

### **Recommended Electives**

Cooperative Education	CE 110
Principles of Economics	EC 201
Typing	
Management Information Systems	BU 282
Personnel Management	BU 123
Business Law II	BU 232

## **Microcomputer Science**

- 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**

### **(Middle Management Specialist Program (one year) )**

Principles of Marketing	BU 145	3
Principles of Management	BU 143	3
Personnel Management	BU 123	3
Salesmanship	BU 144	3
Bookkeeping or/ Accounting	BU 146	3
Principles of Finance	BU 156	3
Small Business Management	BU 283	3

## Business Electives

Any Business course to include up to 9 units in Business

## Cooperative Education

30

## **Women in Management Certificate Program**

Exploring Your Potential As A Manager	BU 126	3
Principles of Management	BU 143	3
Special Problems in Management	BU 128	3
Personnel Management	BU 123	3
Principles of Finance	BU 156	3

# Business Education

Associate of General Studies

## Freshman

Composition I	EN 101	3
Lab Science		4
Elementary Psychology	PY 101	3
Elementary Shorthand or	BU 110	
Intermediate Shorthand	BU 111	3
Elementary Typing or	BU 106	
Intermediate Typing	BU 108	3
Physical Education		1
		17

## First Semester

## Units

(Legal, Medical, General, Bilingual)

Composition II	EN 102	3
Lab Science		4
Intermediate Algebra or	MA 110	
College Algebra	MA 120	3
Intermediate Shorthand or	BU 111	
Advanced Shorthand	BU 211	3
Intermediate Typing or	BU 108	
Advanced Typing	BU 208	3
Physical Education		1
		17

## Second Semester

## Units

## Second Semester

Typing	BU 208 or 209	3
Business English Communications	EN 167	3
Bookkeeping & Financial Management	BU 146	
or		
Principles of Accounting	BU 101	3
Clerical Practice	BU 162	3
(Legal, Medical, General, or Bilingual)		
Calculating Machines	BU 118	2
Word Processing	BU 268	3
		17

## Sophomore

Humanities/Fine Arts	EC 201	3-4
Principles of Economics		3
U.S. History	HI 110	3
Principles of Accounting	BU 101	3
National/Arizona Constitution	PS 167	3
		15-16

## First Semester

## Units

\*RECOMMENDED ELECTIVES: Specialty classes: Business Law, Bilingual Typing, Spanish, Professional Terminology; Co-op: Model Office, Job Awareness, PBL, or Work Experience; Management classes: Exploring Your Potential as a Manager or Special Problems in Management.

Humanities/Fine Arts		3-4
Social Behavioral Science		
Principles of Economics	EN 202	3
Speech	SP 102	3
Introduction to Data Processing	BU 122	3
Principles of Accounting	BU 102	3
		18-19

## Second Semester

## Units

(Legal, Medical, General, Bilingual)

Freshman	First Semester	Units
Typing	BU 108 or 208	3
Shorthand	BU 110 or 111	3
Grammar Usage & Punctuation	EN 111	3
Business Math	BU 104	3
General Office Procedures (Legal, Medical, General, or Bilingual)	BU 161	3
Records Management	BU 217	3
*Elective		0-3
		15-18
Freshman	Second Semester	Units
Typing	BU 208 or 209	3
Business English Communications	EN 167	3
Bookkeeping & Financial Management	BU 146	
or		
Principles of Accounting	BU 101	3
Clerical Practice	BU 162	3
(Legal, Medical, General, or Bilingual)		
Calculating Machines	BU 118	2
Word Processing	BU 268	3
		17
Sophomore	First Semester	Units
Humanities/Fine Arts	EC 201	3-4
Principles of Economics		3
U.S. History	HI 110	3
Principles of Accounting	BU 101	3
National/Arizona Constitution	PS 167	3
		15-16
Freshman	First Semester	Units
Typing	BU 106 or 108	3
Shorthand	BU 110 or 111	3
Grammar Usage & Punctuation	EN 111	3
Business Math	BU 104	3
*Elective or SP 275 or BS 151		0-4
Management Elective	BU 123, 126, 128, or 143	3
Physical Education		1
		16-20

	<b>Second Semester</b>	
Typing	BU 108 or 208	3
Shorthand	BU 111 or 211	3
<b>Business English Communications</b>	<b>EN 167</b>	<b>3</b>
Calculating Machines	BU 118	2
Professional Terminology	BU 253	3
*Elective or SP 276 or BS 152		0-4
Physical Education		1
		<b>15-19</b>

\*Electives: Co-op (Model Office, Job Awareness, PBL, or work experience) other business or office classes, or non-business classes as approved by advisor.

## **Clerk-Stenographer**

**Associate of Applied Science Degree**

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

	<b>First Semester</b>	
Typing	BU 208 or 209	3
Shorthand	BU 211 or 212	3
<b>Secretarial Office Procedures</b>	<b>BU 264</b>	<b>3</b>
(Legal, Medical, General, or Bilingual)		
Records Management	BU 217	3
Bookkeeping & Financial Mgmt. or	BU 146	
Principles of Accounting	BU 101	3
*Elective of BU 231		3
		<b>15-18</b>
	<b>Second Semester</b>	
Typing	BU 209	3
Shorthand	BU 212	3
<b>Secretarial Office Practice</b>	<b>BU 265</b>	<b>3</b>
(Legal, Medical, General, or Bilingual)		
Word Processing	BU 268	3
*Electives or BU 107 or BU 232		3-6
		<b>15-18</b>

The Medical Secretary requires an internship to be done in the summer following completion of coursework (16 units).

	<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Typing	BU 106 or 108	3	
Shorthand	BU 110 or 111	3	
<b>Grammar Usage &amp; Punctuation</b>	<b>EN 111</b>	<b>3</b>	
Business Math	BU 104	3	
*Elective		3	
Physical Education		1	
		<b>16</b>	
	<b>Second Semester</b>		
Typing	BU 108 or 208	3	
Shorthand	BU 111 or 211	3	
<b>Business English Communications</b>	<b>EN 167</b>	<b>3</b>	
Calculating Machines	BU 118	2	
*Elective		3	
Physical Education		1	
		<b>15</b>	
	<b>Sophomore</b>	<b>First Semester</b>	
Typing	BU 208 or 209	3	
<b>Secretarial Office Procedures</b>	<b>BU 264</b>	<b>3</b>	
(Legal, Medical, General, or Bilingual)			
Records Management	BU 217	3	
Bookkeeping & Financial Mgmt. or	BU 146	3	
Principles of Accounting	BU 101	3	
*Elective or BU 231		3	
		<b>15-18</b>	

	<b>Second Semester</b>	
Typing	BU 209	3
Secretarial Practice	BU 265	3
(Legal, Medical, General or Bilingual)		
Word Processing	BU 268	3
Professional Terminology	BU 253	3
Management Elective	BU 123 126 128 or 1433	
*Elective		3
		<u>15 18</u>

\*Electives (9-12 units) Co op (Model Office, Job Awareness, PBL, or Work Experience) other business classes or non business classes as approved by advisor

## Computer Information Systems

### Associate of Applied Science

#### General Education Requirements

		<b>Units</b>
Composition	EN 101	3
Elementary Algebra	MA 020	3
Computer Math	CS 110	3
Principles of Accounting—I	BU 101	3
Principles of Accounting—II	BU 102	3
Survey of American Business	BU 109	3
Business English Communications	EN 167	3
Humanities/Science/Fine Arts		
Social Science Elective		3
		<u>24</u>

#### Core Curriculum Requirements

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

#### Major Emphasis

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

#### Business Programming

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

#### Scientific Programming

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

#### Small Business Microcomputer Programming

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

## Chemistry

### Associate of Science

#### Freshman

	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
General Chemistry	CH 121	4
College Algebra/Trigonometry	MA 120 and MA 124	5
General Physics	PH 120	4
Physical Education	PE	1

#### Second Semester

Composition	EN 102	3
General Chemistry	CH 122	4
Analytic Geometry/Calculus	MA 161	5
General Physics	PH 121	4
Physical Education	PE	1

#### Sophomore

	<b>First Semester</b>	<b>Units</b>
Organic Chemistry	CH 240	4
Analytic Geometry/Calculus	MA 162	5
Analytical Chemistry	CH 230	4
Humanities/Fine Arts		3-4

#### Second Semester

Organic Chemistry	CH 241	4
Analytic Geometry/Calculus	MA 263	3
Social Science		6
Humanities/Fine Arts		3-4

# Drafting Technology

## Associate of Science

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
Technical Graphics I	DT 112	3
Descriptive Geometry	DT 120	3
College Algebra	MA 120	3
Manufacturing Materials & Processes I	GT 105	3
Survey of Western Civilization	HI 140	3

	<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3
Technical Graphics II	DT 113	3
Computer-Aided Drafting	DT 150	3
Trigonometry	MA 124	3
Manufacturing Materials & Processes II	GT 106	3
Survey of Western Civilization	HI 141	3

## Second Year - Option I:

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Drafting for Manufacturing	DT 200	4
Drafting for Electronics	DT 230	3
Analytic Geometry with Calculus	MA 161	5
Lab Science		4

	<b>Second Semester</b>	<b>Units</b>
Electro/Mechanical Design	DT 231	3
Tool Design	DT 240	4
Lab Science		4
Humanities & Fine Arts Elective		4

## Second Year - Option II:

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Topographical Design and Drafting	DT 210	4
Construction Drafting	DT 220	3
Lab Science		4
Basic Drawing	AR 106	3

	<b>Second Semester</b>	<b>Units</b>
Advanced Construction Drafting	DT 221	3
Lab Science		4
Analytic Geometry with Calculus	MA 161	5
Humanities & Fine Arts Elective		4

# Drafting Technology

## Associate of Applied Science

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Technical Graphics I	DT 112	3
Spatial Relationships	DT 120	3
Technical Math I	GT 100	3
Manufacturing Materials and Processes I	GT 105	3
Composition	EN 101	3

	<b>Second Semester</b>	<b>Units</b>
Technical Graphics II	DT 113	3
Electronics Drafting	DT 130	3
Technical Math II	GT 101	3
Manufacturing Materials and Processes II	GT 106	3
Composition	EN 102	3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Drafting for Manufacturing	DT 200	4
Topographical Design and Drafting	DT 210	4
Electives: General Education		6

	<b>Second Semester</b>	<b>Units</b>
Electro Mechanical Design	DT 230	3
Construction Drafting	DT 220	3
Tool Design	DT 240	4
Electives: General Education		

# Drafting Technology

## Certificate Program

	<b>First Semester</b>	<b>Units</b>
Technical Graphics I	DT 112	3
Spatial Relationships	DT 120	3
Technical Math I	GT 100	3
Manufacturing Materials and Processes	GT 105	3
Electives: General Education		3

	<b>Second Semester</b>	<b>Units</b>
Technical Graphics II	DT 113	3
Electronics Drafting	DT 130	3
Technical Math II	GT 101	3
Manufacturing Materials and Processes II	GT 106	3
Electives: General Education		3

# **Electronics Technology**

### **Associate of Science Degree**

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>	Basic Computer Programming	ET 107	3
Composition	EN 101	3			
College Algebra	MA 120	3			
General Physics	PH 120	4			
Introduction to D.C. Circuits	ET 105*	3			
Introduction to A.C. Circuits	ET 106	4			
	<b>Second Semester</b>	<b>Units</b>			
Composition	EN 102	3			
Plane Trigonometry	MA 124	3			
General Physics	PH 121	4			
Semiconductors & Transistors	ET 122	4			
Electronic Circuits & Systems	ET 125	5			
<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>			
Social/Behavioral Science			*All electronic classes taught only in semester indicated and in sequence		
Pulse Circuits	ET 231	4			
Digital Circuits	ET 233	4			
Modern Electrical Devices	ET 243	4			
Humanities/Fine Arts		3			
Physical Education	PE	1			
	<b>Second Semester</b>	<b>Units</b>			
Social/Behavioral Science			EN101, 102		
Physical Education	PE	1	Mathematics (MA120 or above)		
Analytical Geometry W/Calculus	MA 161	5	Laboratory Science		
Humanities/Fine Arts		3	Humanities		
Microprocessors & Microcomputers	ET 265	4	Social Science		
			Foreign Language		
			P.E.		

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

## **Electronics Technology**

### Associate of Applied Science

<b>Freshman</b>	<b>Fall Semester</b>	<b>Units</b>
Composition	EN 101	3
Introduction to DC Circuits	FT 105*	3
Introduction to AC Circuits	ET 106	4
Math for Electronics or Math 110	ET 110	3
Electives		3

Advanced Math for Electronics	ET 120	3
Semiconductors and Transistors	ET 122	4
Electronic Circuits	ET 125	4
Basic Computer Programming	ET 107	3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Pulse Circuits	ET 231	4
Digital Circuits and Systems	ET 233	4
Modern Electronic Devices	ET 243	4
Communications Electronics	ET 245	4

	<b>Second Semester</b>	<b>Units</b>		<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3			
Plane Trigonometry	MA 124	3	Communications Elect. II	ET 247	4
General Physics	PH 121	4	Avionics	ET 260	4
Semiconductors & Transistors	ET 122	4	Microprocessors and Micro-	ET 265	4
Electronic Circuits & Systems	ET 125	5	computers		

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>	<b>*All electronic classes taught only in semester indicated and in sequence</b>
Social/Behavioral Science		3	
Pulse Circuits	ET 231	4	
Digital Circuits	ET 233	4	
Modern Electrical Devices	ET 243	4	
Humanities/Fine Arts		3	
Physical Education	PE	1	

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

## English

## **Associate of Arts**

	<b>Units</b>
EN101, 102	6
Mathematics (MA120 or above)	3
Laboratory Science	8
Humanities	8.9
Social Science	9
Foreign Language	8
P. E	2
	<b>44.45</b>

Additional units from the following. (6)

EN103, 104, 220, 221, 222, 224, 225, 226, 227

#### Recommended electives (15)

AR107, 108, AN102, 125, 135, 186, HI110, 111, 140, 141; JR101, 102; SE102; DR103, 110; MU101, 102; PL111, 130, 202; SO101, 202; HU101, 110.

# \*Fire Science Technology

Associate of Applied Science

**Freshman**

Introduction to Fire Science  
Fire Operations I  
Elementary Algebra  
Introduction to Chemistry  
Composition

**First Semester**

**Units**

FS 101	3
FS 110	3
MA 020	3
CH 101	4
EN 101	3

Fundamentals of Fire Prevention  
Fire Operations II  
Hazardous Materials I  
Introduction to Physics  
Composition

**Second Semester**

**Units**

FS 106	3
FS 111	3
FS 150	3
PH 101	4
EN 102	3

**Sophomore**

Fire Service Hydraulics  
Hazardous Materials II  
Fire Apparatus and Equipment  
Emergency Medical Training

**First Semester**

**Units**

FS 120	3
FS 160	3
FS 200	3
HT 174	6

Introduction to Fire Suppression  
Rescue Practices  
Fire Fighting Tactics & Strategy  
Fire Investigations  
Occupational Safety and Health  
Act of 1971 (OSHA)  
Electives

**Second Semester**

**Units**

FS 130	3
FS 220	3
FS 240	3
FS 260	3
BU 151	3
	3.4

**Recommended Electives:**

Personnel Management  
Elementary Psychology  
Fundamentals of Speech  
American National Government  
Humanities  
Technical Graphics  
Co-op Education  
Construction Drafting  
Blueprint Interpretation and Basic  
Drafting  
Principles of Management

BU 123

**Units**

PY 101	3
SE 102	3
PS 120	3
HU 205	4
DT 113	3
CE 110/120	1.16
DT 220	4
DT 100	4
BU 143	3

\*Offered at Sierra Vista only

# History

Associate of Arts

**General Education Requirements\***

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

**Core Curriculum Courses:**

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

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

# Journalism

Associate of Arts

**Freshman**

Composition	<b>First Semester</b>	<b>Units</b>
Elective: Physical Education	EN 101	3
Elective: Foreign Language	PE	1
Elective: Lab Science or Math		4
Elective: Social Behavioral Science		3.4

Composition	<b>Second Semester</b>	<b>Units</b>
Elective: Physical Education	EN 102	3
Elective: Foreign Language	PE	1
Elective: Lab Science or Math		4
Mass Communications	JR 101	3
Elective: Social Behavioral Science		3

**Sophomore**

Critical Reading And Writing	<b>First Semester</b>	<b>Units</b>
Elective: Foreign Language	EN 106	3
Basic Reporting		4
Humanities: Fine Arts	JR 102	3
Elective: Social Behavioral Science		3.4

	<b>Second Semester</b>	<b>Units</b>
Intermediate Reporting	JR 103	3
Elective: Foreign Language		4
Creative Writing	EN 107	3
Humanities/Fine Arts		3
Elective: Social/Behavioral Science		3

## Liberal Arts

### Associate of Arts

#### General Education Requirements\*

		<b>Units</b>
Composition	EN 101	3
Composition	EN 102	3
Humanities/Fine Arts		9-12
Social Science		12
College Algebra (or above)	MA 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

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Machine Shop for Technicians	MT 110	4
Technical Graphics I	DT 112	3
Technical Math I	GT 110	3
Basic Metallurgy	MT 130	3
Composition	EN 101	3

	<b>Second Semester</b>	<b>Units</b>
Machine Shop for Technicians	MT 120	4
Technical Graphics II	DT 113	3
Technical Math II	GT 101	3
Written Communications and Reports	EN 109	3
Oxyacetylene Welding	WT 105	3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Jig & Fixture Designing I	MT 210	4
Manufacturing Processes I	GT 105	3
Arc Welding	WT 106	3
Elective: Social Science		3
Elective: Humanities		3

	<b>Second Semester</b>	<b>Units</b>
Jig & Fixture Designing II	MT 220	4
Manufacturing Processes II	GT 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	MT 110	4
Technical Graphics I	DT 112	3
Technical Math I	GT 100	3
Basic Metallurgy	MT 130	3
	Second Semester	Units
Machine Shop for Technicians II	MT 120	4
Technical Graphics II	DT 113	3
Technical Math II	GT 101	3
Oxyacetylene Welding	WT 105	3
		26

# Machine Technology

## Machinists Standard Technical Certificate

### Required Courses

		Units
Machine Shop for Technicians	MT 110-120	8
Jig & Fixture Designing	MT 210-220	8
Technical Graphics	DT 112-113	6
Technical Math	GT 100-101	6
Basic Metallurgy	MT 130	3
Written Communications and Reports	EN 110	3
Oxyacetylene Welding	WT 105	3
Arc Welding	WT 106	3
Manufacturing Processes I	GT 105	3
		43

# Nursing

### Nurse 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 Student Affairs Office.

**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 health 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 hospital or 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 the community setting.

# Nursing

### Freshman

	First Semester	Units
Human Anatomy & Physiology	BS 201	4
Composition	EN 101	3
Nursing I	NS 122	8
Medication Math	NS 121	1

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

	Second Semester	Units
Human Anatomy & Physiology	BS 202	4
Elementary Psychology	PY 101	3
Nursing II	NS 123	10

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

### Sophomore

	Third Semester	Units
Microbiology	BS 203	4
Anthropology or Sociology	AN 125 or SO 101	3
Controlled Elective		3
Nursing III	NS 232	9

	<b>Fourth Semester</b>	<b>Units</b>
Essentials of Chemistry	CH 110	4
Controlled Elective		3
Nursing IV	NS 233	9

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

## Physical Education

### Associate of Arts

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
U.S. History	HI 110 or 111	3
Physical Education	Activity	1
Physical Education	Core	2-3
	<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3
Elementary Psychology	PY 101	3
Elective: Social/Behavioral Science		3
Physical Education	Activity	1
Fundamentals of Speech	SE 102	3
Physical Education	Core	2-3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Anatomy & Physiology	BS 151	4
Elective: Humanities/Fine Arts		3-4
Physical Education	Core	2-3
Physical Education	Activity	1
National and Arizona Constitution	PS 167	3
	<b>Second Semester</b>	<b>Units</b>
Anatomy and Physiology	BS 152	4
Elective: Humanities/Fine Arts		3-4
Physical Education	Activity	1
Elective: Social/Behavioral Science		3-4
Physical Education	Core	2-3

<b>Core Curriculum Courses</b>		
Personal Health	HE 142	3
First Aid and Safety	HE 170	3
School and Community Health	HE 171	3
Orientation to P.E.	PE 155	3
Orientation to Recreation	PE 171	2
Elementary School P.E.	PE 189	3
Sports Officiating	PE 190	3
Women's Athletic Conditioning	PE 191	3
Coaching Team Sports	PE 192	2
Baseball Theory	PE 193	3
Individual Studies	PE 299	1-4

## Political Science

### Associate of Arts

<b>General Education Requirements*</b>	<b>Units</b>
Composition	EN 101
Composition	EN 102
Laboratory Science	
Foreign Language	
(2nd Semester Proficiency)	
Humanities/Fine Arts	8-12
Mathematics (MA 120 or above)	3
Social Science	9-12
Physical Education	2
<b>Core Curriculum Courses</b>	
American National Government	PS 120
Arizona Constitution	PS 166
Recommended Electives*	
	16-9
	64

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

## \*Pre-Dentistry

### Associate of Science

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Elective: Physical Education	PE	1
Composition	EN 101	3
College Algebra	MA 120	3
General Chemistry	CH 121	4
General Physics	PH 120	4
Social/Behavioral Science		3
	<b>Second Semester</b>	
Elective: Physical Education	PE	1
Composition	EN 102	3
Trigonometry	MA 124	3
General Chemistry	CH 122	4
General Physics	PH 121	4
Social/Behavioral Science		3
<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Organic Chemistry	CH 240	4
Anatomy/Physiology	BS 201	4
Humanities or Equivalent	HU 205	3-4
Elective		3

Second Semester Units		
CH 241	4	
BS 202	4	
HU 206	3-4	
MA 161	5	

Organic Chemistry

Anatomy/Physiology

Humanities or Equivalent

Calculus

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

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

## Pre-Forestry

### Associate of General Studies

#### Freshman

Freshman	First Semester	Units
Composition	EN 101	3
Physical Education	PE	1
College Algebra	MA 120	3
General Chemistry	CH 121	4
Intro. Data Processing	BU 172	3
Humanities		3

Second Semester Units
EN 102
PE
MA 124
CH 122
BU 174
Humanities

#### Sophomore

Sophomore	First Semester	Units
Principles of Economics	EC 201	3
General Zoology	BS 182	4
Business Statistics	BU 219	3
Physical Geology	GY 151	4
Fundamentals of Speech	SE 102	3

Second Semester Units
EC 202
BS 183
BS 181
Written Communications and Reports
Elective

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.

#### Freshmen

Freshmen	First Semester	Units
Composition	EN 101	3
College Algebra/Trigonometry	MA 120	3
Plane Trigonometry	MA 124	3
General Chemistry	CH 121	4
*Spatial Relations	DT 120 or 112	3
Social/Behavioral Science		3
Physical Education		1

#### Second Semester

Second Semester
EN 102
MA 161
CH 122
3-4

#### Sophomore

Sophomore	First Semester	Units
Analytical Geometry/Calculus	MA 162	5
Physics with Calculus	PH 230	4
Social/Behavioral Science		3
Humanities/Fine Arts		3-4
Programming Fortran	BU 174	3

Second Semester
MA 263
PH 231
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-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 an 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

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
Laboratory Science		4
Foreign Language		4
Mathematics (MA 120 or above)		3
American National Government	PS 120	3
Physical Education	PE	1

	<b>Second Semester</b>	
Composition	EN 102	3
Laboratory Science		4
Foreign Language (2nd Semester Proficiency)		4
Social/Behavioral Science		3
Introduction to Sociology	SO 101	3
Physical Education	PE	1

<b>Sophomore</b>	<b>First Semester</b>	
Principles of Accounting	BU 101	3
Principles of Economics	EC 201	3
Humanities/Fine Arts		4.6
Fundamentals of Speech	SE 102	3
Elective		3

	<b>Second Semester</b>	
Principles of Accounting	BU 102	3
Principles of Economics	EC 202	3
Humanities/Fine Arts		4.6
Electives		6
		65-69

# Pre-Med

## Associate of Science

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
Physical Education	PE	1
General Chemistry	CH 121	4
General Zoology	BS 181	4
College Algebra	MA 120	3

<b>Second Semester</b>	<b>Units</b>
Composition	3
Physical Education	1
General Chemistry	4
General Zoology	4
Plane Trigonometry	3
Social/Behavioral Science	3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
Organic Chemistry	CH 240	4
General Physics	PH 120	4
Humanities/Fine Arts		3.4
Analytical Geometry with Calculus	MA 161	5

<b>Second Semester</b>	<b>Units</b>
Organic Chemistry	4
General Physics	4
Humanities/Fine Arts	3.4
Social/Behavioral Science	3

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

# Pre-Pharmacy

## Associate of Science

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
General Chemistry	CH 121	4
Elective	PE	1
College Algebra	MA 120	3
General Physics	PH 120	4
Social/Behavioral Science		3

	<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3
General Chemistry	CH 122	4
Elective: Physical Education	PE	1
Trigonometry	MA 124	3
General Physics	PH 121	4
Social/Behavioral Science		3

	<b>Second Semester</b>	<b>Units</b>
Anatomy & Physiology	BS 202	4
General Chemistry	CH 122	4
General Physics	PH 121	4
Humanities/Fine Arts		3-4
Elective		3

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

	<b>First Semester</b>	<b>Units</b>
Analytical Geometry/Calculus	MA 161	5
Anatomy/Physiology	BS 201	4
Elective: Humanities/Fine Arts		3-4
Fundamentals of Speech	SE 102	3
Principles of Economics	EC 201	3

	<b>Second Semester</b>	<b>Units</b>
Anatomy/Physiology	BS 202	4
Analytical Chemistry	CH 230	4
Elective: Humanities/Fine Arts		3-4
Intro. to Sociology	SO 101	3
Elementary Psychology	PY 101	3

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

## Pre-Physical Therapy

Associate of General Studies

	<b>First Semester</b>	<b>Units</b>
Freshman		
Composition	EN 101	3
General Psychology	PY 101	3
General Biology	BS 101	4
College Algebra	MA 120	3
Physical Education	PE	1
Social/Behavioral Science		3

	<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3
General Biology	BS 102	4
Elective		3
Physical Education	PE	1
Social/Behavioral Science		3

	<b>First Semester</b>	<b>Units</b>
Sophomore		
General Chemistry	CH 121	4
Anatomy & Physiology	BS 201	4
Elective		3
General Physics	PH 210	4
Humanities/Fine Arts		3-4

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

## \*Pre-Veterinary

Associate of Science

	<b>First Semester</b>	<b>Units</b>
Freshman		
Composition	EN 101	3
General Chemistry	CH 121	4
College Algebra	MA 120	3
General Zoology	BS 182	4
Elective: Social/Behavioral Science		3

	<b>Second Semester</b>	<b>Units</b>
Physical Education	PE	1
Composition	EN 102	3
General Chemistry	CH 122	4
Trigonometry	MA 124	3
General Zoology	BS 183	4
Elective: Humanities/Fine Arts		3-4

	<b>First Semester</b>	<b>Units</b>
Sophomore		
General Physics	PH 120	4
Organic Chemistry	CH 240	4
Elective: Humanities/Fine Arts		3-4
Principles of Economics	EC 201	3
Physical Education	PE	1

	<b>Second Semester</b>	<b>Units</b>
General Physics	PH 121	4
Organic Chemistry	CH 241	4
Calculus	MA 161	5
General Botany	BS 181	4

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

# Psychology

Associate of Arts, Associate of Science

## General Education Requirements

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

## Core Curriculum Courses

Introduction to Psychology	PY 101	3	3
Introduction to Psychological Research, Measurement and Statistics	PY 250	4	4
Experimental Psychology	PY 290	4	4
Required Electives (Two of the following)			
Social Psychology	PY 210	3	3
Personality Theory & Research	PY 230	4	4
Developmental Psychology	PY 240	3	3
		64-65	64-65

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

## Core Curriculum Courses\*

	Units
Introduction to Sociology	SO 101
Social Problems	SO 202
Introduction to Social Welfare	SO 207
Marriage & the Family	SO 210
Economics	EC 201 or 202
American National Government	PS 120
Introduction to Psychology	PY 101
Developmental Psychology	PY 240
Psychological Statistics	PY 250
Ethnic Groups & Minorities	SO 160
Introduction to Philosophy	PH 111

Units

3

3

3

3

3

3

3

3

3

3

3

64

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

# Social Work

Associate in Applied Science

First Semester	Units
EN 101	3
American National Government (or PS 167)	3
Composition (EN 101)	3
PS 120	3
Introduction to Sociology	3
Introduction to Social Welfare*	3
Elective	3

Second Semester	Units
Social Problems	3
Business Math (or MA 020)	3
Elementary Psychology	3
Ethnic Groups & Minorities*	3
Intro. to Criminal Justice System*	3
CJ 121	3
Elective	3

18

Third Semester	Units
Developmental Psychology	3
Social Work Methods* (Prerequisite)	3
Social Work Processes* (Prerequisite)	3
Field Experience (Prerequisite)	4
CE 110	3
Elective	3

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# Social Work

Associate of General Studies

## General Education Requirements\*

	Units
English Composition	EN 101
English Composition	EN 102
Laboratory Science	8
Mathematics (MA 120 or above)*	3
Humanities/Fine Arts	8
Physical Education	2
Recommended Electives	3

	<b>Fourth Semester</b>	<b>Units</b>
Social Work Seminar* (Prerequisite)	SW 271	3
Human Behavior in the Social Environment (Prerequisite)	SW 272	3
Field Experience (Prerequisite)	CE 110	4
Electives		6
		<u>16</u>

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

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

## Spanish

### **Associate of Arts**

### **General Education Requirements**

EN 101, 102	6
Humanities	8.9
Mathematics (MA120 or above)	3
Laboratory Science	8
Social Science	9
Foreign Language (Spanish 101-102)	8
	<u>44.45</u>

### **Required Courses:**

SP 201, 202

**Recommended Electives:**

AR107, 108, AN102 125, 135, 186, HI110, 111, 140, 141, JR101, 102, SE102, DR103 110, MU101 102 EN104 PL111, 130, SO101, 202

## Welding

## **Certificate Program**

		Units
Written Communications & Reports	EN 110	3
Technical Mathematics I	GT 100	3
Technical Mathematics II	GT 101	3
Manufacturing Materials & Processes I	GT 105	3
Manufacturing Materials & Processes II	GT 106	3
Blueprint Interpretation & Basic Drafting	DT 100	4
Oxyacetylene Welding	WT 105	3
Arc Welding	WT 106	3
MIG and TIG Welding*	WT 207	3
Pipe and Plate Welding*	WT 210	3

\*Offered at Sierra Vista only

## **Welding Technology**

### **Associate of Science Degree**

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
Technical Graphics	DT 112	3
Manufacturing Materials and Processes I	GT 105	3
College Algebra	MA 120	3
Oxyacetylene Welding	WT 105	3
Physical Education	PE	1

	<b>Second Semester</b>	<b>Units</b>
Composition	EN 102	3
Technical Drafting II	DT 113	3
Manufacturing Materials and Processes II	GT 106	3
Plane Trigonometry	MA 124	3
Arc Welding	WT 106	3
Physical Education	PE	1

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
MIG and TIG Welding	WT 207	3
Pipe and Plate Welding	WT 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	WT 211	3
Welding Design and Fabrication	WT 215	3
Electives: Lab Science		4
Humanities/Fine Arts		3-4
Social/Behavioral Science		3

# Welding Technology

Associate of Applied Science Degree

<b>Freshman</b>	<b>First Semester</b>	<b>Units</b>
Composition	EN 101	3
Technical Graphics	DT 112	3
Technical Math I	GT 100	3
Manufacturing Materials and Processes I	GT 105	3
Oxyacetylene Welding	WT 105	3

	<b>Second Semester</b>	<b>Units</b>
Written Communications and Reports	EN 109	3
Technical Drafting II	DT 113	3
Technical Math II	GT 101	3
Manufacturing Materials and Processes II	GT 106	3
Arc Welding	WT 106	3

<b>Sophomore</b>	<b>First Semester</b>	<b>Units</b>
MIG and TIG Welding	WT 207	3
Pipe and Plate Welding	WT 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	WT 211	3
Welding Design and Fabrication	WT 215	3
Electives: Lab Science		4
Humanities/Fine Arts		3-4
Social/Behavioral Science		3

# Course Descriptions

## Note: \* indicates Lab Fees

### ADMINISTRATION OF JUSTICE

#### AJ 100 Introduction to Police Science/3 Units

Prerequisite: None

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

3 hours lecture

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

Prerequisites: None.

An introduction to 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.

#### AJ 122 Police Patrol Function/3 Units

Prerequisites: 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.

#### AJ 124 Supervision for Police/3 Units

Prerequisites: AJ 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

#### AJ 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.

#### AJ 148 Institutional Corrections/3 Units

Prerequisite: None.

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

3 hours lecture

#### AJ 200 Criminal Law I/3 Units

Prerequisite: None

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

#### AJ 201 Criminal Law II/3 Units

Prerequisite: AJ 200 preferred, not required

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.

#### AJ 227 Rules of Evidence/3 Units

Prerequisite: AJ 200, 201 preferred, not required

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.

#### AJ 230 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, judges, and their functions are examined

3 hours lecture

#### AJ 236 Physical Evidence (Recognition, Collection, Preservation)/3 Units

Prerequisite: AJ 122, 227, or permission of instructor

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.

### **AJ 238 Criminal Investigation/3 Units**

Prerequisite: AJ 122, 200-201, 227, or permission of instructor

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. Method of criminal operation in various crimes, arson, burglary, homicide, sex crimes, robbery, and various other serious crimes. 3 hours lecture.

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

Prerequisite: SO 101.

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.

### **AJ 249 Constitutional Law for Police/3 Units**

Prerequisites AJ 120, or 121, 122, 200-201, 227, or permission of instructor

A study of the federal constitution, particular attention to specific amendments. Amendments 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

### **AJ 252 Accidents, Citations, Disorders/3 Units**

Prerequisite: None

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

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

Prerequisite: AJ 122, 200-201, 227, PY 101, or permission of instructor.

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, and riot control, legal aspects of abnormal behavior.

3 hours lecture.

### **AJ 256 Criminology/3 Units**

Prerequisites: SO 101 or PI

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

3 hours lecture

### **AJ 270 Police Organization and Administration/3 Units**

Prerequisite: AJ 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

## **AGRICULTURE**

### **AG 101 Principles of Veterinary Science/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

### **AG 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

**AG 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.

**AG 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.

**AG 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.

**AG 106 Animal Diseases and Sanitation/3 Units**

Prerequisite: AG 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.

**AG 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

**AG 108 Introduction to Beekeeping/3 Units**

Prerequisites: None.

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

3 hours lecture.

**AG 138\* Team Roping/3 Unit**

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.

**AG 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.

**AG 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

**AG141\* 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

**AG 207 Range Plants/3 Units**

Prerequisites: 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

**AG 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

**AG 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

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

Prerequisite: None

Techniques of operating arc welding machines, oxy-acetylene 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

**AG 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

**AG 212\* Advanced Agricultural Welding/3 Units**

Prerequisite: Agriculture Welding 210

Techniques of operating arc welding machine in the various welding positions: flat, horizontal, vertical, and overhead, and the use of oxy-acetylene equipment for fusion welding, brazing, cutting, hard-facing and soldering all common types of metal with emphasis on individual projects

2 hours lecture, 3 hours laboratory

**AG 213\* Agriculture Alloy & Repair Welding/3 Units**

Prerequisites: AG 210, 212, or permission of instructor

Techniques of operating arc welding and oxy-acetylene 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

**AG 214 Soils & Fertilizers/3 Units**

Prerequisite: None

Fundamental properties of soils, their relation to plant growth and soil amendment

3 hours lecture

**AG 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

**AG 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

**AG 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

**AG 242 Livestock Judging/3 Units**

Prerequisite: None

Selection of animals by type, production, pedigree, practice judging, and selection of livestock

3 hours lecture

**AG 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

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

Prerequisites: AG 210 or AG 212 or permission of instructor

Individual projects for students with demonstrated welding skills with use of the arc welding or oxy-acetylene equipment in the shop. May be repeated for non-transfer credit only

2 hours lecture, 3 hours laboratory

**AG 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****AN 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

### **AN 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

### **AN 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.

### **AN 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

### **AN 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

### **AN 137 Archaeological Excavation/4 Units**

Prerequisite AN 136

Directed study of a specific problem through scientific excavation of an archaeological site in conjunction with AN 136

4 hours field, 2 hours laboratory

### **AN 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.

### **AN 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

### **AN 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

### **AN 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 AR 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

### **AR 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

### **AR 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.

### **AR 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 experiences for teacher's aides. Will not fulfill art education requirement for teacher's certification

3 hours lecture

### **AR 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

### **AR 107 Survey of World Art/3 Units**

Prerequisite: None

A survey presentation of the art and architecture of the world from pre-historic to the classic periods of Greece and Rome

3 hours lecture

### **AR 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

### **AR 130 Fundamentals of Painting/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

### **AR 131\* Fundamentals of Painting II/3 units**

Prerequisite: AR 130.

Development of skills and techniques introduced in AR 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

### **AR 230 Two-Dimensional Design/3 Units**

Prerequisite: AR 101, AR 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

### **AR 231 \*Three Dimensional Design/3 Units**

Prerequisite: AR 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

### **AR 245 \*Beginning Figure Drawing/3 Units**

Prerequisite: AR 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

### **AR 265 \*Beginning Commercial Design/3 Units**

Prerequisite: AR 103 or permission of instructor

A study of principles of commercial design and techniques of advertising layout, and their practical application with a concern for the tools and materials used in advertising

2 hours lecture, 4 hours studio

### **AR 270 \*Ceramics/3 Units**

Prerequisite: AR 101, AR 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

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

Prerequisite: AR 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

### **AR 285 \*Beginning Photography/3 Units**

Prerequisite: AR 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

**AR 286 Intermediate Photography/3 Units**

Prerequisite AR 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

**AR 290 \*Sculpture/3 Units**

Prerequisite: AR 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

**AR 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

**AT 101G Stage One Ground School/5 Units**

Prerequisite: Concurrent enrollment or prior completion of AT 102G

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

**AT 102G Stage Two Ground School/5 Units**

Prerequisites None

A comprehensive study of aviation meteorology

**AT 103G Stage Three Ground School/5 Units**

Prerequisites Completion of AT 102G 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

**AT 101F Stage One Flight Laboratory/6 Units**

Prerequisite Concurrent registration in AT 101G and 102G

A comprehensive course leading to completion of the elementary knowledge, skills and experience requirements leading to Commercial Pilot Certification

**AT 102F Stage Two Flight Laboratory/3 Units**

Prerequisites Completion of AT 101F 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 requirements for the Commercial Pilot Certificate

**AT 103F Stage Three Flight Laboratory/3 Units**

Prerequisite Completion of AT 101F and 102F with minimum grade of C Admission to a laboratory section

A continuation of the development of the requirements for the Commercial Pilot Certificate

**AT 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

**AT 106 F & G Commercial Test Course Airplane/9 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

**Airframe and Powerplant Maintenance Technology**

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

**AT 005 Airframe and Powerplant Upgrade/6 Units**

A review of the total A & P program curriculum designed for the military aircraft mechanic who has 30 or more months experience Completion of the 90 hours of lecture-discussion for 6 units of credit (3 units airframe, 3 units powerplant) qualifies student to take FAA written, oral and practical examinations

70% Lecture, 30% laboratory

**AT 006 Practicum in Aviation Maintenance Technology****Upgrade/6 Units**

An upgrade or refresher course in Aviation Maintenance Technology with emphasis on the development of practical skills required in the 43 subject areas of the aviation maintenance occupation as outlined in the FAA's Advisory Circular 65 2D Course not open to A & P students

4 hours lecture, 6 hours laboratory

**AT 110 Phase I 400 Hours/18 Units**

A comprehensive study of general subjects required by the FAA 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

### **AT 115 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

### **AT 120 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

### **AT 125 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

### **AT 130 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.

### **AT 204G Stage Four Ground School/5 Units**

Prerequisite: Completion of AT 101, 102, and 103 Ground Schools with minimum grades of C or possession of a Commercial Pilot Certificate, or a Private Certificate with 200 hours flight time. AT 102 Ground School must be taken prior to or concurrently with AT 204 Ground School

A comprehensive study of the requirements for an Instrument Pilot Rating.

### **AT 204F Stage Four Flight Laboratory/6 Units**

Prerequisite: Completion of AT 101, 102, and 103 Ground and 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

### **AT 208G 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

### **AT 208F 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 AT 208G

A comprehensive course leading to completion of the requirements for a Multi-Engine Land Airplane Class Rating.

### **AT 220G 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.

### **AT 220F 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 AT 220G.

A comprehensive course leading to completion of the requirements for Flight Instructor-Airplane Certification.

### **AT 225 Fundamentals of Aviation Instruction/3 Units**

Prerequisite: AT 106 and AT 103G and concurrent enrollment in AT 220G or permission of instructor

A study of learning and teaching as it relates to conveying aeronautical knowledge and skills to students.

3 hours lecture

### **AT 230G 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

### **AT 230F 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 AT 230G

A comprehensive course leading to completion of the requirements for Multi-Engine Instructor Certification.

### **AT 235 Helicopter Maintenance and Inspection Fundamentals/4 Units**

Prerequisite: Completion of AT 110, 115, 120 or have an 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.

**AT 240G 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.

**AT 240F 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 AT 240G

A comprehensive course leading to completion of the requirements for Instrument Flight Instructor-Airplane certification

**AT 250G 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.

**AT 250F 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.

**AT 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 extra-curricular projects of merit.

## **BIOLOGICAL SCIENCES**

Note: \* indicates Lab Fees

**BS 101 \*General Biology/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.

**BS 102 \*General Biology/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

**BS 181 \*General Botany/4 Units**

Prerequisites: CH 121, 101 or high school chemistry

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

**BS 182-183 \*General Zoology/4-4 Units**

Prerequisites: Chemistry 121, (or concurrent enrollment), Chemistry 101 or high school chemistry. BS 182 is a prerequisite for 183 except by special permission of the instructor

An introduction to animal structure and classification and a survey of animal phyla with an emphasis on vertebrate groups principles of genetics, ecology, evolution, embryology, phylogeny and physiology, dissection of specimens representative of the major phyla, including typical vertebrates. BS 182 offered fall semester only BS 183 offered spring semester only

2 hours lecture, 6 hours laboratory

**BS 201-202 \*Human Anatomy and Physiology/4-4 Units**

Prerequisites: BS 201 is prerequisite for BS 202

An integrated study of the physical, structural, and functional features of the cells, tissues, organs, and systems of the human body. BS 201 offered fall only. BS 202 offered spring only

3 hours lecture, 3 hours laboratory. Discussion period 1 hour (optional)

**BS 203 \*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

**BS 282 Introduction to Ecology/4 Units**

Prerequisite: MA 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, lab fee, 1 Saturday field trip

### **BS 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**

#### **BU 101 Principles of Accounting/3 Units**

Prerequisite: MA 020 or BU 104 or equivalent

An introductory course in gathering, recording and using the financial data of a business, the accounting cycle, debits and credits, classification of accounts, recording of transactions and preparation of financial statements for single proprietorships, partnerships, and corporations

3 hours lecture, 2 hours laboratory

#### **BU 102 Principles of Accounting/3 Units**

Prerequisite: BU 101

A continuation of BU 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

#### **BU 109 Survey of American Business/3 Units**

Prerequisite: None

Fundamental characteristics and functions of modern business with emphasis on career opportunities

3 hours lecture

#### **BU 113 Computer Keyboarding/2 Units**

Prerequisite: None

A study of the computer keyboard including alpha, numeric, symbolic and ten-key entry. Data entry techniques and exercises

requiring no prior computer or typing experience will be utilized to develop speed and accuracy on the computer keyboard

2 hours lecture, 1 hour laboratory

#### **BU 121 Taxation Principles and Procedures/3 Units**

Prerequisite: BU 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

#### **BU 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

#### **BU 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, role and mission of the major commands of the Army, 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

#### **BU 125 Management and Organization 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

#### **BU 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

**BU 127 Leadership and Supervision/3 Units**

Prerequisite: BU 123 or permission of instructor

Study in depth of the supervision and leadership functions in management. Case studies emphasized

3 hours lecture

sheet, the profit and loss statement, and analysis of earning potential. An American Institute of Banking Course.

3 hours lecture

**BU 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

**BU 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

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

Prerequisite: EC 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

**BU 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

**BU 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

**BU 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

**BU 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 purchased

3 hours lecture

**BU 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

**BU 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

**BU 136 Analyzing Financial Statements/3 Units**

Prerequisite: BU 101 or permission of instructor

The characteristics and analysis of financial statements, with emphasis on their utilization in banking, covering the balance

**BU 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.

**BU 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

**BU 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

**BU 147 Labor Relations/3 Units**

Prerequisites BU 123 or BU 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 a summation of current and future problems and trends in the labor field

3 hours lecture

**BU 148 Advertising/3 Units**

Prerequisite BU 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

**BU 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

**BU 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

**BU 153 Instructional Media: Use and Development/3 Units**

Prerequisite None

A course designed to introduce students in Teacher Aide program to use of typewriter, audiovisual equipment, production of instructional media and duplication processes as applied in elementary school, also clerical duties such as attendance reports, money collection, ordering materials, and record keeping

3 hours lecture

**BU 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

**BU 155 Credit Union Management/3 Units**

Prerequisite BU 154 or permission of instructor

Overview of Credit Union movement, managerial problems, organization, administration and development, responsibilities of official, Federal regulations

3 hours lecture

**BU 156 Principles of Finance/3 Units**

Prerequisite BU 101 or BU 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

**BU 201 Intermediate Accounting/3 Units**

Prerequisite BU 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

**BU 202 Intermediate Accounting/3 Units**

Prerequisite BU 201

A continuation of BU 201, Accounting treatment of liabilities and capital accounts and the analysis of financial statements

3 hours lecture, 1 hour laboratory

**BU 219 Business Statistics/3 Units**

Prerequisite: MA 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, MA 110 intermediate algebra helpful.)

3 hours lecture.

**BU 220 Business Statistics/3 Units**

Prerequisite: BU 219

Testing and estimation, statistical inference, variance analysis, regression, correlation, time series, and index number application

3 hours lecture.

**BU 231 Business Law/3 Units**

Prerequisite: Sophomore Standing.

A presentation of law as a 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

**BU 232 Business Law/3 Units**

Prerequisite: Sophomore standing and completion of BU 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

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

Prerequisite: BU 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.

**BU 282 Management Information Systems/3 Units**

Prerequisite: CS 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

**BU 283 Small Business Management — A Seminar Approach/3 Units**

Prerequisites BU 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

**BU 284 Installment Credit I/3 Units**

Prerequisite: BU 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

**BU 285 Installment Credit II/3 Units**

Prerequisite: BU 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.

**BU 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

**Office Education****BU 104 Business Math (Programmed)/3 Units**

Prerequisite: 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

**BU 106 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.

**BU 107 Bilingual Typing/3 Units**

Prerequisite: BU 106 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

**BU 108 Intermediate Typing/3 Units**

Prerequisite: BU 106 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

**BU 110 Elementary Shorthand/3 Units**

Prerequisite: BU 106 or equivalent, minimum grade of C in English or permission of the instructor.

An intensive study of Gregg Shorthand theory with an expected outcome of 60 wpm for 3 minutes at 95% accuracy.

3 hours lecture; 1 hour laboratory.

**BU 111 Intermediate Shorthand/3 Units**

Prerequisite: BU 110 with a grade of C or better or permission of the instructor.

A comprehensive study of Gregg Shorthand theory, vocabulary development and typed transcripts with emphasis on speed dictation to an expected outcome of 80 wpm on new material for 3 minutes at 95% accuracy.

3 hours lecture; 1 hour laboratory.

**BU 114 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.

**BU 115 Elementary Typing B—Production Typing/2 Units**

Prerequisite: BU 114 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.

**BU 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.

**BU 117 Elementary Shorthand B—Theory/Dictation/2 Units**

Prerequisite: BU 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 minute dictation at 95% accuracy.

2 hours lecture.

**BU 118 Calculating Machines/2 Units**

Prerequisite: BU 104 or permission of the instructor.

An introduction to the fundamental skills in operating office calculating machines and a review of basic math needed to calculate business-type problems.

2 hours lecture, 1 hour laboratory.

**BU 146 Bookkeeping and Financial Management (Secretarial Accounting)/3 Units**

Prerequisite: BU 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.

**BU 161 General Office Procedures/3 Units**

Prerequisite: BU 106 or permission of the instructor.

An introduction to duties of office workers, including personal qualifications, system of filing, preparation of reports, handling mail, and using the telephone.

3 hours lecture.

**BU 162 Clerical Practice/3 Units**

Prerequisite: BU 161 or permission of the instructor.

Actual practice in handling office mail, job applications and interviews, filing, telephone techniques, and transcription equipment machines and duplicating equipment for each individual occupational option with practice sets in specialized areas, general medical bilingual and legal

3 hours lecture

**BU 167 Business Communications/3 Units**

Prerequisites: EN 101 or EN 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 EN 167)

3 hours lecture

**BU 170 Keypunch/2 Units**

Prerequisite: BU 106 or permission of the instructor

A comprehensive study to develop an understanding of the operation and application of the keypunch machine and its relation to data processing

2 hours lecture 1 hour laboratory

**BU 208 Advanced Typing/3 Units**

Prerequisite: BU 108 with a grade of C or permission of the instructor

A study of typewriting skills needed to become proficient at typing business letters, printed forms, manuscripts, minutes, and tabulation problems in the employment field through the use of individualized units of work with an expected outcome of 60 wpm for five minutes

3 hours lecture

**BU 209 Professional Typing/3 Units**

Prerequisite: BU 208 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

**BU 211 Advanced Shorthand/3 Units**

Prerequisite: BU 111 with a grade of C or better or permission of the instructor

A comprehensive study of Gregg Shorthand theory, vocabulary

development, and mailable transcripts with an expected outcome of 100 wpm on new material for three minutes at 95% accuracy

3 hours lecture

**BU 212 Advanced Transcription/3 Units**

Prerequisite: BU 111 and BU 211 with a grade of C or presently enrolled in BU 211 or permission of the instructor.

An integration of shorthand and typing skills with English skills to prepare for office standards with emphasis on high-quality transcripts with an expected outcome of 120 wpm on new material for three minutes at 100% accuracy (Spring semester only).

3 hours lecture

**BU 217 Records Management/3 Units**

Prerequisite: BU 106, admission open to qualified freshmen with the permission of the instructor

A study of the principles and procedures of actual filing and practices in the basic systems using established management systems (Taught fall semester only)

3 hours lecture

**BU 253 Professional Terminology/3 Units**

Prerequisites: BU 111 for stenographic majors and BU 108 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

**BU 264 Secretarial Office Procedures/3 Units**

Prerequisite: BU 109, 212, 217, 208, 211, and EN 111

A comprehensive study of office organization and layout, workflow, procedures, standards, personnel policies and supervision, procedures through progressive job situations. Projects in specialized secretarial areas: legal, medical, executive

3 hours lecture

**BU 265 Secretarial Practice/3 Units**

Prerequisite: BU 264 or permission of the instructor

Practice in using equipment for transcription, executive typewriter, memory typewriter, and duplicating equipment, study of office style dictation, business letters, technical articles, filing, telephone techniques, mailing, and personal grooming for each individual occupational option with practice sets in specialized area: general, medical, bilingual, and legal

3 hours lecture

**BU 265 Medical Transcription/3 Units**

Prerequisite: BU 264 or permission of instructor BS 151, 152, and BU 253.

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

**BU 267 Internship as Medical Secretary/3-16 Units**

Prerequisites: BU 253 and 265.

A course designed to combine theory and practice with experience in a medical record department or similar facility in on-the-job training.

**BU 268\* Word Processing/3 Units**

Prerequisites: BU 108, EN 111 or concurrent enrollment

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.

**BU 269\* Advanced Word Processing/3 Units**

Prerequisite: BU 268

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.

**CHEMISTRY**

Note. \* indicates Lab Fees

**CH 101\* Introduction to Chemistry/4 Units**

Prerequisite: MA 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.

**CH 110\* Essentials of Chemistry/4 Units**

Prerequisite: High school chemistry or algebra or MA 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.

**CH 121-122\* General Chemistry/4-4 Units**

Prerequisite: High school chemistry or CH 101 or MA 120 or concurrent enrollment CH 121 is prerequisite for CH 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

**CH 230\* Analytical Chemistry/4 Units**

Prerequisite: Chemistry 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

**CH 240-241\* Organic Chemis..y/4-4 Units**

Prerequisite: CH 122. CH 240 is a prerequisite for CH 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

**CH 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****CE 110 Internship in Cooperative Education/1-16 Units**

Prerequisite: Prior approval of Cooperative Education Coordinator. Concurrent student enrollment in CE 120 unless excused by coordinator. Internship credit provided in career areas such as manufacturing, construction, marketing, business and office, teacher aide, fine arts and humanities, public service, social work, and criminal justice

**CE 120 Seminar in Cooperative Education/1 Unit**

Prerequisite: Permission of Co-op Coordinator. Concurrent enrollment in CE 110 unless excused by coordinator

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

## **CONSUMER EDUCATION**

### **CN 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.

### **CN 120 Consumers and the Marketplace/3 Units**

Prerequisite: CN 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.

### **CN 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.

### **CN 140 Consumers and Their Money/3 Units**

Prerequisite: CN 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.

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

Prerequisite: Sophomore standing and completion of CN 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.

### **CN 220 Consumers and Their Government/3 Units**

Prerequisite: Sophomore standing and completion of CN 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**

### **CO 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.

### **CO 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.

### **CO 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.

### **CO 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

## **COMPUTER SCIENCE**

### **CS 110 Computer Math/3 Units**

Prerequisite: MA 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.

### **CS 171 Introduction to Programming Using PASCAL/4 Units**

Prerequisite: MA 020, CS 172 (or concurrent enrollment) or permission of instructor.

A non-mathematical study of the fundamentals of computer programming to include program design, antiguaging, debugging, testing, problem definition and program development using the PASCAL programming language.

3 hours lecture, 3 hours laboratory

**CS 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.

**CS 173 Programming—COBOL Level I/4 Units**

Prerequisite: CS 171 or permission of the instructor.

A detailed study of the COBOL programming language and the organization of a COBOL program. Computer organization, data structure, program procedures, input-output and operation considerations. A minimum of six operational programs are required.

3 hours lecture, 2 hours laboratory.

**CS 174 Programming—FORTRAN/4 Units**

Prerequisite: CS 171 or permission of the instructor.

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

3 hours lecture, 2 hours laboratory.

**CS 175 BASIC Computer Programming/3 Units**

Prerequisite: CS 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.

**CS 176 Programming—RPG/4 UNITS**

Prerequisite: MA 020 and CS 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.

**CS 181 Computer Applications for Business/3 Units**

Prerequisite: BU 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.

**CS 220 Assembler Programming/4 UNITS**

Prerequisite: CS 171, CS 110.

A detailed study of the Assembly Programming language that converts individual instructions written in symbolic form and converts them into machine language. Computer organization, data structure, input-output and operation considerations. Students will write a minimum of eight operational programs.

3 hours lecture, 3 hours laboratory.

**CS 230 Data Communications/3 Units**

Prerequisite: CS 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.

**CS 250 Data Base Management/3 Units**

Prerequisite: CS 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, 1 hour laboratory.

**CS 260 Fundamentals of Operating Systems/3 Units**

Prerequisite: CS 171 and CS 220.

A study of computer operating systems which monitor and control all internal input/output and processing operations.

3 hours lecture, 1 hour laboratory.

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

Prerequisite: CS 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.

**CS 271 Advanced PASCAL/4 Units**

Prerequisite: CS 171, CS 110.

An advanced study of PASCAL to include arrays, records, and sets, recursion and dynamic data.

3 hours lecture, 3 hours laboratory.

**CS 273 Programming—COBOL II/4 Units**

Prerequisite: CS 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, 2 hours laboratory.

**CS 275 Programming—BASIC Level II/4 Units**

Prerequisite: CS 175 and CS 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.

**CS 279 Computer Operations—Level I/3 Units**

Prerequisite: CS 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, 1 hour laboratory.

## DRAFTING

Note: \* indicates Lab Fees

**DT 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.

**DT 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

**DT 113 Technical Graphics II/3 Units**

Prerequisite: DT 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.

**DT 120 Spatial Relationships/3 Units**

Prerequisite: DT 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.

**DT 130 \*Drafting for Electronics/3 Units**

Prerequisite: DT 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.

**DT 150\* Computer-Aided Drafting/3 Units**

Prerequisite: DT 113 and DT 112 or concurrent with 130.

An introduction to the computer as a drafting tool. Multi-view, pictorial and electronic drawings will be completed using computer graphics techniques.

2 hours lecture, 4 hours laboratory.

**DT 200 Drafting for Manufacturing/4 Units**

Prerequisite: DT 112, GT 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.

**DT 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

**DT 220 Construction Drafting/3 Units**

Prerequisite: DT 100 or DT 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.

**DT 221 Advanced Construction Drafting/3 Units**

Prerequisite: DT 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.

**DT 230\* Electro-Mechanical Design/3 Units**

Prerequisite: DT 112 and DT 130.

A study of electronic packaging and enclosures including chassis, cabinets, control panels, cable and wiring diagrams.

2 hours lecture; 4 hours laboratory.

**DT 240 Tool Design/4 Units**

Prerequisite: DT 120 and GT 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.

**DT 250 Computer Aided Drafting/3 Units**

Prerequisite: DT 113 and 112 or concurrent with DT 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.

**DRAMA****DR 101 Acting/3 Units**

Prerequisite: None.

Introduction to theories of dramatic art and practice in acting.

3 hours lecture.

**DR 102 Acting/3 Units**

Prerequisite: None.

Introduction to development of characterization in all types of dramatic literature and practice in acting.

3 hours lecture.

**DR 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.

**DR 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.

**DR 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.)

**DR 110 Theatre Workshop/1-3 Units**

Prerequisite: Permission of instructor/audition.

Actual participation in a college dramatic production either in an acting or a production role. No student will be awarded more than four such credits.

**DR 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.

**ECONOMICS****EC 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.

**EC 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.

**EC 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****ED 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.

**ELECTRONICS****ET 100 Electronics Foundations/3 Units**

Prerequisite: MA 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.

**ET 102 Radio Communications I/3 Units**

Prerequisite: None.

A study of the FCC rules and regulations required to obtain a 3rd class license, and an introduction to the basic technical knowledge applicable to a 2nd class FCC license.

3 hours lecture.

**ET 103 Radio Communications II/3 Units**

Prerequisite: ET 102 or equivalent.

A study of FCC radio telephone license requirements emphasizing electronic theory regulations, and typical examination questions.

3 hours lecture.

**ET 105\* Introduction to DC Circuits/3 Units**

Prerequisite: ET 110 or MA 110.

The analysis of direct current resistive circuits, emphasizing Ohm's Law, Kirchhoff's Law, Thevenin's, Norton's, and superposition theorems.

2 hours lecture; 3 hours laboratory.

**ET 106\* Introduction to AC Circuits/4 Units**

Prerequisite: ET 105 (ET 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.

**ET 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.

**ET 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.

**ET 120 Advanced Mathematics for Electronics/3 Units**

Prerequisite: ET 110 or equivalent.

Study of basic trigonometric relations to electronics with emphasis on network problems and analysis of alternating circuits.

3 hours lecture.

**ET 122\* Semiconductors and Transistors/4 Units**

Prerequisite: ET 106 and ET 110 or MA 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.

**ET 125 Electronic Circuits and Systems/4 Units**

Prerequisites: ET 105, ET 106 and concurrent enrollment in ET 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.

**ET 231\* Pulse Circuits/4 Units**

Prerequisite: ET 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.

**ET 233\* Digital Circuits and Systems/4 Units**

Prerequisite: ET 122.

A study of number systems, Boolean algebra, combinational and sequential logic, the circuit and systems.

3 hours lecture; 3 hours laboratory.

**ET 243\* Modern Electronic Devices/4 Units**

Prerequisite: ET 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

**ET 245\* Communication Electronics I/4 Units**

Prerequisite: ET 120, 122, 125 (ET 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.

**ET 247 Communication Electronics II/4 Units**

Prerequisite: ET 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

**ET 260 Avionics I/4 Units**

Prerequisite: ET 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.

**ET 265\* Microprocessors and Microcomputers/4 Units**

Prerequisite: ET 233.

An introduction to the architecture of microprocessors and the organization, programming, interfacing, and control application of microcomputers.

3 hours lecture; 3 hours laboratory.

**ENGLISH****EN 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.

**EN 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 Reading-Tutorial Center.

1 hour lecture.

**EN 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.

### **EN 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.

### **EN 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 EN 001, Study Skills and EN 004, spelling, as the basic skills block for all freshmen testing below grade level 11.5 on the Nelson Denny placement test.

3 hours lecture.

### **EN 022 Individualized Reading/3 Units**

Prerequisite: EN 020

A continuation of reading EN 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

### **EN 100 The Research Paper/1 Unit**

Prerequisite: EN 020 or its equivalent.

A study of 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

### **EN 101 Composition/3 Units**

Prerequisite: Placement by Communications Division, EN 010 or its equivalent based on placement scores and transfer essay from EN 010.

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

3 hours lecture

### **EN 102 Composition/3 Units**

Prerequisite: EN 101 or its equivalent.

A continuation of EN 101 with emphasis on techniques involved in writing argument, persuasion, and literary analysis.

3 hours lecture.

### **EN 103 Advanced Composition/3 Units**

Prerequisite: EN 101 or EN 102 or permission of instructor.

An introduction to writing critically about literature with analysis of various literary genre. Credit for EN 104 will not be granted if the student has taken EN 103.

3 hours lecture.

### **EN 104 Introduction to Literature/3 Units**

Prerequisite: EN 102 or permission of instructor

A study of literary genre: drama, poetry, fiction, criticism. Emphasis on writing critically about literature. Credit for EN 104 not granted if the student has taken EN 103.

3 hours lecture.

### **EN 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.

### **EN 108 English Composition for Foreign Students II/3 Units**

Prerequisite: EN 107 or EN 101

A continuation of EN 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

### **EN 109 Written Communications and Reports/3 Units**

Prerequisite: EN 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

### **EN 111 Grammar, Usage and Punctuation/3 Units**

Prerequisite: EN 010, 101, or permission of instructor

A general review of modern English punctuation, grammatical structure, and modern American English usage

3 hours lecture

**EN 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.

**EN 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.

**EN 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. EN 115 not a prerequisite to 116.

3 hours lecture.

**EN 119 Creative Writing/3 Units**

Prerequisite: EN 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.

**EN 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 BU 167)

3 hours lecture.

**EN 206 Critical Reading & Writing/3 Units**

Prerequisite: EN 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 judgments based on valid criteria concerning content and style emphasizing non-fiction essays, news articles and complete books.

3 hours lecture.

**EN 209 Introduction to Poetry/3 Units**

Prerequisite: EN 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.

**EN 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.

**EN 219 Advanced Creative Writing/3 Units**

Prerequisite: EN 119, its equivalent, or permission of instructor.

The second semester of creative writing sequence beginning with EN 119. Advanced projects in prose and poetry. Exposure, through lectures, to the best American, British, and Continental literature.

3 hours lecture.

**EN 220 British Literature I/3 Units**

Prerequisite: EN 101.

A survey of the major authors from the beginnings to the twentieth century. Need not be taken in sequence.

3 hours lecture.

**EN 221 British Literature II/3 Units**

Prerequisite: EN 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.

**EN 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.

**EN 224 American Literature I/3 Units**

Prerequisite: EN 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.

**EN 225 American Literature II/3 Units**

Prerequisite: EN 101

A survey of major American authors from 1860 to present including works of Whitman, Twain, Frost and Faulkner  
3 hours lecture.

**EN 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.

**EN 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. EN 226 is not a prerequisite to EN 227  
3 hours lecture.

**EN 228 Mythology and Folklore/3 Units**

Prerequisite: EN 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

**EN 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

EN 104, EN 210, EN 220, 221, EN 222, EN 224, 225, EN 226, 227 fulfill three to six hours of the humanities and fine arts requirement for the AA and AS degrees

**ENGLISH IMMERSION****EI 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

**EI 011 Conversational English/3 Units**

Prerequisite: Recommendation for placement testing

Practice in spoken English and study of English pronunciation, grammar, and usage

3 hours lecture

**EI 012 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing or a grade of C or better from EI 011

Practice in spoken English and a study of English pronunciation, grammar and usage

3 hours lecture

**EI 013 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing or a grade of C or better from EI 012

Practice in spoken English and a study of English pronunciation, grammar, and usage

3 hours lecture

**EI 014 Conversational English/3 Units**

Prerequisite: Recommendation from placement testing or grade of C or better from EI 013.

Practice in spoken English and a study of English pronunciation, grammar, and usage

**EI 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

**EI 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

**EI 029 Elementary Writing Skills/3-4 Units**

Prerequisite: None

An introduction to written sentence patterns and paragraph development in English

**EI 031 Speaking and Understanding English/3-4 Units**

Prerequisite: EI 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.

**EI 032 Reading English/3-4 Units**

Prerequisite: EI 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.

**EI 033 Paragraph Writing/3-4 Units**

Prerequisite: EI 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.

**EI 034 Reading English/3-4 Units**

Prerequisite: EI 032 or recommendation from testing.

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

**EI 035 Speaking and Understanding English III/3-4 Units**

Prerequisite: EI 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.

**ENVIRONMENTAL STUDIES****ES 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.

**ES 110 Wilderness Problems/3 Units**

Prerequisite: None.

Wilderness problems 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.

**ES 111 Wildland Ecology/3 Units**

Prerequisite: None.

A seven-day field course designed to familiarize the student with Southwestern ecosystems, their floral and faunal 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 TECHNOLOGY****FS 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.

**FS 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.

**FS 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.

**FS 111 Fire Operations II/3 Units**

Prerequisite: FS 110.

A continuation of FS 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.

**FS 120 Fire Service Hydraulics/3 Units**

Prerequisite: FS 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 pumbers.

3 hours lecture.

**FS 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.

**FS 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.

**FS 160 Hazardous Materials II/3 Units**

Prerequisite: FS 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.

**FS 200 Fire Apparatus and Equipment/3 Units**

Prerequisite: FS 101 and FS 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.

**FS 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.

**FS 240 Fire Fighting Tactics and Strategy/3 Units**

Prerequisite: FS 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.

**FS 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.

**FRENCH****FR 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.

**FR 102 Elementary French/4 Units**

Prerequisite: FR 101 or permission based on demonstrated competence.

A continuation of FR 101 with further development of conversation, grammar, reading and composition and stress on language use and vocabulary development.

3 hours lecture; 2 hours laboratory.

**GENERAL TECHNOLOGY****GT 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.

**GT 101 Technical Mathematics II/3 Units**

Prerequisite: GT 100 or permission of instructor.

A continuation of GT 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.

**GT 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.

**GT 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****GE 101 Physical Geography/3 Units**

Prerequisite: None

An introduction to the various features of the earth's physical environment 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.

**GE 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.

**GE 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.

**GE 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

**GY 121 \*Physical Geology/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 hours laboratory

**GY 122\* Historical Geology/4 Units**

Prerequisite: GY 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

**GY 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****GR 001 Conversational German/3 Units**

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.

**GR 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.

**GR 102 Elementary German/4 Units**

Prerequisite: GR 101 or permission based on demonstrated competence.

Continuation of grammar, conversation and comprehension with emphasis on proper pronunciation and usage.

3 hours lecture; 2 hours laboratory.

## **HEALTH**

### **HE 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.

### **HE 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.

### **HE 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**

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

4 hours lecture; 6 hours skill laboratory.

### **HT 111 Nursing Assistant/6 Units**

Prerequisite: HT 110 unless taken concurrently.

A course designed to prepare the student to assume the role of nursing assistant in a health care institution. The student will learn the concepts of communication, patient safety, anatomy and physiology, growth and development, the nursing process, and specific patient care skills to prepare for the health care provider role. The student will learn to recognize and meet basic physical, psychosocial and cultural needs of patient/clients, emphasizing the needs of the geriatric patient.

4 hours lecture; 6 hours skill laboratory.

### **HT 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.

### **HT 174 Emergency Medical Technology/6 Units**

Prerequisite: None—advanced first aid recommended.

A course structured to provide the student with preparation for vocational work as an ambulance attendant as required by the Arizona Corporation Commission including 10 hours clinical experience in a hospital emergency room, basic knowledge of the symptoms of illness and injury and the concomitant procedures considered the responsibility of Emergency Medical Technician, the basics of legal responsibilities, anatomy and physiology, triage, assessment and life-support systems.

48 hours lecture; 48 hours lab; 10 hours clinical.

### **HT 176 Emergency Medical Training Refresher/2 Units**

Prerequisite: HT 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.

### **HT 177 First Aid Instructor Training/3 Units**

Prerequisites: HE 170, HT 174, HT 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.

### **HT 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.

**HT 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****HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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.

**HI 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\*****HU 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.

**HU 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.

**HU 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.

**HU 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.

**HU 205 Humanities/4 Units**

Prerequisite: EN 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.

**HU 206 Humanities/4 Units**

Prerequisite: EN 102 and sophomore standing

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

4 hours lecture.

**HU 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.

\*All humanities courses except HU 011 may be used to fulfill the humanities and fine arts requirements for the AA and AS degrees.

**JOURNALISM****JR 101 Mass Communications/3 Units**

Prerequisite: Completion of EN 101 or permission of instructor.

An introduction to 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.

**JR 102 Basic Reporting/3 Units**

Prerequisite: Completion of JR 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.

**JR 103 Intermediate Reporting/3 Units**

Prerequisite: Completion of JR 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.

### **JR 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.

### **JR 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**

### **LA 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.

### **LA 102 Elementary Latin/4 Units**

Prerequisites: LA 101.

A study of the grammar and vocabulary of Latin and of ancient authors; a continuation of LA 101.

4 hours lecture.

## **MATHEMATICS**

### **MA 005 Developmental Math/3 Units**

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

MA 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.

### **MA 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.

### **MA 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.

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

Prerequisite: Acceptable score in placement examination or C or better in MA 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.

### **MA 110 Intermediate Algebra/3 Units**

Prerequisite: One year of high school algebra or MA 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 analytic geometry, systems of equations, polynomials, exponents, radicals, quadratic equations. May or may not transfer for credit to four-year universities.

3 hours lecture.

### **MA 120 College Algebra/3 Units**

Prerequisite: Two years of high school algebra, or MA 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.

### **MA 124 Plane Trigonometry/3 Units**

Prerequisite: MA 120 or approval of instructor. May be taken concurrently with MA 120 or MA 161.

An analytical approach to trigonometry based upon the unit circle concept: trigonometric functions, identifies, conditional equations, radian measure, graphs, logarithms, solution of right and oblique triangles, inverse trigonometric functions and trigonometric form of complex numbers.

3 hours lecture.

### **MA 155 Finite Mathematics/3 Units**

Prerequisites: Satisfactory completion of a course in College Algebra MA 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 and 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. If time permits, an introduction into the theory of probability.

3 hours lecture.

### **MA 156 Calculus for Business/3 Units**

Prerequisite: MA 120 and MA 155 with satisfactory grade, or equivalent.

Elementary topics in analytic geometry, differential and integral calculus with business application.

3 hours lecture.

### **MA 161 Analytic Geometry with Calculus/5 Units**

Prerequisite: Four years of high school mathematics or permission of instructor or MA 120 and MA 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.

### **MA 162 Analytic Geometry with Calculus/5 Units**

Prerequisite: MA 161 with grade of C or better.

A continuation of MA 161 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.

### **MA 263 Analytic Geometry with Calculus/3 Units**

Prerequisite: MA 162 with grade of C or better.

A continuation of MA 162 to conclude the three-semester calculus sequence including elements of infinite series, partial differentiation, and multiple integration.

3 hours lecture.

### **MA 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.

## **MACHINE TECHNOLOGY**

### **MT 110\* Machine Shop for Technicians I/4 Units**

Prerequisite: MT 130 or concurrent enrollment.

Covers preliminary machine shop, introduction to machine tools, their range of application and capacity.

2 hours lecture, 6 hours laboratory.

### **MT 120\* Machine Shop for Technicians II/4 Units**

Prerequisite: MT 110, DT 112, GT 100

General shop practice including a thorough training in machine tool set-up operation and cutting tool techniques.

2 hours lecture, 6 hours laboratory.

### **MT 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.

**MT 210\* Jig and Fixture Designing 1/4 Units**

Prerequisite: MT 120.

The design and application of tools, jigs, and fixtures for basic metalworking and machine tools.

2 hours lecture, 6 hours laboratory.

**MT 220\* Jig and Fixture Designing II/4 Units**

Prerequisite: MT 210.

The design and application of tools, jigs, and fixtures for basic metalworking and machine tools.

2 hours lecture, 6 hours laboratory.

**MUSIC**

Note \* indicates Lab Fees

**MU 100 Fundamentals of Music Notation/3 Units**

Prerequisite: None.

Introduction to the fundamentals of musical notation, chords, rhythm and melody (for beginners).

**MU 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.

**MU 102 Introduction to Music/3 Units**

Prerequisite: None, although it is preferable to have MU 101 first.

A continuation of MU 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.

**MU 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.

**MU 104 Voice - Class Instruction/1 Unit**

Prerequisite: MU 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.

**MU 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.)

**MU 110 Choir/1 Unit**

Prerequisite: None.

Study and performance of outstanding choral literature from various periods of musical composition. May be repeated for credit.

**MU 111 Band/1 Unit**

Prerequisite: Audition.

Study and performance of outstanding musical literature from various periods of musical composition. May be repeated for credit.

**MU 112 Instrumental Class Instruction/1 Unit**

Prerequisite: None.

Introduction and development of basic instrument skills, note reading, coordination, rhythm, sight singing, ensemble playing, practical training without specialization. May be repeated for credit.

**MU 113, 114\* Instrument — Individual Instruction/1-1 Units**

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.

**MU 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.

**MU 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.

### **MU 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.

### **MU 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.

### **MU 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**

### **NS 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, parenteral dosages, pediatric dosages, solutions, and intravenous flow rates.

1 hour lecture.

### **NS 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.

### **NS 123\* Nursing II/10 Units**

Prerequisite: NS 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.

### **NS 232-233 Nursing III-IV/9-9 Units**

Prerequisites: General education -- BS 201, 202, Human Anatomy and Physiology, EN 101 Composition, Controlled Electives.

Nursing: NS 123 and concurrent courses.

NS 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 evaluations.

5 hours lecture; 12 hours laboratory.

## **PHILOSOPHY\*\***

### **PL 111 Introduction to Philosophy/3 Units**

Prerequisite: EN 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.

### **PL 113 Introduction to Logic and Language/3 Units**

Prerequisite: EN 020 or equivalency and EN 101 or equivalency.

Elementary study of formal logic, symbolic logic, logical fallacies, induction, argument and language

3 hours lecture

### **PL 130 Ethics/3 Units**

Prerequisite: EN 101 or permission of instructor.

An introduction to moral philosophy with emphasis on analysis of contemporary ethical problems

3 hours lecture

**PL 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.

**PL 201 Philosophies of the East/3 Units**

Prerequisite: EN 101 and sophomore standing.

Hinduism, Buddhism, Taoism, and Confucianism with emphasis on their roles in the modern world

3 hours lecture.

**PL 202 Philosophy of Religion/3 Units**

Prerequisite: EN 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.

**PL 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.

\*\*All courses may be used to fulfill three to six units of the humanities and fine arts requirements for AA or AS degrees.

**PHYSICAL EDUCATION****PE 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 bar, balance beam, tumbling and floor exercises, and various conditioning apparatus.

1 hour lecture; 1 hour laboratory.

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

Prerequisite: 110 or permission of professor.

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.

1 hour lecture; 1 hour laboratory.

**PE 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.

**PE 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.

**PE 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.

**PE 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.

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

Prerequisite: PE 115 or permission of instructor.

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

1 hour lecture; 1 hour laboratory.

**PE 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.

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

Prerequisite: PE 117 or permission of instructor.

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

1 hour lecture; 1 hour laboratory

**PE 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.

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

Prerequisite: PE 119 or permission of instructor.

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

1 hour lecture; 1 hour laboratory.

**PE 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.

**PE 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.

**PE 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.

**PE 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.

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

Prerequisite: PE 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.

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

Prerequisite: PE 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.

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

Prerequisite: PE 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.

**PE 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 private physician.

1 hour lecture; 1 hour laboratory.

**PE 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.

**PE 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.

**PE 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.

**PE 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.

### **PE 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.

### **PE 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.

### **PE 135 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 a 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

### **PE 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.

### **PE 137 Beginning Coed Judo/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.

### **PE 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.

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

Prerequisite: None.

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

1 hour lecture; 1 hour laboratory.

### **PE 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.

### **PE 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.

### **PE 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.

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

Prerequisite: PE 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. Boot, packs, sleeping bags and shelter furnished by the student.

1 hour lecture; 1 hour laboratory.

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

Prerequisite: PE 113 or permission of instructor.

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

1 hour lecture; 1 hour laboratory.

**PE 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.

**PE 146 Intermediate Coed Yoga/1 Unit**

Prerequisite: PE 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

**PE 147 Intermediate Coed Judo/1 Unit**

Prerequisite: PE 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.

**PE 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

**PE 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

**PE 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

**PE 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, and sidespin with strategy, singles and doubles play, and some history introduced

1 hour lecture, 1 hour laboratory

**PE 153 Intermediate Coed Karate/1 Unit**

Prerequisite: PE 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

**PE 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

**PE 155 Orientation to Physical Education/3 Units**

Prerequisite: None — PE 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

**PE 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

**PE 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

**PE 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, a background for officiating sports sponsored by the Arizona Interscholastic Association

3 hours lecture

**PE 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

**PE 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.

**PE 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.

**PE 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

**PH 101 Introduction to Physics/4 Units**

Prerequisite: None.

A survey course in the basic concepts of physics with limited emphasis on mathematical applications.

3 hours lecture; 3 hours laboratory.

**PH 120-121 General Physics/4-4 Units**

Prerequisite: MA 110 or equivalent; PH 120 is a prerequisite for PH 121.

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.

**PH 230-231 Physics with Calculus/4-4 Units**

Prerequisite: MA 161. PH 230 is a prerequisite for PH 231.

Coverage of the same areas as PH 120-121 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.

**PH 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

**PS 120 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

**PS 166 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 PS 167.

1 hour lecture

**PS 167 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 PS 166.

3 hours lecture.

**PS 230 Introduction to International Relations/3 Units**

Prerequisite: PS 120 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

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.

### **SW 271 Social Work Seminar/3 Units**

Prerequisite: SW 270 and permission of instructor.

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

3 hours lecture.

### **SW 272 Social Work Process/3 Units**

Prerequisite: Second year standing in AAS 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 AAS Social Work Program.

3 hours lecture.

### **SW 273 Human Behavior in the Social Environment/3 Units**

Prerequisite: Sophomore Standing Social Work AAS Program.

Selected behavioral theories presented as the base for understanding adaptive and maladaptive behavior, examined in the context of social, cultural and ethnic differentials with implications for social work and counseling practice.

3 hours lecture.

## **SOCIOLOGY**

### **SO 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.

### **SO 160 Ethnic Groups and Minorities/3 Units**

Prerequisite: SO 101 or permission of instructor.

An overview of minority group relations from a sociological viewpoint, focusing upon on the Mexican, Black, Asian, and the Indian-American.

3 hours lecture.

### **SO 202 Social Problems/3 Units**

Prerequisites: SO 101 and EN 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.

### **SO 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.

### **SO 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.

### **SO 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**

### **SP 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. SP 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.

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

Prerequisite: SP 001 or permission of instructor

Continuation of SP 001 with emphasis on role playing and use of

everyday vocabulary and conversational phrases. For credit and transfer requirements see course description for SP 001.

3 hours lecture.

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

Prerequisite: SP 002 or permission of instructor.

Continuation of SP 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 SP 001.

3 hours lecture.

### **SP 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 specific spelling problems.

1 hour lecture.

### **SP 101 Elementary Spanish/4 Units**

Prerequisite: None.

Comprehension of the spoken language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.

4 hours lecture; 1 hour laboratory.

### **SP 102 Elementary Spanish/4 Units**

Prerequisites: SP 101.

Comprehension of the spoken language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.

4 hours lecture; 1 hour laboratory.

### **SP 201 Intermediate Spanish/4 Units**

Prerequisite: SP 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 students vocabulary.

4 hours lecture.

### **SP 202 Intermediate Spanish/4 Units**

Prerequisites: Spanish 201 or 3 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.

### **SP 275 Intermediate Spanish Conversation and Composition/3 Units**

Prerequisites: SP 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.

### **SP 276 Intermediate Composition and Conversation/3 Units**

Prerequisite: SP 275 or equivalent proficiency as assessed by the instructor.

Continuation of SP 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.

### **SP 304-305 Introduction to Spanish Literature/3-3 Units**

Prerequisite: SP 202 and permission of instructor or completion of course similar to SP 202, Mexican schooling above 6th grade or 4 years of high school Spanish.

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

3 hours lecture.

### **SP 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 of Mexico during the Colonial period and the period of Independence, conducted in Spanish.

3 hours lecture.

### **SP 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 non-native speakers, designed to provide a basic speaking-listening facility in the Spanish language. credit for Spanish 101, 102, 201 and 202. Offered spring semester only. A seven-week summer program offers credit for Spanish 101 and 102.

## **SPEECH**

### **SE 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.

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

Prerequisites: SE 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.

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

Prerequisite: SE 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.

### **SE 125 Forensics Workshop/1 Unit**

Prerequisite: One high school or college speech class or be concurrently enrolled in a speech class.

A performance course 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.

## **SURVEYING TECHNOLOGY**

### **ST 100 Engineering Surveys 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.

### **ST 101 Engineering Surveys II/3 Units**

Prerequisites: ST 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.

## **TRADE AND INDUSTRIAL**

Note: \* indicates Lab Fees.

### **TI 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.

### **TI 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.

### **TI 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.

**TI 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.

**TI 017\* Advanced Automobile Refrigeration/3 Units**

Prerequisite: TI 016.

Advanced techniques of testing, trouble-shooting and repair of automotive air conditioner

1 hour lecture; 4 hours laboratory.

**TI 018\* Commercial Refrigeration/3 Units**

Prerequisite: TI 016.

Theory, techniques and practices of commercial refrigeration and servicing of refrigerators, freezers, and commercial air conditioners.

1 hour lecture; 4 hours laboratory.

**TI 022 Water and Waste Water Plant Operation/3 Units**

Prerequisite: 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

**TI 025 Solar Energy Systems/3 Units**

Prerequisite: MA 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.

**WT 106\* Arc Welding/3 Units**

Prerequisite: WT 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 arc with the use of the electrode.

1 hour lecture; 4 hours laboratory.

**WT 107 \*MIG and TIG Welding/3 Units**

Prerequisite: WT 105 & WT 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.

**WT 210 \*Pipe and Plate Welding/3 Units**

Prerequisite: WT 105 & 106.

Continuation of WT 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.

**WT 211\* Pipe Fitting and Welding/3 Units**

Prerequisites: WT 105, 106, 210.

Continuation of WT 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.

**WT 215\* Welding Design and Fabrication/3 Units**

Prerequisites: WT 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.

## **WELDING TECHNOLOGY**

**WT 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 non-ferrous metals.

1 hour lecture; 4 hours laboratory.

# Administration

## **ADMINISTRATION**

Mr. Dan W. Rehurek, President  
University of South Dakota, B.S.  
University of Northern Colorado, M.A.

### **District Administrators (Douglas Campus)**

Dr. Tom Waddell, Acting Vice President for Instruction  
University of Arizona, B.A.  
University of Kentucky, M.A.  
University of Arizona, Ph.D.

Dr. Walter Patton, Vice President for Student Affairs  
New Mexico State University, B.S.  
New Mexico State University, M.A.T.  
New Mexico State University, Ed.D.

Mr. Loren Felabom, Vice President for Business Affairs  
Indiana University, B.S.  
Michigan State University, M.B.A.

### **Sierra Vista Campus Administrators**

Dr. V. Philip Tullar, Vice President and Campus Provost  
Howard Payne University, B.A.  
Wayne State University, M.A.  
University of Arizona, M.Ed.  
University of Arizona, Ph.D

Mr. Richard Seals, Director, Student Services  
Adams State College, B.A.  
Adams State College, M.A.

Mr. Robert Hand, Director  
Contracts Development and Management  
Kent State, B.A.  
West Point, B.S.

# Faculty and Professional Staff

## FACULTY AND PROFESSIONAL STAFF

Barbara Adams; Campus Nurse (1981)  
Cochise College A.A.

Frank Adams; Instructor, Agriculture (1978)  
University of Arizona B.S.

Trini Armenta; Coordinator Tutorial and Placement Center  
(1979)

Northern Arizona University B.S.  
Northern Arizona University M.A.

Richard Atkinson; Instructor, Health and Physical Education  
(1966)

Kansas State College B.S.  
Kansas State University M.S.

Gifford Babcock; Director of Data Processing (1983)  
Wichita State University B.A.

Fred Bagley; Flight Instructor (1983)  
University of Illinois B.S.

James Basinger; Chief Airframe and Power Plant Instructor  
Aviation Mechanics (1971)  
University of St. Louis B.S.

Barbara Bean; Instructor, Nursing (1975)  
University of Delaware B.S.N.

Paul Bovee; Instructor, E.S.L. (1982)  
University of Utah B.A.  
University of Arizona M.A.

Donald Campbell; Instructor, Science and  
Mathematics (1964)  
San Jose State A.B.  
Stanford University M.A.

Sarah Campbell; Division Chair, Nursing (1981)  
University of Pennsylvania A.D.  
University of Arizona B.S.N.  
University of Arizona M.S.  
University of Arizona J.D.

Carol Chamberlain; Instructor, Nursing (1984)  
University of Iowa B.S.

Debbie Chavez; Programmer/Analyst (1982)

Ronald Chesley; Counselor (1984)  
University of Northern Colorado B.A.  
University of Northern Colorado M.A.

Brian Cox; Instructor, Chemistry/Biology (1984)  
Northern Arizona University B.S.  
San Diego State University M.A.

Marla Colvin; Instructor, Social and Behavioral Science (1981)  
Rider College B.A.  
University of Illinois M.A.

Ralph Croal; Instructor, History and Political Science (1978)  
U.S. Military Academy B.S.  
University of Arizona M.A.  
University of Arizona Ph.D.

James Cushing; Systems Analyst (1984)  
University of California B.A.

Ronald Davidson; Instructor, Technology (1984)  
Columbia College A.A.

Doris Dees (1963)  
Administrative Assistant to the President

John Doty; Instructor, English and Humanities (1966)  
Santa Monica Community College A.A.  
University of Southern California A.B.  
University of Southern California M.S.  
California State University at L.A.M.A.  
University of Michigan D.A.

Faye Douglas; Counselor, Student Affairs (1974)  
Wheaton College B.A.  
Eastern New Mexico University M.A.  
University of Arizona M.A.

Daniel T. Duke; Flight Instructor (1977)  
Cochise College A.A.

William H. Ferguson; Chief Flight Instructor—  
Sierra Vista Flight School (1975)  
Cochise College A.A.  
Massachusetts Institute of Technology B.S.  
Massachusetts Institute of Technology M.S.  
Massachusetts Institute of Technology Eng.

Michael Ferranto; Director Institutional Research (1984)  
University of Maryland B.A.  
Louisiana Tech. University M.B.A.

Charles Field; Instructor, Science and Mathematics (1967)  
Cornell University B.S.  
Purdue University M.Agr.

Thomas Fitch; Director of Purchasing (1970)  
Cochise College A.A.

Cynthia Franco; Instructor, Secretarial Studies (1983)  
University of Arizona, B.S.

Arnold Fuller; Instructor, Aviation Mechanics (1978)  
Cochise College A.A., A.A.S., A.S.  
University of Nebraska B.A.  
University of Arizona M.T.

Lynn Galvin; Director, Continuing Education (1984)  
University of Wyoming B.A.  
University of Wyoming J.D.

Ray Garrity; Accounting Supervisor (1979)  
Lake County College A.A.

Mildred Galliher; Instructor, Science and Mathematics (1970)  
University of Arizona B.S.  
University of Arizona M.S.

Ronald Geer; Instructor, Data Processing (1983)  
California State University M.S.A.

Joe Gilliland; Instructor, Humanities, Philosophy, and Backpacking (1964)  
University of Texas B.A.  
University of Texas M.A.  
Arizona State University Ph.D.

Joan Goodman; Instructor, Nursing (1980)  
College of St. Scholastica B.S.N.

Stanley Graf; Instructor, Technology (1973)  
North Dakota State School of Science A.A.S.  
North Dakota State University B.S.

Jimmy Gross; Instructor, Computer Science (1984)  
Eastern Kentucky University B.A.

Randy Groth; Instructor, Business Administration (1981)  
Southwest Missouri University B.S.  
University of Northern Colorado M.A.

Larry Gunter; Instructor, Humanities, Music, and English (1968)  
Indiana University B.A.  
College of Holy Name M.A.  
Northern Arizona University M.M.

James Hall; Instructor, Health and Physical Education/  
Baseball Coach (1983)  
Cochise College A.A.  
Grand Canyon College B.S.  
University of Arizona M.Ed.

James B. Haxton; Instructor, Aviation Mechanics (1968)  
Cameron Junior College A.S.

Norma Hildebrand; Coordinator of Tutoring (1979)  
Bemidji University B.S.

Patricia Hotchkiss; Librarian, Sierra Vista (1978)  
Lake Erie College B.A.  
University of Texas M.L.S.

Sammie Howard; Coordinator of Housing and Summer  
Conferences (1971)  
Cochise College A.A.

George Huncovsky; Instructor, Science and  
Mathematics (1964)  
University of North Dakota B.S.  
University of North Dakota M.S.

David Hunter; Director of JTPA Programs (1982)  
Arizona State University B.S.  
University of Southern Mississippi M.Ed.

Roberta Ibarra; Librarian (1982)  
University of Washington B.A.  
University of Washington M.L.S.

Margaret Sexton Isaac; Instructor, Nursing (1979)  
Georgetown University B.S.N.  
Columbia M.A.

Arlo Janssen; Instructor, Speech and English (1966)  
Concordia College A.A.  
University of Arizona B.A.  
University of Arizona M.A.

Mary Jane Jarvis; Instructor, Reading (1977)  
Viterbo College B.S.  
State University of New York, M.S.  
University of Wisconsin, Ed.S.

John Jewell; Instructor, Science and Mathematics (1965)  
Northland College A.B.  
New Mexico Highlands University M.A.

Donald R. Johnson; Instructor, Communications,  
Humanities and Fine Arts (1964)  
San Francisco State College B.A.  
Los Angeles State College M.A.  
Arizona State University Ph.D.

Paula Jones; Instructor, Secretarial Studies (1983)  
U.C.L.A. Los Angeles A.B.  
Boston University M.Ed.

Donald Kimble; Instructor, Agriculture (1978)  
Cochise College A.A.  
University of Arizona B.S.

Albert Kogel; Instructor, Humanities and Fine Arts (1977)  
University of Arizona B.F.A.  
University of Arizona M.F.A.

Leon Kornbleet; Personnel Director (1984)  
New York University B.S.

Charles LaClair; Division Chair, Business Education (1977)  
Indian River Community College A.A.  
University of Florida B.S.B.A.  
University of South Florida M.B.A.  
University of Arizona Ph.D.

Claudia Dee LaClair; Instructor, Business  
Education (1978)  
University of Arizona B.S.  
University of Arizona M.Ed.

Ray Larez; Bookstore Manager (1975)  
Cochise College A.A.

James Leclerc; Student Union Manager (1978)  
University of Manitoba B.A.

William Lent; Cooperative Education Coordinator (1972)  
Delta College A.A.  
Arizona State University B.A.

Ray Levra; Instructor, Humanities and Fine Arts (1965)  
Montana State College B.S.  
University of Oregon M.F.A.

Catherin Lincer; Director, Cochise College Libraries (1974)  
Colorado State University B.S.  
University of Denver M.A.

Jim Madril; Instructor, Behavioral Sciences (1984)  
University of Arizona B.A.  
California State University M.S.W.

Alicya Malik; Instructor, English (1964)

Wayne State University B.A.

University of Michigan M.B.A.

University of Michigan M.A.

Janet Martinez-Bernal; Division Chair, CHUFAL (1979)

University of Arizona B.A.

University of Michigan M.A.

Georgetown University Ph.D

Manuel Martinez; Instructor, Humanities and

Fine Arts (1974)

University of New Mexico B.F.A.

Texas Christian University M.F.A.

Larry McAlister, Director, Audio/Visual Services (1978)

University of Arizona B.A.

University of Arizona M.Ed.

John McAuley; Programmer/Analyst (1984)

Arizona Tech. Certificate

John McBride; Head Resident (1984)

Utah State University B.S.

Michael McVear; Flight Instructor (1982)

University of Arizona B.S.

Marlene Mears; Instructor, E.S.L. (1984)

San Diego State University B.A.

University of Arizona M.A.

M. David Meeker; Instructor, Humanities and

Fine Arts (1975)

University of Arizona B.A.

University of Arizona M.A.

Allan Meyer; Division Chair, CHUFAL (1970)

University of Nebraska B.A.

Catholic University of America M.A.

Charles Meyer (1984)

Systems Analyst

William D. Miller; Instructor, Reading and English (1971)

Reed College B.A.

University of Oregon M.A.

University of California, Los Angeles M.A.

Frank Millett; Instructor, Computer/Math (1984)

University of Florida B.S.

Aurelio Montanez; Security Supervisor (1975)

Cochise College A.A.

Richard Myers; Instructor, Anthropology; Director of

Anthropological Resources Center (1964)

University of New Mexico B.A.

Arizona State College M.A.

Donald Norgard; Instructor, Aviation Maintenance (1977)

Purdue University B.A.

Charles Oldfather; Flight Instructor (1983)

Cochise College A.A.S.

Ronald Olson; Cooperative Education Coordinator (1972)

University of Northern Colorado B.A.

Colorado State University M.A.

Lee Oppenheim; Division Chair, Aviation (1968)

Phoenix University M.A.

University of New Mexico B.A.

Pat Oppenheim; Instructor, Business Education (1973)

University of New Mexico B.S.

University of Arizona M.Ed.

Charles Perry; Flight Instructor (1984)

University of Denver B.S.

Martha Perry; Instructor, Business Administration (1985)

University of Denver B.A.

Colorado University M.G.A.

David M. Pettes; Division Chair, Science, Math and Social Science (1968)

Duke University B.A.

Emory University M.A.T.

Jacquie Phagan; Accounting Supervisor (1964)

Victor Power; Instructor, Journalism (1982)

St. John's College

University of Iowa M.A.

University of Iowa M.F.A.

Barbara Puzzi; Assistant to Coordinator of Conferences (1984)

Ann Quill; Instructor, Nursing (1978)

Good Samaritan Hospital R.N.

University of Arizona B.S.N.

University of Arizona M.S.N.

Jim Ratliff; Registrar (1984)

Northern State College B.S.

Northern State College M.S.

Garey Redmond; Instructor, Aviation Maintenance (1977)  
Southern Illinois University B.S.  
Indiana State University M.S.

Helen Roberts; Instructor, Mathematics (1984)  
University of Minnesota B.S.  
Arizona State University M.A.

Harold Robison; Counselor, Student Affairs (1973)  
Troy State B.S.  
University of Arizona M.Ed.

Charles Rogers; Public Information Director (1983)  
University of Miami B.A.  
University of Arizona M.A.

Bill Saathoff; Welding Instructor (1980)  
Moorhead Technical Institute

Kristi Saathoff; Graphic Designer (1983)  
Moorhead Technical Institute

Ruth Sandoval; Counselor (1983)  
Arizona State University B.A.  
Arizona State University M.A.

Max Schoenhals; Instructor, Drafting (1984)  
University of Arizona B.A.

Warren Schofield; Instructor, Spanish (1965)  
Arizona State University B.A.  
Arizona State University M.A.

Enid Schwartz; Instructor, Nursing (1983)  
University of Arizona B.S.

Mary Lee Shelden; Instructor, Communications (1967)  
Phoenix College A.A.  
Arizona State University B.S.  
Northern Arizona University M.A.  
University of Arizona Ed.S.

Paula Shelton; Division Chair, Health and Physical Education (1977)  
Northern Arizona University B.S.  
Arizona State University M.A.

Christine Smith; Instructor, Nursing (1984)  
University of New Mexico B.S.N.

Curtis Smith, Instructor, E.S.L. (1978)  
Kansas State University B.A.  
University of Arizona M.A.  
University of Arizona M.Ed.

Judith Speckels; Instructor, E.S.L. (1984)  
St. John's University B.S.  
University of Massachusetts M.A.  
University of Michigan M.A.

Dewey Tally; Instructor, Criminal Justice (1969)  
Northern Arizona University B.S.  
Northern Arizona University M.S.

Harold Thomas; Director of Special Programs (1984)  
Bellevue College B.A.  
Northern Arizona University M.A.  
Northern Arizona University Ed.E.

Ellis Troutman; Instructor, Electronics (1979)  
Cochise College A.A.

Albert Velasco; Superintendent of Building and Grounds (1964)

Thomas Waddoups; Instructor, Electronics  
University of Idaho B.S.  
Arizona State University M.S.

Allen Walker; Division Chair, Cooperative Education (1975)  
University of Arizona B.S.  
University of Arizona M.Ed.

Lawrence Walters; Instructor, E.S.L. (1984)  
University of Kentucky B.A.  
University of South Florida M.A.

Roger Weller; Instructor, Science and Mathematics (1974)  
Wayne State University B.S.  
University of Arizona M.S.

Ted White; Instructor, Communications and Graphic Arts (1976)  
San Diego State University B.A.  
San Francisco State University M.A.

Clarence Wilcox; Instructor, Flight (1983)  
Cochise College A.S.  
Southern Illinois University B.A.

Richard Wilkinson; Athletic Director/Instructor, Health and Physical Education (1979)  
Casper College A.A.  
University of Wyoming B.S.  
Indiana University M.S.

Ray Willcox; Financial Aid Officer (1981)  
University of Colorado B.A.  
Colorado State University M.Ed.

James L. Young; Division Chair, Business (1973)

Pueblo Junior College A.A.

Western State College B.A.

Western State College M.A.

New Mexico State University Ed.D.

John Ziegler; Instructor, English (1973)

Seton Hall University B.A.

Seton Hall University M.A.

University of Connecticut Ph.D.

**ASSOCIATE FACULTY**

Acker, Richard (M.A.)	Boyuk, Raymond (M.A.)	Del Haye, Harold (Ph.D.)	Hadley, Diana (M.A.)
Aldrich, Mary (M.Ed.)	Branning, Jackie (M.Ed.)	Dempsey, John M. (M.S.)	Hagen, Nancy (B.S.)
Ammon, Barbara (M.Ed.)	Brayden, Robert (M.A.)	Dickerson, Timothy	Halley, LaRose (M.A.)
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Blackburn, Wanda	Cunningham, Dorothy (B.S.)	Gordon, Charles (M.A.)	Holloway, William (M.A.)
Blackmore, Raymond	Cushing, James (B.A.)	Greco, Richard (A.A.S.)	Holmes, Leon
Blagg, Ruel T.	Dawson, Robert L. (M.B.A.)	Gregory, Michael (M.A.)	Hopkins, Wayman
Bokowski, Steven	Deal, Buck (B.S.)	Griffiths, Betty (B.F.A.)	Hoppy Jr., Lawrence (B.S.)
Bonham, Earl	Dechant, David E. (M.A.)	Gross, Cecilia (M.A.)	Horman, Deborah (B.A.)

Howdeshell, Daniel (M.A.)	Lemley, Diane (M.Ed.)	Neal, John (M.S.)	Rolak, Bruno (Ph.D.)
Hwan Kim, Jae	LePore, Rita	Neidich, Larry (B.S.)	Romero, Roberto (M.A.)
Jackson, Joseph (M.A.)	Long, Rondey (M.B.A.)	Neiman, Kenneth (B.S.)	Rothery, Don (M.S.)
Janecki, Edward (B.S.)	Lund, Ann (J.D.)	Nelson, Bobby (M.A.)	Rothery, Terry (M.A.)
Jaso, Jeffrey (B.A.)	Mancini, John (M.S.)	Nelson, Ronald (M.A.)	Roylance, Roy (M.S.)
Jenia, Frank (M.A.)	Marceau, Williams	Nickle, George	Rudolf, Lynn (Ph.D.)
Jeter, Hugh (M.A.)	Maynard, Stephen	O'Brien, Patrick	Saathoff, Kristi
Jones, Martin	Mena, Norma (B.S.)	O'Connell, Desmond (M.A.)	Sandquist, David (M.S.)
Jones, Peggy (B.A.)	Mena, Robert (M.A.)	Olander, Ron	Santor, David (A.A.)
Judd, Barry (M.S.)	Merrick, Carol (B.S.)	Olson, Gordon (M.D.)	Saunders, Carol (M.A.)
Kallioma, Mauno M. (B.A.)	Merrill, Orland (M.A.)	Pawlak, Dan (A.A.)	Schuster, Susan (B.A.)
Kaylor, Paul (A.S.)	Middleton, Pete	Payne, Gary A. (M.A.)	Schuttner, Mark (M.A.)
Kelley, William (B.S.)	Monje, Ernesto (M.S.W.)	Pearce, Robert (A.A.)	Shaver, Lucy (M.S.)
Kelly, Bruce (B.S.)	Moody, Janet (B.S.)	Peraza, Felix (B.A.)	Shelton, Geraldine (M.A.T.)
Keisel, Edwin (B.S.)	Moody, Larry (M.A.)	Peters, Frank (B.S.)	Sims, Deanne (M.A.)
Kimmell, Geary (B.S.)	Moreau, Vincent	Peterson, Neil (B.S.)	Sinclair, George (Ph.D)
King, Tommy (M.A.)	Morris, Johnny	Petranek, Jerry	Skelly, Maxine (M.T.)
Kingston, Kathy (B.S.N.)	Motes, Marvin	Pickett, Alfred J. (L.L.B.)	Skinner, Harold (B.S.)
Kjos, Glenn (Ph.D)	Myers, Lorna (M.A.)	Pike, Judith L. (M.S.W.)	Smith, Bailey (M.A.)
Kloos, Edward	McAlister, Edith	Pintz, Nancy S. (B.S.E.)	Smith, Fred
Kolber, Jane (M.A.)	McCahan, Michael (M.A.)	Power, Marybel (M.F.A.)(M.A.)	Smith, Gary (B.S.)
Kong, Minerva (B.A.)	McCall, Evan (B.A.)	Preston, Karen (B.A.)	Snyder, Donald (B.S.)
Kostroski, Lawrence (B.S.)	McCarver, Robin (B.S.)	Quirk, Mike (M.S.)	Snyder, Michael (M.A.)
Kras, Walter (M.A.)	McCoy, Mary Jo	Rasche, Jay	Stephens, James (M.A.)
Kroger, Thomas (B.S.)	McCracken, James (B.A.)	Ratliff, Susan (M.A.)	Stilwell, Susan (B.S.)
Kulbacki, Charlotte (M.A.)	McCurdy, Anna (M.C.M.)	Rau, Charles (M.S.)	Surratt, Monte (M.F.A.)
Lauderbaugh, Nancy (B.F.A.)	McKale, Curtis (M.Ed.)	Reese, Billy D. (M.Ed.)	Sutro, Livingston (Ph.D.)
Leeb, Linda (B.S.)	McKinney, Patricia (M.A.)	Richards, Robert	Taylor, Richard (M.A.)
Leidenheimer, John L. (B.A.)	McKown, George	Riggs, Richard (M.S.)	Thatcher, David J.
Leipold, Wayne (M.S.)	McVean, Chris (B.S.)	Roan, Robert (B.S.)	Thompson, Faye

Thompson, Michael (B.A.)      Yeager, Robert (M.Ed.)  
Thompson, Richard (B.S.)      Young, Deborah (Ph.D.)  
Till, Patricia (M.A.-M.S.)  
Tompkins, Dorothy (M.L.S.)  
Torres, Raul (B.A.)  
Trainor, Timothy (B.S.)  
Turner, Sylvia  
Van Arsdale, John  
Vandermark, Jerry (M.S.T.)  
Vasquez, Robert  
Velasco, David  
Vertrees, Gary  
Von Kanel, Joe  
Vukabratovich, Steven (B.S.)  
Waddell, Mary (M.S.S.W.)  
Ward, James (M.S.)  
Warren, Dennis (M.B.A.)  
Watson, Ronald O.  
Watters, Kathleen  
Whited, Winona (M.A.)  
Whybrew, Ernestine A. (M.Ed.)  
Wiese, Jeff (M.S.W.)  
Williams, Odis (M.S.E.)  
Williams, Richard (M.Ed.)  
Williams, Samuel Jr. (A.A.S.)  
Wilson, Janice (A.A.)  
Wooldridge, Lawrence (M.A.)  
Wright, Allen (M.S.)  
Wright, Christopher G. (M.A.)  
Wright, Jack (B.A.)

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